Zsolt CZÉKMANN*

Certain steps of the regulation of the gas market model changes in Hungary**

Abstract

More than a decade after the European and domestic market liberalization, looking back to the process that led to a structural reform of the sector, we are now distant enough to to re-examine and evaluate the steps taken at that time. The aim of this study is to review the changes of the market model of the gas market in the light of the law and state involvement. We do not seek to explore economic and political relations, not disputing the importance of these, nor the significance of state supervision and coordination, especially the role of the Hungarian Energy and Public Utility Regulatory Authority (HEA) in the field. The examination of the integration of the domestic market to the international market structure does not fall into the scope of this paper either, with the exception of the energy policy regulation of the European Union. The focus is on the comparison between the model that was dreamed up in the '90s and the one which has developed until the present day, as well as the regulatory model that led so far.

Keywords: regulation, gas market, market liberalization, natural gas

1. Development of the domestic gas market

The establishment of the first domestic gas plant and the street public pipeline network is related to Mayer and Kapferer, who built their plant in 1855. Until then there were only a few establishments in Pest to provide individual gas supplies. The public lighting in Pest was put into operation in 1856, and then it was extended to Buda as well via the Chain Bridge. Gas supply spread slowly, four gas plants were built by the turn of the century, and pipeline gas supply operated only in their surroundings.[1]

The spread of hydrocarbons in the world started at the beginning of the XXth century, the real turning point in Hungary took place in 1910, with the establishment of the Metropolitan Gas Company by the capital, by taking ownership over the gas plants. According to the plans of Weiss up-to-date gas plants were constructed and obsolete, out-of-date plants were liquidated. The increase of production, the construction of production equipment, the research and discovery of natural gas reserves began slowly in Hungary.

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[1] Cséki 2001.

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Foreign companies – mainly German and American ones – also joined the research of hydrocarbon: the prior obtained concession on Transdanubian territories, the latter on the Southern Great Plain. The first pipeline was laid in 1943, this is how natural gas transport from Budafa to Nagykanizsa began.[2]

In 1957, the Hungarian oil and gas industry merged into a new, unified organization. Twenty-four companies and plants of the National Petroleum and Gas Trust were responsible of the exploration and processing of crude oil and natural gas, as well as the production of rural and urban gas, the transportation, distribution and sale of hydrocarbon products. The exploration of hydrocarbon had been successful in several areas of the country, moreover, the gas reserves discovered in the 1950s contributed greatly to the development of the gas industry. In 1967, six large regional state gas supply companies were established within the National Oil and Gas Trust (ÉGÁZ, DÉGÁZ, FŐGÁZ, TIGÁZ, DDGÁZ, KÖGÁZ). In the mid-1990s, gas supply became possible in smaller settlements in the countryside as well. Localization has always been a determining factor in the development of the domestic gas market structure, resulting in a two-tier monopoly system that was decisive until liberalization. This meant that transmission and storage activities were carried out by a national monopoly, while the distribution of gas to consumers was the responsibility of a local distribution company, which also operated as a monopoly in its territory. Besides the Hungarian gas industry, certain member states of the European Union had a similar structure of gas industry, such as Belgium, Greece, Finland, Sweden, Portugal and Luxembourg.[3]

The legal framework has also evolved accordingly. Act VII of 1969 on Gas Energy – which 'grew out' from Act III of 1960 on Mining – disposes of gas production and transmission activities simultaneously (Chapter II) and regulates gas supply separately (Chapter III). The structure of the legislation reflects well the structure of the two-tier model. The original regulation – similarly to the text of the Act on Mining – can be perceived as very concise compared to present standards, only the basic provisions and regulations can be found in it. The Gas Energy Act has undergone fourteen lesser or greater amendments of which 1/1977 (IV.6.), the implementing regulation of the Gas Energy Act should be highlighted. Due to its provisions, conditions for technical regulation were integrated into the text of the Gas Energy Act. This was the valid legal and structural framework during the change of the regime. By this time, gas sector reached to a significant part of the population and, as a public service,[4] it was a dominant energy source for residential, large consumer and industrial sectors as well.

This model was functioning with a few operators:[5]

[2] Szőcs 1991, 30.
[3] Horánszky 2005, 5.
[4] The notion of public service was defined in the Civil Code (Act IV of 1954), in force from 01.03.1978. and under the public service contract, the service provider is obliged to provide the consumer a specified public service, in particular gas, electricity and water, continuously and safely from a specified date, and the consumer is required to pay a fee periodically. (Art.378) From 1994, the Civil Code defines it as a public utility contract.
[5] Horánszky 2005, 7–8.

Producers and importers: responsible for placing gas on the market, being in connection with the gas seller (and the gas seller can also perform this task).

Gas supplier (wholesaler): can also be characterized as an integrated gas company. It is responsible for the transmission of gas by pipeline, the system supervision of the transmission pipeline, the establishment and operation of storage facilities, the processing of imports and exports, and the trade with gas. The gas supplier, as the only wholesaler, coordinates the coverage of the gas needs of the given country. It is the 'upper branch' of the dual monopoly structure. In Hungary, the National Oil and Gas Trust holds this position.

Regional or local gas supplier: an undertaking with a geographically defined area of activity. Its task is to transport gas through distribution networks and to ensure the safe and continuous supply of gas to consumers. It is engaged in retail trade activities in the market and it is a subject to public service obligations for territorial exclusivity, in return for which it is granted a legally monopoly position. Local monopolies were offset by service constraints but in general we can state that the scope of action of the participants of the gas market was relatively narrow.

Consumers: the final users of gas. Certain groups of customers may also be supplied with gas from their transmission system by the gas supplier. They can generally be divided into three main groups: the public, communal consumers, and consumers for general purposes. The Gas Energy Act and the Civil Code do not differentiate among consumers on the basis of the nature of the utility, thus the contractual position of the gas suppliers was also fixed in the closed market.

This model ensured the long-term ability to organize and secure domestic gas supply. State involvement is dominant, since the actors are all state-owned companies.

2. Effects of the change of regime on the domestic gas market

Following the change of regime, the gas market (also) became double squeezed. On the one hand, the need for a professional paradigm shift towards public services and the need to re-examine the public service model increased. Simultaneously, preparations for the regulation of a single energy market had already begun, signalling the reconsideration of a vertically integrated corporate model.[6]

[6] Vertical integration: a company or group of companies carries out several gas activities: for example, it produces, supplies, sells and stores gas. Vertically integrated companies do not combine gas activities within their own company, but have shares in another gas company that carries out activities other than its own. a) vertically integrated undertaking: gas companies or group of companies defined in Art.3 (1) of 139/2004/EC on the Control of Concentrations between Undertakings, where the concerned undertaking carries out at least one of the activities of transmission, system operation, distribution or storage of natural gas, as well as at least one of the activities of natural gas production and trade.
Besides vertical integration, horizontal integration also appears in the EU. The undertaking is horizontally integrated if it carries out other activities apart from gas industrial activities in the market, for example natural gas and electricity supplies. Telecommunications, distance heating and water supply are also common. The purpose of integration is most cases is to minimize risk. Many see the future of the gas industry in integration with the electricity sector, thanks to the process of market opening in the electricity sector, as well as the increasing use of natural gas-

The other determining factor was the change in the attitude towards state property, that is to say, the start of the processes of privatization.

In the 1990s, an increasing number of different opinions appeared about the role of public services, there has been a growing demand for the liberalization of public services and, accordingly, for their privatization, emphasizing the beneficial effects of the emerging competitive situation.[7] International institutions and giant companies that are interested in privatizing public services put increasing pressure on national governments to marketise their public services.[8] The advantage of privatization is that competition would lead to a growth of efficiency in the given public service, thus reducing costs and the prices of the service.

However, it remains a counter-argument that the provision of public services, by their nature, is the duty of the state, their marketization is an irreversible process, which means a threat to the sustainability of public services, thus it cannot operate on purely market grounds, based on short-term profit logic. "Experts wary by pointing out that once private capital is involved, profit interest appears, which could make the service more costly. This is especially true in the case of network systems in a state of natural monopoly, where privatization does not create a competitive situation by itself, only a state monopoly is transformed into a private monopoly."[9] The mean of liquidation of natural monopolies is the elimination of vertical integration, and the separation of network, service and entities that are not active in the market.[10] The separated activities become free to compete, leaving only the network itself in a state of natural monopoly. In the domestic market, the solution was the partition of the vertically integrated state-owned trust, the National Oil and Gas Trust, by eliminating the regional service providers, thus liquidating the monopoly.

This coincides with the preparation of state assets for privatization. The motivations of privatization were mainly to increase budget revenues, to improve the efficiency of companies and to attract international know-how.[11] As a result of the privatization, the ownership relations of the regional service providers were reorganized, foreign capital appeared, and at the same time the companies joined the international syndicates, introducing new corporate governance and operating structure.[12]

As a result of the privatization of the National Oil and Gas Trust, MOL Plc. was established in 1991 with the dissolution of the Trust without a legal successor, making MOL Plc. the only fully integrated oil and gas company in the region.

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fired power plants. We have already seen many examples of this. Horizontally integrated energy industries or closely related companies are increasingly emerging within the Union. Horizontally integrated undertaking: an undertaking which carries out the production of natural gas or at least one of the activities subject to authorization under this Act, as well as other non-natural gas activities.

Horánszky 2005, 25–26 and Act XL of 2008 on Gas Supply, Art. 2 (41).

[7] Laffont 2005, 73–74.

[8] Kádárné Horváth 2009, 306–307.

[9] Ibid. 307.

[10] Borbély 2006, 7.

[11] Takácsné Tóth, Kotek & Selei 2019, 34.

[12] Kaderják et al 2012, 257–258.

The company was constantly growing and began to expand abroad around the turn of the millennium, as a result of which it has grown into the leading oil industry group in Central Europe.[13] The privatization of the sector did not mean the complete withdrawal of the state from ownership, it retained a block of shares in some players, while – due to its strategic role – it maintained gold shares in almost all privatized companies, giving it a veto in corporate decision-making.

The role of the state in the gas market sector was suppressed proportionally to the significant decrease of direct ownership, and the newly changed roles of the market also required a new regulatory framework. The state started to withdraw from actively participating in the market and – in order to strengthen the supervision and regulation of market processes – the Hungarian Energy Office was established in 1994.[14] Act XLI of 1994 on Gas Supply (in a consolidated structure with the Government Decree 3/1995 (I.20.) on implementation) replaced the Gas Energy Act, and provided the opportunity to abolish the state-owned service model (while maintaining and recognizing the existence and necessity of natural monopolies). Further differentiation of roles in the gas industry provides an opportunity for new operators to enter the market, basically at the cost of structural change of the existing actors. The primary purpose of Act XLI of 1994 was to provide opportunity to the privatization of the gas market and to convert the former ownership of the state into an administrative and supervisory activity. However, it did not respond to the market liberalization which had already appeared in the spirit of the age, moreover it was set out as a goal by the European Union as well. As legal harmonization in Hungary progresses, preparing for future accession, the pressure to prepare for an open market increases as well.

3. Energy policy of the European Union, on the way to the liberalized market

In the 1980s and 1990s, the privatization and liberalization of European gas markets had already come up in the political discourse.[15] Initially, many of the market players at the time considered the introduction of a liberalized market risky, some even envisioned a complete collapse of the market. In an environment, not supported by actors (and often governments), did the European Commission begin to develop ambitious regulatory targets for the introduction of competition and liberalization.[16] Until the late 1990s, the European natural gas market was vertically integrated and typically state-owned (as in Hungary). Vertically state-owned integrated companies were mainly responsible for the transmission, storage, distribution and service of natural gas to final customers, in particular for the industry and households.[17] It is characterized by public utility (thus a mandatory) service, and by the fixed prices and tariffs. The Commission intended to break this inflexible, anti-competitive model.[18]

[13] Századvég Gazdaságkutató Zrt. 2017.
[14] Kaziáner 2009, 3–4.
[15] Stern 1998, 36.
[16] Haase 2008, 3.
[17] Fafaliou & L. Polemis 168.
[18] Meeus et al. 2013, 35.

The preparation of the market opening process was a long process, even according to the standards of the European Union, conducted by the European Commission which was also responsible for the supervision of the energy sector of the Community. The White Paper on the Internal Energy Market was released in 1988, in which the European Commission set out the conditions for liberalizing the gas and electricity market: (a) the partial and then full extension of competition law to all areas of the energy sector and the mandatory granting of TPA (Third Party Access) to large industrial customers; (b) the completion of the internal gas market and the mandatory extension of the TPA to all small industrial customers; (c) ensuring transparency of prices and introducing a directive on the supply of gas and electricity.

The Commission was building uniform regulation step by step, the Price Transparency Directive (90/377/EC) ordered to publish the prices of electricity and natural gas according to each Member State, thereby facilitating the development of price competition in the market.[19] The aim of the Gas Transit Directive (91/296/EC) is to eliminate borders between gas networks, to ensure free access to the networks without threatening system reliability and reserve capacity.[20] The road was not smooth, several initiatives of Commission seemed too ambitious and failed, but in the end, Directive 98/30/EC on the Internal Regulation of the Natural Gas Market regulated the activities of transmission, distribution and storage of natural gas – including LNG – as well as market access, the operation of the systems and the conditions of granting (authorizations for the above mentioned activities, hence taking another important step towards market opening (opening of the TPA).[21] It is a bit ironic that the biggest impact of the Directive is that it turned out what barriers stand in the way of the realization of market liberalization, mainly due to partial or inadequate implementation by the Member States: (a) inadequate and not efficient unbundling; [22] (b) inadequate explanations of denial of access to the network; (c) high level of transportation tariffs; (d) technical, quality problems; (e) capacity problems; (f) news market actors have difficulties in accessing gas resources; (g) all-embracing vertical integrations of the entire value chain might dominate; (h) medium and long-term contracts are still in force.

Directive 98/30/EC had made a significant contribution to the creation of the internal market of natural gas, however, specific measures were needed to solve the above mentioned problems and – in order to ensure equal competitive conditions – concrete measures were needed to be taken. Directive 2003/55/EC (Gas Directive) of the Council and the Parliament aims to respond these challenges, by seeking to reduce the risks of market dominance and hostile buying behaviour by providing network access through non-discriminatory transmission and distribution tariffs, while protecting the rights of small and vulnerable consumers.[23] It lays down common rules for the transmission, distribution, supply and storage of natural gas, as well as the organization and functioning of the natural gas sector, market access and the

[19] Horánszky 2005, 36.
[20] Lecarpentier 2006, 1.
[21] Finon & Locatelli 2002, 3.
[22] Unbundling of gas activities within the company at least at the accounting level.
[23] Meeus et al. 2013, 34.

procedures for the granting of licenses for the transmission, distribution, supply and storage of natural gas.

In order to ensure efficient and non-discriminatory network access, transmission and distribution systems need to be operated by different legal entities in the case of vertically integrated companies. That is to say, the operation of natural gas networks must be separated from supply and transmission activities. Therefore, in the future, the one who is responsible for natural gas supply cannot be the owner of the transmission network.[24]

The proposal of the Commission for the complete separation was not an unanimous success among the Member States. France and Germany were against the proposal, so were Austria, Bulgaria, Greece, Latvia, Luxembourg and Slovakia. It was considered unconstitutional and according to them it could have harmful social consequences. Instead of this, they sought to preserve the option of 'legal unbundling', according to what companies would retain their network assets while 'effectively separating interests' – through rules on assets, equipment, personnel, and conformity test.

In January 2007, the Commission defined legal unbundling as one of the main reasons which appear as a barrier in the realization of marketization. In the system of legal unbundling, permeable networks might be owned by integrated companies, however, it should be directed by a legally independent institution. Nevertheless, according to the Commission, this legal institution is inadequate for the following reasons:[25] (a) network access: legal unbundling does not resolve the conflict of interest – of network access – between the large embedded syndicates and the companies (pipelines or gas storage facilities); (b) access to information: network operators may be tempted to provide key information on pipelines and gas storage facilities first to the production and supply departments of large companies; (c) investments: it is a fundamental interest of embedded market players to reduce their investments in new network capacities if this generates more competition in the domestic market.[26]

The European Union also considers it necessary for transmission and distribution system operators to have effective decision-making rights over the assets that are necessary to maintain, operate and develop the networks. The Commission intends to reduce the powers of regulatory authorities to the same minimal level in all Member States. These authorities have the right to set or approve tariffs, or at least to determine or approve the methods to be used for calculating transmission and distribution tariffs and tariffs for access to liquefied natural gas (LNG) facilities.

The purposes of the establishment of a new organ, European Regulators Group for Electricity and Gas (ERGEG) were defined, which would set up an appropriate advisory mechanism to encourage cooperation and coordination between national regulators. Furthermore, this body would facilitate the development of the internal market of natural gas and would take steps to promote the consistent application of the Directives and the common rules for the internal market in electricity in all Member States.

[24] Zyuzev 2008, 38–39.
[25] Haase 2009, 197–201.
[26] EurActiv 2018.

Furthermore, this body would facilitate the development of the internal market in natural gas and take steps to promote the consistent application of the Directives and common rules for the internal market in electricity in all Member States.

This directive has therefore fundamentally affected the structure of the gas industry by reducing the role of regulatory authorities and broadening the tasks of distribution, storage and system licensees.

The Gas Directive, which has caused a great of controversy, has brought down many walls and it did not give much scope for action for the market players, since the deadline of market liberalization was set up till 2007.

EU legislation has moved further towards a single gas market,[27] regulating security of gas supply, aiming to maintain the security of natural gas supply by ensuring the prevention of supply disruptions and by coordinating actions as well as guaranteeing the proper and continuous functioning of the internal market in natural gas. The regulation establishes a common framework within which security of gas supply is a shared responsibility of natural gas undertakings, EU Member States and the Commission. It also provides a transparent mechanism for coordinating the response to emergencies that arise in the Member States or at regional or European level.[28]

Directive 2009/73/EC on Common Rules for the Internal Market in Natural Gas is the next milestone in the rules of the now liberalized market. The introduction of common rules at EU level about transmission, distribution, supply and storage of natural gas should be conformable with the goals of ensuring market access and allowing non-discriminatory competition.[29]

Countries of the European Union must ensure the integration of national markets at one or more regional levels, which is the first step towards a fully liberalized internal market. Isolated systems that form 'natural gas islands' also need to be integrated. In this regard, national regulatory authorities should cooperate with the Agency for the Cooperation of Energy Regulators (ACER).

Starting from 3 March 2012, EU countries had to unbundle transmission systems and transmission system operators. This means that undertakings producing or supplying natural gas or electricity may not exercise any right over transmission system operators, or vice versa.[30]

EU countries and competent authorities have the right to access to the accounts of natural gas undertakings, while preserving the confidentiality and protection of certain data. Natural gas undertakings are required to keep separate accounts for their gas supply activities, such as transmission and distribution.

EU countries or the competent regulatory authorities shall be responsible for organizing a system that provides non-discriminatory access to the third parties about the transmission and distribution networks based on published tariffs.

[27] Andersen & Sitter 2009, 7–8., 18.
[28] 994/2010/EU rendelet.
[29] Cavaliere 2007, 7–8.
[30] European Union 2019.

The Directive has been in force since 3 September 2009 and had to be implemented into domestic laws of the Member States of the EU by 3 March 2011.

Due to this Directive, the EU moved closer to the internal gas market that was gradually coming to fruition since 1999. The aims are to provide free choice for all consumers – thus, citizens and businesses – of the Community, to open up new business opportunities and expand cross-border trade, thereby improving efficiency, competitive prices and higher levels of services, as well as to contribute to security and sustainability of supply.[31]

4. Market liberalization and model change in Hungary

From the second half of the 1990s until 2009, that is to say, for more than a decade, Hungary made efforts to keep up with pace dictated by the EU. Just as the preparation for market liberalization in the EU took place in two steps, the implementation of Directive 98/30/EC into the domestic legal system was the first step in this direction, in accordance with Act XLII of 2003 on Natural Gas Supply.

The purpose of the law is to provide safe and economic supply of natural gas with adequate quality for the consumers and its peculiarity is that it manages the system that is gradually opening up the competitive market and the public utility service simultaneously,[32] thus creating the so-called hybrid model. The role of the state will continue to focus on the regulatory and supervisory role and should be aimed at protecting consumers, ensuring equal opportunities in the market, and controlling market players who are in a dominant position.

5. The hybrid model

The law divides consumers into two groups, empowered consumers are free to decide from whom to purchase natural gas, including the option to continue to use the public utility. This is in accordance with the gradual introduction of TPA.

Dualism can also be observed in pricing, because - while the empowered customer is free to agree on the price of the service on the basis of a freely concluded contract – the wholesale and consumer price of natural gas for public utility services is still set by the responsible minister. Gas supply operates through the cooperating natural gas system. Two market mechanisms operate within the system with separated players and regulations.

[31] Directive 2009/73/EC (1).
[32] Rationale for the Act on Gas Supply.

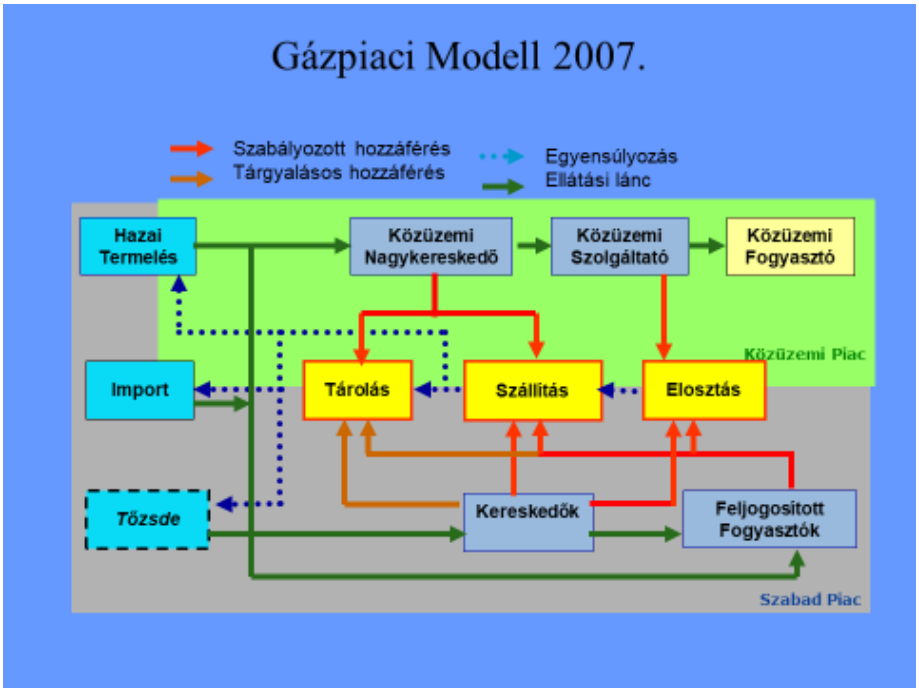

Figure 1: Gas market model 2007[33]

A two-faced, partially open, market-based and a closed market of utility nature develop from the regulated market. New players enter to the market structure and the role of old players change.[34]

The new players: (a) empowered consumer (consumer who intends to and is able to step out from the regulated market to the open market); (b) gas trader (who carries out commercial activity towards the empowered customer. A natural gas trader can also sell gas, in so far as he is authorized to do so and the two activities are separated at least at accounting level); (c) deliverer company[35] (who delivers natural gas to a customer by means of a transmission line. It may also be a gas supplier on a regulated market, if this activity was one of the tasks of the gas supplier on the regulated market.); (d) storage company (who stores gas on the open market according to its contract of services. It can be a completely new entrant and it can also be a storage company that carried out these activities in the regulated market until then.); (e) supplier company (who operates the regional supply system, delivers natural gas to the customer. Usually – due to the lack of parallelism of the system – it is formed from the gas supplier of the regulated market, it does not engage in commercial activities.)

[33] Presentation of Gábor Molnár, director of MGE, held at the Gas Industry Conference, Budapest, 22.05.2007.
[34] Horánszky 2005, 23–24.
[35] Lavrijssen, Marhold & Trias 2016, 13.

The old players: (a) gas seller (who is obliged to supply natural gas only to consumers who remain in the public utility. Besides providing natural gas to public utility customers and arranging its import, it can also carry out transport and storage activities for them – if this was also a task on the regulated market.); (b) regional gas supplier (Its task is exclusively to supply the consumers left in the public utility, to operate the supply line. It carries out retail activities.); (c) Consumer (the final user who has remained in the public utility and pays a fee according to its tariff system).

Due to the parallels of the hybrid model, it was intended to be a temporary structure model, so was it considered by market players, therefore after taking the necessary unbundling measures (firstly, by changes of accounting, secondly, of company structure changes), they turned to the legislator and to the EU. MOL tried to exit the gas business in the name of the players, the natural gas business was outsourced from the company and in January 2004 the natural gas wholesale and natural gas storage were sold to the German E-ON Ruhrgas International. The EU, however, did not agree with the sale of natural gas transmission, thus it remained in FGSZ Ltc. (a member of MOL group).[36]

The trading structure in 2007 looked as follows, typically as a legacy of the regulated market model:

Figure 2: Service structure of the Hungarian gas market 2007[37]

[36] Weiner 2019, 183.

[37] Presentation of Gábor Molnár, director of MGE, held at the Gas Industry Conference, Budapest, 22.05.2007.

The legislator did not intend to maintain the temporary nature of the hybrid solution (moreover, the market would not have tolerated it either, since the insurance of public utility services imposed a disproportionate burden on gas sellers, which they were able to compensate only partially).

Due to the entry into force of Act XL of 2008 on Gas Supply, time came to introduce the liberalised model in the domestic market as well, eliminating thus the dual – public utility and free market – model. Consumers and traders can purchase natural gas in the open market, and sell them in the same way. Residential consumers and retail businesses will be entitled to a universal service of natural gas. In this framework, they can purchase natural gas of a specified quality from universal service providers at fair, easily and clearly comparable, transparent prices. Thus, universal service is rather a service package that provides a certain level of security standards that is set in the law, than a 'distracted' from market conditions.[38] For this purpose, former public utility service providers are obliged to provide universal service in their supply area to residential customers who wish to purchase natural gas under such service conditions. The universal service user may decide to enter the free market or to remain with the universal service provider. In the new model, the distribution and commercial functions are separated, but this does not impose an additional burden on the user receiving the universal service.

The notions of user and consumer are also divided. Users are those who purchase natural gas for personal use without commercial purposes, while consumers are residential users. With this solution, the market model predominates in every respect.

The new structure model is presented in the chart below:

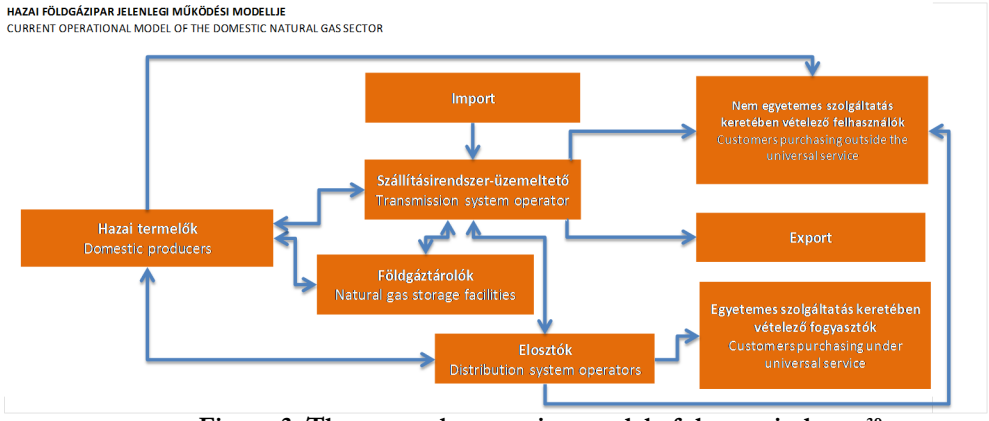

Figure 3: The currently operating model of the gas industry[39]

[38] Rationale for the Act on Gas Supply.

[39] Data of the Hungarian natural gas system 2018, Hungarian Energy and Public Utility Regulatory Authority.

The structure of the new model meets the requirements of the EU towards a liberalized market, the legal framework ensures the possibility of market mobility, and at the same time it protects and guarantees the right of consumers to safe and high-quality care. The seemingly ideal picture is shaded if we look at how the image of the domestic service providers, suppliers and reservoir actors has evolved.

SHARE OF DIRECT OWNERS								
Owners	Natural gas storage companies	Transmission system operator	Distributors	Universal service providers	Natural gas traders	Pipeline suppliers of propane-butane gas	Organized natural gas market license holder	Non-cumulative total
State ownership	-	28,5	-	-	0,8	-	-	1,9
Municipalities	-	-	-	-	0,04	-	-	0,04
Investors registered in Hungary in total with hungarian majority ownership	100,0	-	77,8	100,0	63,3	11,3	100,0	66,2
Hungarian capital interests in total	100,0	28,5	77,8	100,0	64,1	11,3	100,0	68,2
Investors registered in Hungary in total with foreign majority ownership	-	71,5	22,2	-	2,4	-	-	8,3
Foreign investors in total	-	-	-	-	32,2	88,7	-	22,8
Investors in foreign majority ownership in total	**-**	**71,5**	**22,2**	**-**	**34,6**	**88,7**	**-**	**31,0**
Not registered by item	-	-	-	-	1,2	-	-	0,8
Total	**100,0**	**100,0**	**100,0**	**100,0**	**100,0**	**100,0**	**100,0**	**100,0**

Table 1: Share of direct owners[40]

Share of direct owners. If an owner is Hungarian-owned in 51%, then the given licensee is 100% Hungarian-owned.

[40] Data of the Hungarian natural gas system 2018. Hungarian Energy and Public Utility Regulatory Authority.

Among market participants, the ratio of domestic capital interest is outstanding, which is important for a strategic sector, but if we break it down to the level of activity/company, it can be seen that each activity is performed by a very narrow market player. Natural gas storage services were provided by the state-owned Hungarian Gas Storage Ltc. (FGSZ Ltc.) which kept its monopoly position in transmission, and among universal providers the only remaining company is NKM Energy Ltc.,[41] since the other providers stepped out of the market.[42]

These monopoly situations necessarily have a distorting effect on competition, their formation cannot be justified by the provisions of the legislation on natural gas supply, the reasons are to be found elsewhere (moreover, it does not fall in the scope of the present study either). It should be noted, however, that the current model has a large number of players on the trader side and the principles of the market model seem to predominate (even with necessary or inherited centres of gravity),[43] however, only the lower branch of the two-tier monopoly model has been resolved noticeably, the monopolies in the natural monopoly situation, formed (established) for reasons of national economy or priority security of supply, still remained.

[41] The natural gas supplier company of NKM Ltc. (NKM Földgázszolgáltató Zrt. – NKM Gas Supplier Ltc.) and the electricity supplier company (NKM Áramszolgáltató Zrt. – Electricity Supplier Ltc.) merged on 30 June 2019, the new company was named NKM Energy Ltc. (NKM Energia Zrt.). As the competitive retail business was transferred from MVM Partner Ltc. to NKM Energy Ltc. on 31 March 2020, NKM Energy Ltc. provides more than 45% of the energy consumption of the country.

[42] Magyar Energetikai és Közmű-szabályozási Hivatal 2020.

[43] Irene & Michael 2010, 171.

Bibliography

1. Andersen S S & Sitter N (2009) The European Union gasmarket: differentiated integration and fuzzy liberalisation, in: Fermann G (ed.) *Energy and institution-building in Europe*, Berliner Wissenschafts-Verlag.
2. Borbély Sz (2006) *EU: gázpiaci liberalizáció és szétválasztás*, MARMOL, Budapest.
3. Cavaliere A. (2007) *The liberalization of natural gas markets: regulatory reform and competition failures in Italy*, Oxford Institute for Energy Studies.
4. Cséki I (2001) A gázellátás története, *VGF & HKL Szaklap* 2(8), https://www.vgfszaklap.hu/lapszamok/2001/okt%C3%B3ber/159-a-gazellatas-tortenete [26.04.2020]
5. Századvég Gazdaságkutató Zrt (2017) *Energetikai monitor.*
6. EurActiv (2018) Az EU gázpiacának liberalizálása http://www.euractiv.hu/gazdasag/linkdossziek/az-eu-gazpiacanak-liberalizalasa [04.11.2019]
7. Fafaliou I & Polemis M L (2010) Liberalisation of the European Natural Gas Market: Myth or Reality? Evidence from Greece, in: Rezitis A N (eds.) *Research Topics in Agricultural and Applied Economics (Volume 1)*, Bentham, pp. 168–183.
8. Finon D & Locatelli C (2002) *The liberalisation of the European gas market and its conse-quences for Russia.* halshs-00187059.
9. Haase N (2008) *European gas market liberalisation: Are regulatory regimes moving towards convergence?*, Oxford Institute for Energy Studies, pp. 197–201.
10. Holza F, Hirschhausen C & Kemfertac C (2008) A strategic model of European gas supply (GASMOD), *Energy Economics* 30(3).
11. Horánszky B (2005) *A földgázpiac változásai*, Miskolci Egyetemi Kiadó, Miskolc.
12. Kaderják P, Kiss A, Paizs L, Selei A, Szolnoki P & Tóth B (2012) Infrastrukturális fejlesztések szerepe a gázpiaci integrációban – elemzések a Duna-régió gázpiaci modellel, in: Valentiny P, Kiss F L & Nagy Cs I (eds.) *Verseny és szabályozás*, MTA KRTK Közgazdaság-tudományi Intézet, Budapest, pp. 256–282.
13. Kaziáner J (2009) One of the central problems of the legal regulation of the natural gas sector Office of Energy versus Office of Economic Competition. *Journal of Agricultural and Environmental Law* 4(7), pp. 3–9.
14. Kádárné Horváth Á (2009) A földgázpiaci liberalizáció és a távfűtés, in: Hetesi E, Majó Z & Lukovics M (eds.) *A szolgáltatások világa*, JATEPress, Szeged.
15. Laffont J-J. (2005) *Regulation and Development*, Cambridge University Press, Cambridge.
16. Lavrijssen S, Marhold A & Trias A (2016) *The Changing: World of the DSO in a Smart Energy System Environment: Key Issues and Policy Recommendations*, TILEC Discussion Paper, DP 2016-032.
17. Lecarpentier A (2006) *The liberalization of gas markets in Europe. France*, https://www.osti.gov/etdeweb/servlets/purl/20854790 p. 1. [23.04.2020]

18. Magyar Energetikai és Közmű-szabályozási Hivatal (2020) *Földgázipari engedélyesek listája,* http://www.mekh.hu/download/2/d9/c0000/foldgazipari_engedelyesek_20200 4.xlsx [26.04.2020]
19. Meeus L, Azevedo I, Kaderják P, Kotek P, Pató Zs, Szabó L, Glachant J-M et al. (2013) Regulating Building Refurbishment inthe Context of the Energy Roadmap 2050, *European Energy Journal* 3, pp. 34–39.
20. Stern J P (1998) *Competition and liberalization in European gas markets: Towards a continental European model. United States. Royal Inst. of International Affairs,* Brookings Institution, London.
21. Szőcs M (1991) A magyar gázipar múltja, jelene és jövője, in: Vida M (ed.) *Gáztechnikai Kézikönyv,* Műszaki Kiadó.
22. Takácsné Tóth B, Kotek P & Selei A (2019) A magyar gázliberalizáció 15 éve, *Vezetéstudomány* 50(Különszám).
23. Zyuzev R (2008) *Gas market liberalization as a key driver of change of the European gas market and its influence on the strategies of the main players*, Thesis, Centre International de Formation Europeenne, Nice.