

## LEGAL REGULATIONS OF EUROPEAN ENERGY POLICY IN CROATIA

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### Abstract:

The ultimate and main goal of countries in transition is the integration into the European Union and the integration of energy systems is a natural process. The first step is the restructuring of energy systems at the national level, by separating generation, transmission, distribution and supply, followed by the gradual introduction of market rules. After that, the goal is the integration of national energy in continental, first at the regional level. The Republic of Croatia has accepted all the energy requirements of the European Union and implemented them in practice, and the same is expected from the other candidate countries for membership. The energy sector is one of the most important parts of the national economy.

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### 1. INTRODUCTION

The development of European energy policy was at the center stage of the European project, then known as the project of the European Community, now the European Union (EU), which in 1951 first established the European Coal and Steel Community, and in 1957 the European Atomic Energy Community. Since then, energy has remained one of the key strategic and security issues in the world [1].

There is a growing dependence of the world economy on energy prices, because energy prices significantly affects the output prices of all products, raises the energy problem at the heart of the civilization model, in which we are contemporaries [2]. Countries or associations of countries (OPEC, for example) as well as producers of energy, on the one hand, and the customers of the same energy, on the other hand, constitute one of the greatest geopolitical issues of today that will intensify in the future, because the need for energy growing (population growth but also accelerated development of the most populated countries such as China and India). Therefore, the balance, even unstable, in this sector is crucial for further development of civilization in general. The EU, as one of the most important and the most developed political and economic factors, time is on the issues of energy are more vulnerable because the level of development in a direct proportion of the amount

of power consumed; the least developed countries consume the least energy and vice versa. Conversely there is also lack of energy; developed countries would significantly more unbearable submitted energy deficit of less developed countries.

Renewable energy technologies face considerable competitive challenges as a result of market failure, regulatory failure and costs of development [3]. This makes renewable energy more expensive than that generated by fossil fuels. In spite of this there is evidence to show that biomass and biogas are close to being competitive with fossil fuel technologies, and wind-powered electricity is moving closer to competitiveness.

Increasing energy import dependency and limited success in achieving diversification, high and fluctuating energy prices, growing demand, security risks associated with transport routes, climate change, the need to liberalize the energy market, limited coordination factors of energy policy that impedes investment in energy infrastructure and difficulties on the market of oil and gas are just some of the important issues the EU was faced with over time, and the same led to the necessity of creating a common European energy strategy.

The aim of this paper is to introduce readers to the most important requirements of the EU from energetic point of view. The most important part of any energy policy is security and sustainability of energy supply.

## 2. THE LEGAL FOUNDATIONS OF THE EUROPEAN ENERGY POLICY

European energy policy was launched by the decision of the Heads of Member States of the EU in 2007 [4]. European energy policy aims to achieve three objectives: 1) increasing security of supply, 2) ensuring the competitiveness of European economies and the availability of energy and 3) the promotion of environmental sustainability and combating climate change. This effectively allows energy supply, integration of energy markets in the EU, ensuring compliance with the energy policy objectives of sustainable development by rational use of energy and development of renewable energy sources and the promotion of research and technological development in the energy sector. European energy policy includes the use of coal, oil, gas, electricity, new and renewable energy sources and nuclear energy and demand management of different forms of energy. Net calorific values and conversion factors are shown in the Table 1.

**Table 1.** Net calorific values and conversion factors [4]

Energy sources	Unit	kcal	MJ	kgoe	kgce
Hard Coal	kg	5 800 - 7 000	24.28 - 29.31	0.580 - 0.700	0.829 - 1.000
Fuel Wood	dm <sup>3</sup>	2 150	9.00	0.215	0.307
Biodiesel	kg	8 837	36.90	0.884	1.262
Natural Gas	m <sup>3</sup>	8 120 - 8 570	34 - 35.88	0.812- 0.857	1.160 - 1.224
Crude Oil	kg	10 127	42.40	1.013	1.447
Motor Gasoline	kg	10 650	44.59	1.065	1.521
Fuel Oil	kg	9 600	40.19	0.960	1.371
Electricity	kWh	860	3.60	0.086	0.123

Energy is a key factor for the existence of modern society and the legal regulation of its exploitation has economic and strategic-political effects [5]. Energy policy is often changed and improved, thereby passing through many different stages, depending on the change of the energy structure (wood, coal, oil, gas, nuclear fission, renewable energy sources), as well as the socio-political system. Today, practically all the countries of the world are faced with the challenges of climate change, increasing dependence on energy resources and rising energy prices. Also, the aforementioned dependence on energy is reflected in the fact that the problems with the supply of energy in one country produce effects in other countries. The continuous increase in energy

consumption indicates that it is necessary to devise long-term national and transnational strategies of energy production, transmission, distribution and supply.

The integration of energy systems in countries in transition is a natural process in meeting the objective of joining the EU. The first of many reforms is the restructuring of energy systems at the national level with a focus on the separation of generation, transmission, distribution and supply. The adoption of these reforms follows also the introduction of market rules. By adopting market rules, countries in transition approaching integration of national energy in the continental energy, starting first from the regional level. The transition process requires the adoption of EU legislation which is based on two directives:

- Directive 2009/72/EC of the European Parliament and of the Council of 13 July 2009 Concerning Common Rules for the Internal Market in Electricity and repealing Directive 2003/54 / EC; and,
- Directive 2009/73/EC of the European Parliament and of the Council of 13 July 2009 Concerning Common Rules for the Internal Market in Natural Gas and repealing Directive 2003/55/EC.

Market energy belongs to the common market of the EU created in 1992, which means the priority of European legislation over national legislation in this sector. The most important parts of the European legislation just these two Directives that defined the framework of restructuring and monopolized market network of energy. In the first stage, Member States left to the route of administration and the degree of deregulation in order to increase the efficiency of the sector and lower energy prices. The primary reason for the creation of energy markets is to lower the price, especially for large consumers have an important role in the competitiveness of the European economy. The introduction and development of a free market provides the separation of transmission sector of electricity and gas transmission, free production with the right of passage through the system and allow free purchase energy on the market by large customers. According to the legislator, the European Commission, the primary reason for the creation of energy markets is to lower the price on the model of the US market, especially for large consumers who are exceptionally importance for the competitiveness of the European economy.

One of the major questions of environmental policy in relation to energy law and policy is, can national environmental concerns outweigh local environmental concerns [6]? An example of the logic behind the argument here is that if a country wants to reduce its national carbon-dioxide (CO<sub>2</sub>) emissions and build new energy infrastructure, can some local environmental concerns be bypassed or essentially not taken into account? These local concerns will be a cost of the new energy infrastructure with the latter ultimately leading to a better environment nationally and internationally, in terms of CO<sub>2</sub> emissions.

### 3. ENERGY REQUIREMENTS OF THE EUROPEAN UNION

The history of EU energy policy and legislation has evolved much over the last 50 years [7]. It started with focus on harmonization of national markets to facilitate competition and eventually foster an internal market for energy. The Lisbon Treaty, 2009 has established a new legal basis for the EU to harmonize the energy law and policies of the member states, a direct legal basis that was lacking in the original EC Treaty, requiring progress to be made through the environmental and internal market provisions. As security of supply and climate change concerns have grown, a major role has emerged in setting challenging EU-wide targets and developing flexible mechanisms by which Member States can contribute a fair share in ways suited to their national conditions.

Regulators take steps to prevent and mitigate harm to human health and the environment through the development, enactment and enforcement of environmental legislation [7]. Frequently, in the development and application of environmental law, scientists, engineers and other technical experts are involved in research to monitor the state of the environment. Such research can include conducting studies and undertaking experiments to sample gases, liquids and solids, that is, air, water, soil or sludge in order to assess the levels of pollution. Chemists, biologists and ecologists in particular regularly sample environmental media while epidemiologists frequently assess the alleged impacts of environmental pollutants on human health. The sampling stage is often given less emphasis than the measurements which form part of this research.

Taking into account the security and sustainability of energy supply as a common concern, the EU adopted a unified long-term policy for energy development and climate change mitigation, which will become an economy with low greenhouse gas emissions, and a world leader in combating climate change.

The European Commission has proposed a five-point action plan for European energy security and solidarity through:

- construction of infrastructure and the diversification of energy supplies;
- international energy relations;
- creation of oil and gas reserves and the mechanisms of response to emergencies;
- energy efficiency; and,
- Best use of domestic resources within the EU.

The objectives of this single policy are:

- 20% reduction in greenhouse gas emissions by 2020 compared to the 1990<sup>th</sup> year or 30% if developing countries accept commitments in accordance with their economic possibilities;
- 20% of renewable energy sources in gross final energy consumption in 2020;
- 10% will amount to the share of renewable energy in 2020 used in all forms of transport in relation to the consumption of gasoline, diesel fuel, biofuels in road and railway transport, and the total electricity used in transport;
- 9% reduction in final energy consumption in the period up to 2016, applying energy efficiency measures; and,
- 20% reduction in total energy consumption in relation to the baseline projection in 2020 (this goal was proclaimed, but the EU has not developed).

The Republic of Croatia, has adopted a common European policy and is in line with it align its own goals. The basic platform for achieving these objectives is fully open and competitive European energy market.

Accordingly, the Republic of Croatia will be:

- Its legislative and regulatory framework permanently aligns with the EU acquis; and,
- Create all the conditions for the functioning of an open energy market, based on clear, stable, transparent and non-discriminatory rules and effective organization of the market.

#### 4. COOPERATION WITH THE EUROPEAN UNION AND NEIGHBORING COUNTRIES

Energy region and the regional energy market in which is included the Republic of Croatia in terms of the Energy Development Strategy determines the content: countries of south-east Europe (Parties to the Treaty establishing the Energy Community) and the neighboring EU Member States (participating in the Energy Community Treaty).

Energy Community Treaty Southeast European countries adopted a common strategy of creating regional electricity and natural gas, based on common interests and solidarity, and for his eventual integration in the European single market. In relation to the region, specific objectives proclaimed the Energy Community Treaty are:

- the establishment of conditions for the development of the energy market in the single regulatory space;
- improving the state of the environment by increasing energy efficiency and increased use of renewable energy sources; and,
- Increase of security of energy supply in the region linking the Caspian, North African and Near East gas reserves and the use of reserves of natural gas, coal and hydropower in the region.

Important aspects of the Energy Community Treaty are compatible with the *acquis* in the field of environmental and social issues related to energy supply. In connection with environmental protection requires the implementation of European regulations governing issues comprehensive pollution prevention and control, impact assessment on the environment, fuel quality, waste management and conservation of wild birds. Memorandum of Understanding on Social Issues obliges participating in the Energy Community Treaty that in its energy policy include social dimension. In the process of liberalization, tariff systems and ways of determining the price of energy are changing significantly. The Republic of Croatia will be an adequate social policy measures to promote their social commitment and in these matters.

Environmental impact means any effect caused by a given activity on the environment, including human health and safety, flora, fauna, soil, air, water, climate, landscape and historical monuments or other physical structures or the interactions among these factors; it also includes effects on cultural heritage or socio-economic

conditions resulting from alterations to these factors [3].

Here we must point out that over time created a new branch of law which is increasingly evident in recent years. Phillippe Sands, in his introduction to the Earth scan publication *Greening International Law*, states that "... the international community's recognition that environmental problems transcend national boundaries has resulted in the development of an important new field of public international law" [8].

Historically, international environmental law used to be exclusively concerned with conservation of flora and fauna, mainly under the auspices of the International Union for the Conservation of Nature (IUCN). It has now developed so as to address pollution of rivers and seas, the trans-boundary transportation and management of waste, and industrial and transport emissions into the atmosphere, all of which have particular relevance to the energy sector.

Thus, in energy law, international and environmental laws now work together in various directions in the regulation of the energy sector. International law secures the right of the state over its national resources and its right to explore and exploit its resources on the continental shelf, whereas international environmental agreements deal with the type of energy policy adopted by states, either collectively or individually.

#### 5. ADJUSTMENT CROATIAN STRATEGY OF ENERGY DEVELOPMENT TO EUROPEAN UNION REQUIREMENTS

Croatian Strategy of energy development is part of the overall strategy of economic development of the Croatian state [9]. When creating such a document, the key question is credibility substrate underlying analysis and calculations and predictions reality development goals of the society, in order to determine the goals and directions of energy development. The important question is, is it necessary strategy in a country that is in the process of leaving the planning and creation of socialist-market economy system, because it is in the public often been controversial? Although the developed countries have never stopped debate on the relationship between market and state intervention because the experience of each of the different developed countries, the prevailing opinion and practice is inseparable whole that must be balanced. Of course, strategy in a market economy is not the same as in the planned economy. In order to

achieve the objectives of energy policy, it is necessary to establish the strategy and objectives of all the measures necessary, from legal and other. An energy strategy is needed, too, because of the assumed international obligations to protect the environment, and because of the adjustment of the energy sector conditions of energy in the EU. Energy Sector Development Strategy has energy, economic, legislative, organizational, institutional and educational dimension with the aim to prepare the Croatian energy sector for easier and more effective integration into EU. Croatia currently in forces other Croatian Strategy of energy development [10] that covers the period up to 2020. Croatian Strategy of energy development [11] was adopted in 2002 and, according to her, the Republic of Croatia:

- became a candidate for full membership in the EU;
- accepted the Energy Community agreement; and,
- Signed and ratified the Kyoto Protocol to the UN Framework Convention on Climate Change.

Given these new circumstances, the Croatian Parliament adopted the second Energy Strategy, which is in line with the objectives and time frames of strategic documents of the EU. The purpose of the Strategy is to define the development of Croatian energy sector for the period until 2020 with a view to the Republic of Croatia in the uncertain conditions of the global energy market and scarce domestic energy resources, a sustainable energy system.

In other words, the main objective of the Strategy is to build a system of balanced contribution to security of energy supply, competitiveness and environmental protection, to the Croatian citizens and the Croatian economy provides for security and availability of supply of energy. Such energy supply is a prerequisite for economic and social progress.

## 6. CONCLUSION

The European energy policy is one of the most important imperatives of the international project known today as the EU. European energy policy aims to achieve the three objectives: increasing security of supply, ensuring the competitiveness of European economies and the availability of energy and the promotion of environmental sustainability and combating climate change. The European energy policy is well designed because it effectively allows energy supply, integration of energy markets

in EU, ensuring compliance with the energy policy objectives of sustainable development by rational use of energy and development of renewable energy sources and the promotion of research and technological development in the energy sector in all Member States. European energy policy includes the use of coal, oil, gas, electricity, new and renewable energy sources and nuclear energy and demand management of different forms of energy. On the other hand, the main objective of the Croatian Strategy of energy development is not only equal participation in the energy market but also building a system balanced contribution to security of energy supply, competitiveness and environmental protection, to the Croatian citizens and the Croatian economy provides for security and availability of energy supply. Such energy supply is a prerequisite for economic and social progress.

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