European Union Legislation and the Liberalisation of the Internal Electricity Market

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Abstract: - The article presents the process of reforming electricity generating industries due to liberalisation of the internal electricity market in the EU, and the increased role of the market with respect to production, transmission and distribution of electricity in the EU. The article describes the market operation and the main features of legislation in the energy sector, pointing out possible measures and activities, needed for the electricity market in the EU to become fully liberalised.

Key words: - Energy, Electricity market, Legislation, Liberalisation

1 Introduction

In the past decade, electricity generating industries dealt with major changes due to the changes brought about by the liberalisation of the internal electricity market in the EU.

Liberalisation of the internal electricity market has influenced national electricity guidelines, the operation of the key local actors, the terms directly affecting the production of electrical energy; consequently, new opportunities opened up for the investors and the supply of energy is more safe, because power exchange regulates the supply and demand market. Electricity is now a market commodity, with a few distinctive features, because of which the market differs from a regular commodities’ market.

A common EU energy policy is set up at the union level. By opening up European energy markets to competition Europe's citizens and industries have gained many benefits: more choice, more competition to keep prices down, better service and improved security of supply. To liberalise energy in Europe was necessary because of the following:

- the increased import dependence;
- the need for new investments (new production technologies);
- stocks of energy products are only in some countries;
- increasing prices of oil and gas;
- energy products demand is increasing;
- global warming due to emissions of greenhouse gases (the Earth’s surface is warmer for 0,6°C; if we don’t act appropriately, the Earth’s surface will warm for another 1,4 to 5,8 °C);
- the EU energy markets are not yet liberalised to the extent to be completely open and competitive.

The goal of the EU is to achieve competitiveness through a global and open, fully integrated energy market which would contribute to growth of the economy, development of technologies and opening of new workplaces; consequently, the consumers would benefit from secure, reliable and competitive energy.

2 Energy Market

The goal of sustainable, competitive and secure energy can only be achieved by fully opened and competitive energy markets, based on competitive companies, which work not only as national actors, but are pan-European competitive. Only fully opened markets and the absence of protectionism can help the EU to deal with the current energy challenges. Only through a common and competitive European electricity market lower prices of energy can be achieved, the security of supply can be increased and the competitiveness improved, consequently leading to increased energy efficiency.

Therefore, the EU energy policy aims at achieving the following goals:

- sustainability;
- development of competitive renewable energy sources and other sources;
- the use of energy with low carbon content, especially alternative fuels;
- decrease of energy demand;
- competitiveness;
• to ensure the opening up of energy markets will benefit the consumers and the economy as a whole, at the same time encouraging the investments into producing pure energy and achieve energy efficiency;
• reduce the impact of higher energy prices on the economy and EU citizens;
• maintain the leading position of EU by developing energy efficient technologies;
• to increase the security of supply in the view of increased dependence of the EU from imported energy.

In the past, the national energy markets were separate “islands” within the EU, where the supply and distribution of energy were in the hands of monopolistic companies. EU has adopted a number of measures in order to establish a common internal energy market. The goal of achieving a common market aims at providing a real choice for the consumers, EU citizens as well as companies, new business opportunities and cross-border cooperation. The EU in this manner encourages competitiveness with means to connect isolated networks and means to improve cross-border connections between the EU member states as well as with supplying countries.

The electricity market can only operate if:
• the market ensures enough electricity;
• there are several suppliers and consumers on the market;
• the transmission and distribution networks ensure a satisfactory coverage and secure and reliable operation;
• the network operators enable all consumers access to networks without discrimination and under same conditions;
• the prices for access to networks are set up by an institution, independent from the interests and influences of actors, operating on the market;
• the disputes, arising on the market due to a discriminatory treatment of interested parties, based on the access to network, are resolved by an independent institution;
• the suppliers supply the energy under beforehand known conditions;
• the protection of the consumers and competition is ensured.

2.1 The relevant secondary EU legislation (Directives and Regulations)


The Renewable Energy Directive establishes a common framework for the promotion of energy from renewable sources. It sets mandatory national targets for the overall share of energy from renewable sources in gross final consumption of energy and for the share of energy from renewable sources in transport. It lays down rules relating to statistical transfers between Member States, joint projects between Member States and with third countries, guarantees of origin, administrative procedures, information and training, and access to the electricity grid for energy from renewable sources. It establishes sustainability criteria for biofuels and bioliquids (Article 1, defining subject matter and scope).


This Directive establishes common rules for the generation, transmission, distribution and supply of electricity, together with consumer protection provisions, with a view to improving and integrating competitive electricity markets in the Community. It lays down the rules relating to the organisation and functioning of the electricity sector, open access to the market, the criteria and procedures applicable to calls for tenders and the granting of authorisations and the operation of systems. It also lays down universal service obligations and the rights of electricity consumers and clarifies competition requirements (Article 1, defining subject matter and scope).


The Regulation aims at:
• setting fair rules for cross-border exchanges in electricity, thus enhancing competition within the internal market in electricity, taking into account the particular characteristics of national and regional markets. This will involve the establishment of a compensation mechanism for cross-border flows of electricity and the setting of harmonised principles on cross-border transmission charges and the allocation of available capacities of interconnections between national transmission systems;
• facilitating the emergence of a well-functioning and transparent wholesale market with a high level of security of supply in electricity. It
provides for mechanisms to harmonise the rules for cross-border exchanges in electricity.


3 Liberalisation of the energy market
Through introduction of free movement of goods and services in the energy field, the European Union has decisively influenced the energy markets worldwide. The basis for electricity market represents the Directive 96/92/EC Error! Reference source not found. of the European Parliament and of the Council, henceforth referenced as the first electricity directive. It introduced customer choice for the large customers in terms to be able to choose their supplier, on the basis of a transparent and non-discriminatory network access.

The Directive established common rules for the generation, transmission and distribution of electricity. It laid down the rules relating to the organization and functioning of the electricity sector, access to the market, the criteria and procedures applicable to calls for tender and the granting of authorizations and the operation of systems.

The Directive was transposed into national legislations of the Member States in order for the markets to gradually open up.

The Electricity Directive introduced customer’s choice for large customers in terms to be able to choose their supplier, on the basis of a transparent and non-discriminatory network access. Nevertheless, there were obstacles that still hindered the achievement of a fully competitive internal market, obstacles related to access to network, tarification issues, different degrees of market opening between Member States in both sectors, and furthermore, access to storage and interoperability between systems in the gas sector. The internal market has not yet reached the maturity due to several reasons, among them limited capacity in cross-border paths. After a few years of experience the understanding prevailed that full market liberalisation is needed together with a higher degree of unbundling and compulsory network service regulation, which led to the adoption of Directive 2003/54/EC for the internal market in electricity[6] and Regulation 1228/2003 on conditions for access to the network for cross-border exchanges in electricity [7]. The new legislation enhances the role of National Regulatory Authorities and provides a more detailed framework for the EU internal market in energy.

The declared main goals of liberalisation were to increase competitiveness in the market, decrease or at least stabilize electricity prices at relatively low levels, and the improvement of services.

4 The structure of the market and market operation
4.1 The structure of the market
One of the main preconditions for market operation is its transparency. Transparency of the market can be achieved if the information on the electricity prices are published, e.g. on the web portals.

Providing information on the web portal is suitable due to fast changes appearing on the energy market. It represents an easy way to adjust contents and for upgrading information, for consumers as well as suppliers. It is divided into:

- information portal – collection of web information on energy sector [8],
- business portal – information on electricity exchange (technical information, environmental information, economic indicators, political information [9], influencing the prices of energy)

The role of market participants is presented in figure 1, describing the physical flow of energy.

![Fig. 1. Physical flow of energy](image)

The networks do not operate by themselves; this is done by legal entities (transmission and distribution systems operators). The transmission network enables the supply of energy from the producer to the distributor and their interoperability.
The distribution network serves for distributing energy to consumers.

4.2 Operation of the market
The European Commission annually reports on the market operation in the Member States on the basis of the reports, submitted by national regulators, which are obliged to report on the market operation and the energy sector as a whole. In 2005, the European Commission defined the substantive matter of the reports for the first time.

The report needs to provide information on the quantity of electricity, on the operation of retail and wholesale market, on the number of switch of suppliers. Furthermore, the report provides detailed information on the electricity prices and network charges for consumers, information on dominant positions on the market and possible limitations of the market. A system of reporting is established, which enables detailed comparisons of the markets. In a few years, a detailed comparative analysis of the parameters, typical for the market and the prices of public services, will be possible to conduct on the basis of information provided in the reports.

Current reports encompass the review of electricity market in all the member states; on the basis of the information provided, five major critical areas that hinder the development of the market can be established: concentration of the market, vertical foreclosure, lack of interoperability of national markets, lack of transparency and pricing.

4.3 Market organiser
One of the basic conditions for opening up the electrical power market is trading on an organised electrical power market, which is organised by a legal entity – the market organiser (Figure 2).

Establishing a power supply market organiser was one of the provisions provided for by the Slovenian Energy Act, and at the same time represented one of the principal conditions for opening an electrical power exchange. Exchanges are a market mechanism which attempt to stimulate competitive conditions and introduce transparency to the market either voluntarily or in a partly coercive manner. In ideal circumstances, day-ahead market exchanges of electrical power facilitate economical efficiency both on a short-term and long-term basis. In Slovenia, the electrical power exchange activity was entrusted to Borzen, d.o.o., a subsidiary of Elektro-Slovenija, which was founded at the start of 2001.

5 The Production of Electricity
The new EU energy policy introduces crucial changes in the production of the electricity. The demand to decrease CO₂ and greenhouse gases has a direct influence on production capacities of electricity.

With regard to current trends and electricity demand, an increase in the consumption of electricity is expected by 2030, consequently leading to an increased demand for additional production capacities. Until now, the production of electricity was equivalent with its consumption. However, by 2020 the EU’s demand for energy will increase by 200 GW (depending on the price of oil) in comparison to 2007.

![Fig. 3. EU27 Generation Capacity by technology (2006)](image)

The use of different technologies is key to security of electricity supply and has to be taken into account when examining the suitability of infrastructure for the production of electricity in the
Generally, the production of electricity in the EU is from different sources, as shown in Figure 3.

6 Conclusion

Despite the comprehensive EU energy legislation, in reality, the operating of the specific markets in the EU member States is reduced to the operation of the sub markets; wholesale markets are mainly bilateral, but in most states, trading on an organised electrical power market is established.

For the operation of submarkets to become unified, firstly, a harmonized functioning of the organised electrical power markets is necessary; further on, the transmission system operators need to harmonise counterveiling markets, which leads to a full liberalisation. The main goals of liberalising the market are:

- all suppliers operate on one single market;
- an increase of production and lower prices;
- security of supply;
- all companies have equal access to the energy market;
- environmental protection requirements are considered; and
- lower energy dependency.

All of the above requires a sustainable development approach, accelerates competitiveness and provides security of supply, leading to a new energy era and represents the foundations of our every-day lives.

References:


