



LEGAL AND ENVIRONMENTAL FRAMEWORKS FOR SUSTAINABLE ENERGY SECURITY

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Abstract

This study examines the legal and environmental foundations for ensuring sustainable energy security, with particular emphasis on the improvement and analysis of relevant normative legal documents. The paper discusses the theoretical framework of environmental law, the environmental-legal mechanisms for guaranteeing energy security, and the key challenges in advancing the system. Special attention is given to issues related to the regulation of energy law sources, the national and international significance of energy law within the natural resources framework, and the historical origins of the right to use such resources for scientific research. Furthermore, the article outlines the specific forms and methods through which environmental-legal measures for energy security are implemented in the energy sector.

Keywords: Sustainable energy security, energy, energy efficiency, environmental safety, renewable energy sources, subsoil resources, economic development, electric power, energy law.

Introduction

Since the first years of our independence, an excellent legal framework has been created in the country, which laid the foundation for the accelerated development of the energy industry. This issue is under the constant attention of the Head of our State.



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According to experts, its capacity is equal to 50 trillion 973 million tons of conventional fuel, which is much more than the total energy reserves identified in our country. There are particularly wide opportunities for the development of alternative energy sources in our country.

One of the main global problems at the level of state policy in Uzbekistan is the rational use of renewable energy sources. In recent years, it has been advisable in our country to reduce the amount of energy produced using hydrocarbon fuels, as well as to use reserves of environmentally friendly renewable energy sources. That is why we see a growing interest in the production of clean energy using renewable energy sources in countries around the world.

According to the decree of the President of the Republic of Uzbekistan "On the strategy for further development and reform of the electric power industry in the Republic of Uzbekistan" dated March 27, 2019[1], on the basis of JSC Uzbekenergo, JSC Thermal Power Stations, JSC National Electric Networks of Uzbekistan and JSC Territorial Electric Networks were established independently of each other. As an alternative, in order to organize an effective management system in the energy sector of the republic and accelerate the development of the industry, increase its competitiveness and investment attractiveness, the Decree of the President of the Republic of Uzbekistan No. PF-5646 dated February 1, 2019 "on measures to radically improve the management system of the fuel and energy industry of the Republic of Uzbekistan" was adopted. This Decree defines priority directions for further development of the fuel and energy industry of the Republic of Uzbekistan[2]: Firstly, the implementation of a unified energy policy aimed at ensuring the energy security of the country, meeting the growing needs of economic sectors and the population in energy resources;

Secondly, a clear delineation of the functions of state regulation and economic activity in the energy sector, improvement of the legal and institutional framework of social and public-private partnership, development of clear market mechanisms for the implementation of tariff policy and promotion on this basis of the principles of a healthy competitive environment;

Thirdly, the creation of conditions for the active attraction of investments, primarily foreign direct investment, in the construction of infrastructure



facilities, as well as in modernization, technical and technological re-equipment of industry enterprises;

Fourth, the implementation of state policy in the field of energy conservation and reduction of energy consumption of the economy, stimulating the introduction of resource- and energy-saving advanced technologies in economic sectors and the household sector, the widespread development of alternative energy sources;

Fifth, the widespread introduction of modern automation tools for technological processes at energy industry enterprises, accounting systems for production, supply and consumption of energy resources;

Sixth, optimization of the management system of industry enterprises, their structures and divisions, introduction of modern methods of work organization and targets (quality management, indicative planning) aimed at achieving concrete results.

Scientific research on the concept of "energy security" is carried out by a number of economic scientists. Energy security is currently one of the most discussed topics. But there is no single generally accepted definition of the concept of "energy security". Therefore, in practice, the concepts of "energy security" or "security of energy supply" are often used.

Material and methods

The article uses methods of generalization, deduction, systematic approach, comparative-legal analysis.

Research results Material and methods

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Research results

Factors that have a significant impact on the energy security of regions can be divided into factors controlled in the current period and within the framework of the strategic development of the region - management problems (energy



shortage, equipment wear, financial aspects) and long-term and indirect (environmental problems, limited resources, etc.).)[3].

Currently, the types of fossil fuels - coal, oil, natural gas and uranium - are the basis of the world energy balance, but their scale is decreasing every year. Over the past 40 years, organic fuel mined in the world has surpassed that mined throughout the entire history of mankind. And when energy resources are consumed at the current level, it is predicted that the world oil reserve will end in 50 years, natural gas – in 75 years, coal – in 150 years.

In Uzbekistan, more than 100 of the underground resources are used as mineral resources. They have a financial potential of 3.3 trillion, and an economic indicator of annual mining is 5.5 billion US dollars. That is why mineral raw materials are our main asset. In the work "Uzbekistan at the dawn of the 21st century: security threats, stability conditions and guarantees of progress" about their rational use and their protection, it is especially noted that Uzbekistan was the mineral raw material base of the former Union and used it very cruelly — like a "barrel with no ties". As a result, they mentioned that they caused the disruption of ecological systems, the creation of mounds of waste substances similar to the "lunar landscape", the formation of radioactive hazardous tegras. Now it is necessary to use such non-renewable reserves on a strict criterion, avoiding waste during their extraction and processing. To do this, it is necessary to replace outdated processing and mining equipment with new technologies, reconstruction. Practical application of the requirements for further expansion of waste absorption of the mining industry and the restoration of disturbed land should be carried out[4].

Energy security is connected with the energy independence of the state from its subject or region, which is, first of all, a political problem. In the energy sector, sustainable development and sustainability of producing States are becoming important for ensuring economic energy security. Such sustainability may be threatened by the need to mine and extract energy resources in increasingly difficult conditions, which may entail only the use of modern technologies, environmental damage and difficulties associated with transport. Currently, there are many formulas and interpretations of the concept of "energy security"[5].



Despite the existence of a large number of studies, there is no single general definition of the term "energy security". For the first time this concept was used in the USA in 1947 as a legislative act regulating state policy in the field of national security[6]. However, the concept of "energy security" appeared after the 1973 oil crisis. At the same time, the International Energy Agency states: energy security is "confidence that Energy will be available in the quantity and quality necessary in these economic conditions"[7].

The problem of security occupies a central place in the theory and practice of international relations, and from the point of view of researchers and statesmen, this problem is of a complex nature, the content and methods of support of which depend on the historical stage of development of society[8].

For energy exporting countries, the security of demand may be as important as the reliability and security of supply. In these countries, the economy and the state budget are highly dependent on income from energy exports. For example, Saudi Arabia's oil industry accounts for 42% of GDP, 87% of budget revenues and 90% of exports[9].

However, there may be disputes between producers and consumers regarding the price level and the optimal opening rate. The International Energy Agency, which unites energy-consuming countries, considers the concept of energy security as ensuring the availability and continuity of energy resources[10].

The assessment of the state and level of energy security should be carried out using a number of indicators, namely: energy supply, energy dependence, economic feasibility, social sustainability[11].

V.V. Marchuk, As correctly noted, anthropogenic impact on the environment, including through energy infrastructure, in recent decades has been accompanied by a trend of disappearance of diverse flora and fauna from the surface of the planet. The growth of environmental disasters is due to the increased anthropogenic impact on the environment. Since the environmental problems they cause are of a global nature, measures to counter them should also be of an international nature[12].

The development of the energy sector has always been carried out under the control of the state. An example is the sectoral legislative acts adopted in the Republic of Uzbekistan. In particular, in the new development strategy of



Uzbekistan for 2022-2026, approved by Decree of the President of the Republic of Uzbekistan No. PF-60 dated January 28, 2022, special attention is paid to the liberalization of energy and natural gas markets with the establishment of guarantees of social protection, the broad attraction of private investment in the industry and the introduction of social consumption standards to protect the needy population.

The most important task of ensuring energy security is to achieve the energy independence of the state. A State that does not have independent energy can never be independent. To achieve this goal, you need to do the following:

- organization of reliable supply of energy necessary for the needs of the real sector of the economy and the population;
- ensuring reliable operation of substations that generate electricity and transmit energy, as well as organizations related to the fuel and energy industry;
- reducing the harmful impact on the environment due to the widespread introduction of modern technologies in the fuel and energy sector;
- improvement of organizational and economic mechanisms for increasing state guarantees in order to widely attract foreign investment in the fuel and energy sector.
- In order to ensure energy security in our republic, the first steps have been taken. The main ones are independent from each other on the basis of Uzbekenergo JSC, which have a unified management in the field of electricity production in the republic, the joint-stock company “Thermal Power Stations”, the supply of electricity through the main electric networks of the joint-stock company “National Electric Networks of Uzbekistan” and the supply of electricity to consumers “territorial electric networks”. assigned to the joint-stock company. This is, of course, a structural change made taking into account the present and future prospects. These changes are aimed at creating a competitive environment in the field of energy security, meeting the growing needs of the population in energy resources, economic sectors, in the production of electricity and electricity supplies to consumers. The sphere of electricity supply via the main electric networks retains its character of a natural monopoly. Because in this case, the organization of a competitive environment is an economically suboptimal situation[13].



Conclusion

Instead of concluding, ensuring the energy security of our state is a necessary condition for maintaining national and international energy security at the required level based on the effective use of fuel and energy potential. In the XXI century, the ecological environment in Uzbekistan has become an integral part of the global ecological environment, and we see that it is changing under the influence of global environmental problems. This is evident from the fact that global changes in the use of non-renewable resources, the “biomass-Technomass” relationship are also observed in Uzbekistan. These changes create the need to monitor climate, biology, and public health in the country.

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