Tamara Kortukova,
PhD, Associate professor, Department of International, Civil and Commercial Law,
Kyiv National University of Trade and Economics

THE ENERGY POLICY OF THE EUROPEAN UNION IN THE CONDITIONS OF CURRENT CHALLENGES

Introduction. Energy issues are critical from the outset European integration and remain relevant throughout the history of the functioning of the EU [1]. At the same time, energy as such and the EU energy policy is not only one of the most important issues in the economic policy of this supranational organization, but also a significant challenge for all its member countries [2]. Inter alia, the relevance of EU energy policy is due to the fact, that the energy factor is increasingly becoming an influential factor in relations between states.

At the same time, the EU energy policy is built in a complex global economic environment, the main characteristics of which are rising prices and competition for energy resources, accelerated depletion of energy reserves, non-transparency and non-competitiveness of energy markets, underinvestment in energy industries of exporting countries [3].

A special type of factors that have a significant impact on the condition of the energy sector are economic and political factors, such as global and local financial crises, political instability, wars, embargoes, various sanctions from the UN and other international organizations [4].

For example, due to the full-scale war launched by Russia in Ukraine on February 24, 2022, the EU is currently trying to rapidly reduce dependence on Russian fossil fuels by transitioning to alternative energy sources and joining efforts to develop a more sustainable energy system and strong energy union.

In addition, the EU is facing such challenges as increased demand for energy and the need to reduce the negative impact of the energy sector on the environment. That is why, the EU member states have come to understand that in order to solve these problems, concerted actions are required at the EU level. As X. Smirnova and M. Medvedieva mentioned, the EU law is the most comprehensive and integrated among all legal models of tackling the problem of energy-climate policy regulation and it may form the basis for enhanced future action at the global level [5].

In the 21st century, the problems of stable energy supply to the member states of the European Union have taken one of the priority places in the policy of integration association, which is due, on the one hand, to the depletion of the planet's resource base, and, on the other hand, to an increase in energy consumption. At the same time, the problem of stable provision of the economy with the required amount of energy resources with minimal risks takes a leading position in the internal political and foreign policy strategy of the EU.

Currently, the European energy legislation provides for a certain harmonization of changes in legislation in all energy sectors, such as electricity, coal, oil and gas, nuclear energy and the use of alternative energy sources, etc.

For instance, on the supranational level the European Commission carries out activities in the field of energy in a number of areas, inter alia, the EU Energy Strategy and the EU Energy Union; markets and consumers; import and security of energy supply; renewable energy; energy efficiency; oil, gas and coal; nuclear energy; energy infrastructure; international cooperation, new technologies and innovation; ensuring compliance with energy legislation.

However, it should be noted, that despite considerable attention to the EU energy policy, its features at the present stage are not fully researched. Moreover, the EU energy policy is still relevant nowadays due to the fact, that practice of energy regulation in the EU is constantly changing and new development plans for this sector are emerging.

Materials and Methods. Defining the components of the concepts and terms of EU legislation on energy policy requires the use of a number of general scientific methods, inter alia: synthesis, deduction, induction, abstraction, etc.

For example, the method of theoretical generalization was used to form one's own approach to understanding key concepts in the field of EU energy policy.

The method of content analysis was used in the study of the source base - regulations, treaties, concepts, directives and other documents governing EU energy policy. The method of content analysis not only allows to fully disclose the content of these documents, but also to identify the logic of their essence, sequence of tasks, unambiguous interpretations and other important parameters that can be used to characterize the EU legal framework in the energy sector.

The method of factor analysis was introduced to process and summarize the facts of practical implementation of EU legal policy in the energy sector in the member states of this European association. The historical-legal method was used to analyze the evolution of the legal regulation of EU energy policy.

Results and Discussion. The implementation of the idea of European integration began, inter alia, with the deepening of cooperation in lots of economic spheres, including the field of energy, in particular with the establishment of the European Coal and Steel Community in 1951 and the European Atomic Energy Agency in 1957.

At the same time, the energy policy of the European Union began to form at the turn of the 80s-90s of the twentieth century with the liberalization of electricity and gas markets, as well as the intention to create a single European energy market.

For the first time, the European Commission proclaimed a concept for large-scale reforms of electricity and gas markets in 1988. In justifying the need for these reforms, the European Commission noted that «a more integrated European energy market will help reduce energy costs ... and improve the cost structure and rationalize the production, transmission and distribution of energy». The Amsterdam Treaty, 1999 [6] defined energy policy as a factor in the sustainable development of society.

In addition, such legal acts as the Council Resolution of 1995 on the Green Paper on European Union Energy Policy [7] and the Council Resolution of 1996 on the White Paper on Energy Policy for the European Union [8] were important for a comprehensive understanding of the EU's energy objectives and targets.

For example, the 1997 White Paper [9] contained a Community strategy and action plan for renewable energy sources. The main objective of the White Paper

was to double the share of renewable energy sources in the EU's domestic energy consumption from 6% in 1997 to 12% in 2010.

The Green Paper of 2000 [10], was also an extensive document. It analyzed and assessed the situation in European energy, pointing to the growing need for energy. In order to counteract such trends, it is necessary to adequately stimulate supply and demand. This requires innovative, integrated action in two areas: monitoring the growth of energy demand associated with improving its efficiency; control of dependence in the field of energy supply, which is associated with the optimization of the structure of their sources.

Since the entry into force of the Lisbon Treaty, energy policy has come under the joint competence of the EU and the member states. In this sphere legislative acts are adopted in accordance with the usual legislative procedure, based on the exclusive legislative initiative of the Commission and the cooperation of two legislative institutions - the Council of Ministers and the European Parliament.

Section XXI «Energy» of the Treaty on the Functioning of the European Union [11] sets out the objectives of the Union's energy policies, namely: to ensure the functioning of the energy market; to ensure the security of energy supply in the Union; to promote energy efficiency and energy saving, as well as the development of new and renewable energy sources; promote the integration of energy networks. At the same time, EU energy policy is based on the principles of transparency, non-discrimination, environmental protection and social inclusion.

It should be noted, that legislation on the internal gas and electricity market in the European Union is formed within the so-called energy packages. Only in the late 1990s was the EU's First Energy Package adopted, in 2003 - the EU's Second Energy Package, in 2009 - the EU's Third Energy Package, and in 2019 - the EU's Fourth Energy Package.

The Clean Energy for all Europeans Package is the fourth and the latest update in the European energy policy framework, aiming to facilitate a clean energy transition and the implementation of the Energy Union strategy goals. It addresses five key dimensions: 1. Energy security, solidarity and trust; 2. Internal energy market; 3. Energy efficiency; 4. Decarbonization of the economy; 5. Research, innovation and competitiveness [12].

Energy security, solidarity and trust

Ensuring energy security is one of the key areas of activity of the European Union. Energy security is a strategy aimed at achieving energy independence in the region and ensuring the energy security of all members of the European Union.

The energy security of the European Union is associated with the limited reserves of resources, which are extremely unevenly distributed around the planet. Due to the lack of their own resources, the states of the European Union are forced

to import raw materials in large quantities. As a result, dependence on supplier countries increases, which is an immediate security threat. Thus, the European Union needs a unified and well-thought-out policy aimed at ensuring the energy security of the region.

Under energy security is understood the state of protection of the country from threats to reliable energy, including fuel, supply. The essence of energy security is to guarantee a continuous supply of energy resources at affordable prices [13].

Guaranteeing energy security means achieving a state of technically reliable, stable, economically efficient and environmentally balanced provision of energy resources to the needs of the economy and the population, as well as creating conditions for the formation and implementation of a policy to protect national interests in the energy sector [14].

At the same time, the definition of energy security is contextual and dynamic in nature. The scope of energy security has also expanded, with a growing emphasis on dimensions such as environmental sustainability and energy efficiency [15].

Many energy security concepts are based on the assertion that it consists of the following four elements: availability, accessibility, affordability, and acceptability [16].

The EU's energy security activities are based on the Energy Security Strategy [17], which was approved in May 2014, aimed at ensuring security of energy supplies and maintaining price stability.

Among other things, it should be noted that the key drivers of energy security for the EU are: completion of the internal energy market; diversification of supply sources; strengthening cooperation between states on gas transportation and storage; increase energy efficiency; reduction of harmful emissions into the atmosphere.

An important aspect is also the creation of a solidarity mechanism, according to which, in the event of a threat of interruption in the supply of hydrocarbons to some countries, the European Union will be able to assist them by promptly organizing alternative supplies from other countries and regions.

Internal energy market

The creation of a common EU energy market is a challenge which the governments of EU countries and EU institutions have to meet. The difficulties experienced so far in the scope of implementation of EU directives concerning the liberalization of energy market confirm that member states trying to reach the EU goals are simulteniously attempting to protect the interests of their own energy companies [18].

There are many good reasons why Europe has been so slow with the liberalization of its electricity sector. This market project aimed to open up national monopolies' territories to foreigners, which of course was a radical project that

inevitably triggered huge and fierce opposition. Second, there was no wave of disruptive technological innovation – unlike in the case of telecoms – to challenge the incumbent energy giants. Third, electricity is a difficult product to trade, as it requires hundreds of technical, legal and economic rules and standards to be agreed upon before it can become tradable. Electricity is, after all, not more than a coordinated flow of electrons inside the millions of metallic wires of a gigantic, interconnected network. Therefore, for decades electricity was considered to be a typical "anti-market" product, best suited to natural or franchised monopolies [19].

The creation of a single energy market was of particular relevance for the monopolized markets of the electric and gas industry, where national vertically integrated enterprises (often state-owned) dominated, which had a monopoly on the production, transportation and supply of energy to consumers, which led to the lack of competition with all the ensuing consequences [20].

For today, the EU internal energy market constitutes the integration of EU member states' gas and electricity markets into one single market based on the free movement of goods, services, capital and persons. It aims to create free and fair competition in the energy sector, in which consumers (both industrial and household) can freely choose their supplier, and suppliers can provide gas and electricity without any restrictions across borders [21].

An institutional structure of the internal electricity market has been created in the EU, which includes national and regional regulators, an Agency for cooperation of energy regulators, Coordinating and advisory bodies and other state and public organizations with mixed competence.

The Agency for the Cooperation of Energy Regulators was established in 2010 in accordance with Regulation 713/2009 [22]. The Agency for the Cooperation of Energy Regulators has been fully operational since 2011. The role of The Agency for the Cooperation of Energy Regulators is to coordinate the work of national regulatory bodies, participate in the creation of rules for the use of energy grids, make decisions on the timing and conditions for ensuring access and ensure the security of cross-border infrastructure, advise on various issues related to energy and institutional structures, monitor developments in the European energy sector, etc. In 2019 the activity of the Agency for the Cooperation of Energy Regulators was strengthened and new legal basis was adopted, inter alia, Regulation 2019/942 [23].

Cooperation of national regulators of the EU electricity market is carried out within the framework of the Council of European Energy Regulators, established in 2000. The Council acts to protect consumer interests and promote the creation of a single, competitive, efficient and sustainable internal energy market.

An important component of the regulatory apparatus of the EU electric power market is the European Network of Transmission System Operators for Electricity,

which ensures the interaction of system operators at the national and regional level. Its main task is the operation, management and development of the transmission network.

In general, the energy policy within the EU contributes to the further rapprochement of countries and regions and the deepening of integration, but the further fate of this direction already within the framework of the Energy Union will depend on the ability to find a balance between national and European interests.

Energy efficiency

Improved energy efficiency, including the efficient production, distribution and use of electricity, is central for climate change mitigation and to improve security of supply [24]. At the same time, improving energy efficiency can reduce the consumption of energy resources, while ensuring economic growth and meeting the needs of citizens, as well as increases the competitiveness of the economy.

The European energy policy in the field of energy efficiency includes measures established within the framework of the adopted EU strategies, namely: the Strategy for Energy and Climate - 2030, which envisages an increase in energy efficiency of at least 27% by 2030; «Clean energy for all Europeans», which implies rational energy consumption through improved energy efficiency.

It should be noted, that the EU has adopted a number of directives and regulations in the field of energy efficiency, among which are: Directive 2010/31/EC on the energy performance of buildings [25], Directive 2012/27/EC on energy efficiency [26], Directives 2009/28/EC and 2018/2001 on the dissemination of energy from renewable sources [27], Directive 2009/125/EC on ecodesign requirements [28], Regulation 2017/1369 on energy labeling [29].

Directive 2010/31/EC on the energy performance of buildings stipulates that from 2021 all buildings under construction must be «zero energy», that is, produce all the energy required to operate the building. And all government agencies by 2019 should be located in buildings with «zero energy consumption». Member countries should establish national building certification systems; such certification will be required for buildings with a total area of more than 500 sq. m. The directive established detailed standards for heating, air conditioning, ventilation, lighting, etc., and provided a number of mechanisms to promote energy conservation and control over the use of buildings. When renovating existing buildings, they must be refurbished according to these standards.

The basic document in the field of energy efficiency is Directive 2012/27/ЄС, which sets minimum requirements for energy efficiency. This was the first document that provided for an integrated approach to energy conservation policy at all stages of energy production, transformation and consumption. Until that time, only documents on certain aspects of energy efficiency existed in the EU.

For example, it requires Member States to adopt National Energy Efficiency Plans and update them every three years. In Art. 8 contains provisions on energy audit and energy management systems. The issue of energy efficiency in the context of heating or air conditioning is devoted to Art. 14, which provides for maximum use of national cogeneration opportunities. Article 15 obliges Member States to ensure that energy efficiency requirements are taken into account by national regulatory authorities when deciding on the operation of gas and electricity infrastructure.

Directives 2009/28/EC and 2018/2001 on the dissemination of energy from renewable sources establish binding government targets to achieve the total share of renewable energy from energy consumption in general and the share of renewable energy in the transport sector. These Directives prescribe an increase in the share of renewable energy sources by 10% of the total primary energy consumption.

Directive 2009/125/EC on ecodesign establishes a legal framework for EU ecodesign requirements for energy-using products in order to ensure the free movement of these products in the domestic market. In order to certify that a product complies with the requirements of this Directive, the manufacturer must mark the product with the letters «CE».

Regulation 2017/1369 for energy labelling sets criteria for energy labeling. Thus, the European Union introduces a significantly updated system of energy efficiency classes, which is reflected on the corresponding energy efficiency labels and in the best way informs the consumer about the energy efficiency of products. On the label, the equipment is divided into different efficiency classes from A to G, where class A+++ is the most energy efficient and G is the least efficient.

Decarbonization of the economy.

Compliance with environmental protection requirements is identified with the exclusion or minimization of the negative impact of energy on the environment and living conditions of society. That is why, over the past decades, there has been a trend in the EU energy policy towards a systematic increase in decarbonization, the main directions of which are to reduce greenhouse gas emissions and increase the share of renewable energy sources.

In recent years, the energy balance of the European Union has undergone significant changes, in particular in 2020 the share of coal and nuclear generation, compared to 2015, decreased by 20% and 10%, respectively. At the same time, the share of electricity produced from natural gas decreased insignificantly, by only 4%. Instead, the share of energy production from alternative sources increased, which led to a decrease in the carbon intensity of electricity production from 317 grams to 226 CO2/kWh. Thus, electricity in European countries has become 30% cleaner than

in 2015. All this testifies to the inevitability of the European Union's energy transition policy [30].

Since the adoption of the first EU climate and energy legislation in 2009, setting a series of relevant targets and the necessary binding mechanisms to achieve these indicators, the EU has come a long way in developing this area of energy policy.

An important stage in the development of this area was the adoption of the fundamental document in the field of long-term economic development of the EU in December 2019 «A European Green Deal» [31], which aims to decarbonize the energy sector and turn Europe by 2050 into the first «climate neutral» continent. Its goal is to halve carbon dioxide emissions by 2030 and complete decarbonization (zero CO2 emissions) by 2050.

In particular, it is planned to pay special attention to industries that have a strong impact on carbon dioxide emissions, such as metallurgy, cement and textile production. The steel industry is expected to be fully prepared for the use of hydrogen in 2030, having launched a 20-year investment cycle by that time.

Thus, taking into account the increasing tendency for decarbonization of the energy sector, it should be noted that, in fact, at the moment, energy sustainability is coming to the fore in the EU energy policy. On the one hand, the focus on decarbonization aims to achieve a reduction in the rate of global warming by reducing greenhouse gas emissions. However, on the other hand, the course towards decarbonization of the economy also affects the long-term prospect of reducing dependence on imports of fossil energy resources (including natural gas) by increasing the local energy potential of the EU through the development of renewable energy sources and other climate-neutral energy sources, including hydrogen, synthetic gases, biofuels, etc. This approach is implemented through government subsidies for the renewable energy sector, policies to reduce investment in fossil fuels, and through appropriate regulation that creates additional administrative and financial barriers to the development of hydrocarbon energy.

As part of this plan, the EU's emissions trading conditions are being tightened: the fourth phase of the European Emissions Trading System involves the phasing out of free carbon dioxide emission credits.

The European Commission proposes also to introduce measures of carbon protection of EU producers through the carbon border adjustment mechanism. The European Commission justifies the need for such measures not only to protect the interests of EU producers, but also the need to minimize the risk of increasing global greenhouse gas emissions due to the so-called «carbon leakage» effect [32].

Research, innovation and competitiveness

Today, innovation is the path to competitiveness and national progress. In addition, innovation is important to address global challenges such as climate change

and sustainable development. Thus, the European Union is today the main initiator of the formation and implementation of innovative strategies for sustainable development, not only for EU member states, but also for other countries on the European continent. Innovative strategies focus on priorities such as building an open and competitive economy, reducing CO2 emissions, sustainable management of natural resources, nuclear safety, developing a system of safe technologies in the energy sector, increasing the use of renewable energy sources and clean energy.

Conclusion. The problem of EU energy policy is complex and requires the combined efforts of all European countries to ensure a reliable and sustainable energy supply. However, the EU is one of the world's first economic blocs, which has developed and is quite successful in implementing a common energy strategy.

The objectives of EU energy policy include improving competitiveness, security of energy supply and protecting the environment. EU acquis in the energy sector include rules and policies, especially with regard to energy security, solidarity and trust, internal energy market, energy efficiency, decarbonization of the economy, research, innovation and competitiveness, etc.

It should be noted that the European energy policy of recent decades has traditionally been focused on the development of renewable energy sources, reducing the dependence of the European Union on imports of hydrocarbons and reducing greenhouse gas emissions.

One of the biggest problems of the EU's common energy policy is the EU's dependence on imported energy. The situation has deepened since the Russian Federation's full-scale invasion into Ukraine on February 24, 2022. That is why the European Union should switch to the use of alternative energy sources and join efforts to develop a more sustainable energy system and achieve a strong energy union.

There is a need to increase investment in the power grids and interconnections of the national energy systems of the member states. It is due to such investments that a single pan-European energy network can be created, as well as diversified sources of energy resources.

There is also a need to unify the energy legislation of the European Union. The EU energy policy today is not sufficiently harmonized. For example, the European Union does not have a significant impact on strategic issues related to energy imports to the EU. That is why, the energy sector should be harmonized at the supranational level. In addition, the external dimension of the EU's energy policy should be strengthened.

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