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# Environmental-Legal Issues of Developing «Green» Energy in Uzbekistan

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**Abstract:** the article analyses modern ecological and legal issues of further improvement of the system of renewable energy, including "green" energy. Considerable attention is paid to the issues of achieving carbon neutrality as a strategically important task of any state, some issues on improvement of the energy industry have been disclosed. And the corresponding proposal for the development of «green» energy and the improvement of the system in this field has been developed.It analyses the current normative legal framework, identifies institutional and regulatory gaps, discusses environmental implications, and proposes legal reforms necessary for a sustainable energy transition. The study emphasizes the importance of coherent environmental policy, investment incentives, regulatory certainty, and international cooperation in advancing renewable energy while protecting environmental quality.

**Keywords:** green energy, renewable energy sources, carbon neutrality, energy quality, energy efficiency.



## Introduction

The transition to renewable energy is a global imperative driven by the need to mitigate climate change, enhance energy security, and achieve sustainable development goals. For Uzbekistan, a country endowed with significant solar and wind potential, the development of green energy creates opportunities to reduce dependence on fossil fuels, limit environmental pollution, and stimulate economic growth.

However, this transition is unfolding within a complex environmental and legal context that determines its sustainability and effectiveness. Despite the adoption of state strategies aimed at promoting renewable energy, significant legal and environmental challenges remain, necessitating comprehensive analysis and further reform.

From the perspective of environmental law development, particular importance is attached to improving the legal regime governing the use of natural resources in the design, construction, and operation of power-generating facilities based on renewable energy sources. This includes

establishing monitoring mechanisms for achieving renewable energy targets and periodically revising such targets in accordance with not only economic and energy policy priorities but also environmental policy considerations.

**Environmental and Energy Context**

The energy sector remains a focal point of both national and international environmental regulation, as emissions from energy production and consumption account for nearly 60% of global greenhouse gas emissions. Consequently, improving energy efficiency, expanding renewable energy use, deploying cleaner technologies in fossil fuel combustion, and reducing the share of coal in national energy mixes constitute key priorities of the international climate agenda.

Currently, approximately 87% of energy consumed in the Republic of Uzbekistan is generated by thermal power plants, with hydrocarbons dominating the energy balance. At existing consumption levels, hydrocarbon reserves may be sufficient for only another 30 years. Given projections that electricity demand could double by 2030, the depletion of non-renewable energy resources may occur even sooner.

Uzbekistan, recognized as one of the countries most vulnerable to the effects of climate change, acceded to the United Nations Framework Convention on Climate Change in 1993 and ratified the Paris Agreement in 2018. Under its nationally determined contribution, Uzbekistan has committed to reducing greenhouse gas emissions per unit of GDP by 2030. The possibility of adopting more ambitious targets is currently under consideration.

The energy sector accounts for approximately 86.2% of total national greenhouse gas emissions, making it the principal source of environmental pressure. The continued reliance on traditional energy resources contributes to inefficiencies, disrupts ecological balance, and threatens sustainable economic growth. In this regard, the large-scale deployment of renewable energy sources is both environmentally and economically justified. The energy sector is the focus of national and international environmental regulations, as carbon dioxide emissions from energy production and consumption account for 60 per cent of global greenhouse gas emissions [1]. Energy efficiency, the development of renewable energy, the use of cleaner technologies in fossil fuel combustion and the reduction of coal's share in countries' energy mix are the main thrusts of the international climate agenda for the polluting sector of the economy itself.

Currently, most, i.e. 87 per cent of the energy consumed in the Republic of Uzbekistan is generated by thermal power plants. At the same time, the main share in the energy consumption structure belongs to hydrocarbons. At current levels of consumption, hydrocarbon reserves will provide for another 30 years. Given that the country's electricity consumption could double by 2030 (by 50 billion kWh), the depletion of traditional hydrocarbon non-renewable energy resources could occur even earlier.

It should be noted that the Republic of Uzbekistan, as one of the most vulnerable countries to the effects of climate change, also recognizing the importance of climate change, acceded to the United Nations Framework Convention on Climate Change on 20 June 1993. At the same time, the Paris Agreement was ratified on November 11, 2018 after the adoption of the Law of the Republic of Uzbekistan ZRU-491 of October 10, 2018 «On the ratification of the Paris Agreement» which is the main commitment under the Paris Agreement to reduce greenhouse gas emissions per unit of GDP by 2030. Uzbekistan's national contribution commitments include measures and actions to mitigate and adapt to climate change by 2030. The possibility of setting larger targets to update the contribution to be determined at the national level is currently under review.

[1] Nosko P.A. Greening the world energy: foreign experience and Russian specificity of clean energy development // Bulletin of the Institute of Economics of the Russian Academy of Sciences. 2018. 4.

The energy complex, which accounts for 86.2 per cent of total emissions, is the main source of greenhouse gas emissions in the Republic. The widespread use of traditional energy resources can lead to inefficiencies in the energy sector, disturb the ecological balance and threaten the sustainability of economic growth. In this regard, the widespread introduction of renewable energy sources in the country is considered appropriate.

**Legal Framework and Green Economy**

We know that the wealth of natural resources is a natural potential for the development of our country. The management of these natural resources has been described as a top priority exclusively authorized by a strong State.[2] Uzbekistan's environmental legislation recognizes natural resources as national wealth and establishes state authority over their management. The Law "On Nature Protection" (1992) provides a comprehensive classification of natural resources and sets general principles for their use and protection. These provisions form the legal basis for regulating renewable energy development as part of natural resource management.

The legislative framework also includes the Law "On the Use of Renewable Energy Sources" (2019), along with presidential and governmental decrees aimed at energy diversification and energy efficiency. While these legal instruments declare renewable energy a national priority, they require further elaboration to ensure effective implementation, environmental integration, and investor confidence.

The concept of the "green economy," introduced in international discourse in the late twentieth century, extends beyond renewable energy. It encompasses new models of production and consumption designed to meet societal needs while minimizing environmental harm. Closely related is the concept of decarbonization, understood as the transformation of economic systems through reduced carbon intensity, lower greenhouse gas emissions, and increased reliance on renewable energy.

Depending on the exhaustion of natural resources, they are divided into: inexhaustible; practically inexhaustible; exhaustible, divided into renewable and non-renewable. Inexhaustible natural resources diminish as use is made. Virtually inexhaustible resources are not diminished in the long term. Exhaustible natural resources are not restored after use or extraction.[3] Another classification of natural resources is possible. In particular, natural resources arise in natural spheres, combining in different ways.

It should be noted that numerous indicators of the «green economy» developed so far reflect the complexity of the integrated assessment of economic, social, political and environmental outcomes of development. At the same time, the successful development of energy in the use of renewable energy is impossible without the development of new legal models adequate to the nature and nature of emerging socio-economic relations, globalization and integration of the world economic community[4].

At the same time, it should be noted that the development of the «green» economy also depends on the existing political and institutional conditions in the country. That is why in the production function of «green» economy scientists fairly introduce additional institutional factor[5].

[2] Formation of the welfare state and prospects of the social state in Russia. Realities and projects / near. Red. N.I. Lapina. SPb. 2019. P. 225-229.

[3] Raymers N.F. Ecology (theories, laws, rules, principles and hypotheses. M., 1994. P.185-201.

[4] Rajabov N.S. Energy Law. [Text] textbook / Nariman Sharifbaevich Rajabov. - Tashkent: Izd-in TCHU. 2023. - 224 p. 129.

[5] Perelet R.A. Transition to an Era of Sustainable Development? // Russia in the Outside World:2003 (Analytical Yearbook). - M.: Published-in MNPEU, 2003. - P. 10-31.

Uzbekistan's legislative framework includes the **Law "On the Use of Renewable Energy Sources"** adopted in 2019 and policy decrees aimed at energy diversification and efficiency. These legal instruments recognize renewable energy as a state priority and establish general principles for facilitating implementation. Additionally, presidential and cabinet resolutions outline measures to reduce dependency on conventional fuels and accelerate the deployment of renewable technologies.

By the way, the concept of «green economy» was first introduced in 1989. It was based on the work of the Brundtland Commission, established by the UN General Assembly to study the relationship between environment and development. At the same time, the task of transition to «green economy» was set only in 2009, when the UN General Assembly in its resolution A/64/236 decided to convene in 2012 the UN Conference on Sustainable Development and decided that one of its main themes will be «green» Economy in the context of sustainable development and poverty eradication. From the perspective of UNEP, the «green economy» is an economy that improves human well-being and ensures social justice, while significantly reducing the risks of environmental degradation. In addition, in doing so, UNEP identifies 10 major sectors in the green economy: agriculture, heating and lighting, energy, fisheries, forestry, industry, transport, waste, water, energy[6]. The transformation of the energy sector, which contributes most to environmental pollution, is important for our country, but the difficulty lies in its leading role in the domestic economy.

Another is called decarbonization in an economic context, according to which decarbonization is a transformation of the world economy based on renewable energy, aimed at changing international productioneconomic and financial relations to create zero impact on the environment. It can be used to develop policies and models for structural transformation of the energy sector of the economy at the global and national levels[7]. The scientific literature has not yet developed a universal definition of the concept of «decarbonization» and this is because originally decarbonization was defined as a practical goal to be pursued by countries in order to meet the terms of the Paris Agreement. Therefore, participants began to develop their approaches to decarbonization, each with their own views on what this means.

In this case, these definitions are divided into 3 types - decarbonization is called: 1) reduction of carbon intensity in energy consumption (that is, in the specific sense); 2) reduction of CO2 emissions; 3) process of reduction of greenhouse gases in transformation of economy. Thus, the first definition of the term is: decarbonization is the energy transition to renewable energy through the substitution of other energy sources to completely eliminate CO2 emissions.

In general, decarbonization is a key step to reducing emissions and reducing human impacts on climate, and requires a combination of different methods and technologies, including a shift to alternative energy sources, Energy efficiency and carbon-intensive instruments to reduce carbon footprint and meet global carbon targets[8].

It should be noted that the «green economy» today is not limited to the use of renewable energy, this concept is much broader. It includes the creation of fundamentally new patterns of production and consumption that ensure profit and meet the needs of the population with a minimum negative impact on the environment. Ideally, the «green economy» should bring humanity into a state of equilibrium with nature, in which man will return to nature as much as he took from it. This idea

[6] Towards a «green economy» of sustainable development and poverty eradication. Nairobi (Kenya) [E-resource]. M., 2011. URL: http://old.ecocongress.info/5_congr/docs/doklad.pdf.

[7] Daneeva Yumzhana Olegovna Autoabstract for the job. scientists. degree C.E. on the topic «The role of decarbonization of the energy industry in the development of the world economy» M: 2022. 24 p.

[8] Solovyev Viktor Romanovich The role of decarbonization in the energy industry // Bulletin of the Moscow International Academy. 2022. 2.

is the basic element of another concept that has been widely used in recent years - the concept of «circular economy» or «closed-loop economy», which implies the minimization of raw material costs and waste generation, keeping the value of the resources as long as possible and recycling the products* after they reach their useful life.

Thus, there should be a «transformation of capital» aimed at expanding the flows of goods and services by revising the business models in accordance with three main principles: 1) Preserving and strengthening natural capital by controlling finite reserves and balancing renewable resource flows; 2) Optimizing resource output by ensuring that product components and materials circulate at the highest possible level of utility; 3) Increase system efficiency by reducing negative externalities[9].

As you know, in the present tense are intensively discussed by representatives of society, the state and business the consequences of reorienting the production business on the principles of «green economy». There are several reasons for the strong interest in this issue, and the globalization of the economy is increasingly encouraging enterprises to adopt international standards, including environmental ones, in their business activities. Also, public and other non-profit organizations are increasingly calling on energy industry enterprises to increase environmental responsibility. Moreover, the image of a sustainable enterprise becomes an important criterion on the basis of which business partners decide on the continuation of contractual activities with enterprises and the establishment of new cooperation.

To date, the enhancement of the environmental responsibility of the enterprises concerned has become the basis for decision-making that ensures a long-term balance between environmental integrity, social equity and economic efficiency in the context of sustainable development of society[10]. This requires an in-depth study of the theory and practice of this corporate activity, bringing the existing knowledge base in the field of corporate environmental responsibility of business in accordance with modern social values.

**Conclusion**

The development of green energy in Uzbekistan is a strategic necessity shaped by environmental challenges, economic considerations, and international climate commitments. While the existing legal framework establishes foundational principles for renewable energy development, it requires further refinement to address regulatory gaps, strengthen environmental safeguards, and stimulate investment.

Enhancing environmental legislation, promoting decarbonization, and integrating the principles of the green and circular economy will contribute to achieving carbon neutrality, improving environmental quality, and ensuring sustainable development in the Republic of Uzbekistan.

It should be noted that the review of scientific sources showed that at present there is no single concept of «Corporate Environmental Responsibility». Different authors interpret this concept in different ways, trying to update it in relation to the modern conditions of business[11].

* Recycling is the reuse of waste products after production and/or consumption, and more simply the return of the material to its life cycle without complete recycling.

[9] Kodaneva S.I. From «Brown Economy» - to «Green». Russian and foreign experience // RSM. 2020. 1(106).

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In general, the negative impact on the environment of energy industries should be reduced by reducing overall energy consumption in the economy. This is primarily due to lean production and reduced environmental pressure by reducing the amount of resources consumed, reusing them and recycling waste.

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