Ecologization Of Construction Activities: National and International Experience

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Abstract. Today, in many countries of the world, along with the sharp demographic situation the level of urbanization is also increasing. The right of citizens to live is closely related to the provision of their right to land use, which is usually ensured in the process of land use within the administrative-territorial boundaries of states, where urban, rural and other types of settlements are located. The state of the environment in settlements is inextricably linked with the ecologization of the construction industry. For this reason, in this research work the issues of compliance with environmental requirements in the field of construction were studied in terms of urban planning and ecology. Thus, international legal documents, foreign experience and the national legislative base of the Republic of Uzbekistan were analyzed comparatively. The article also discusses the tasks of maintaining environmental quality in the construction industry, especially in the implementation of construction work in settlements. The author studied from a scientific and legal point of view the tasks of government agencies in the organization of green construction in urban, rural and other areas, public participation in governance, the benefits of developing a "green" economy, the introduction of low-waste technologies, as well as build an energy-efficient buildings and houses. This article also analyses scientific researches in the field of ecologization of the construction process. As a result of systematic studying the legislation of the Republic of Uzbekistan in the field of construction, the author scientifically and theoretically systematized the procedures for the ecologization of this field. Also, considered prospects for harmonization of national urban planning norms and rules with international norms and standards. In addition, developed a scientific and theoretical basis for achieving following the objectives, like the introduction of environmentally friendly innovative technologies to achieve the strategic goals of the Concept of Environmental Protection of the Republic of Uzbekistan until 2030, prevention and reduction of negative impact on the environment, ensuring the growth of environmentally oriented economy, application of "green" standards in construction activities, increasing the volume of construction of certified buildings and structures in the system of voluntary environmental certification of real estate.

Keywords: construction activities, settlements, ecologization, sustainable development, "green" economy, low-waste technology, energy-efficient construction.

Introduction

When it comes to environmentalization, it should be noted that environmental law as a complex area of law regulates the complex relationships that are formed in the field of interaction between society and nature. The relationships that arise in this process can be divided into two forms - economic (use of natural resources by people to meet their needs) and environmental (protection of people and the environment to preserve their natural habitat). As Professor Sh.Kh.Fayziev noted, the process of ecologization, that is, the process of applying environmental norms and requirements to production and economic activities regulated by the relevant legislation, is growing day by day. This leads to an increase and improvement of the number of environmental legal frameworks [1].

B.B. Alikhanov believes that "ensuring the compatibility of legislation in other areas with the requirements of the environment, its compliance with the needs of society is one of the main criteria for improving environmental legislation" [2].

M.M. Brinchuk writes that ecologization as a process of introduction and implementation of ecological requirements is based on the recognition of the primacy of the laws of nature development, which must be taken into account in the implementation of other activities that may adversely affect the natural state of the economy and the environment. Its purpose is to apply environmental requirements to the process of carrying out other activities that may adversely affect the state of the economy, management and the environment [3].

As noted by the ecologist-lawyer Dj.I.Safarov, in most cases, the issue of ecologization is associated with the restriction of business entities in terms of the need to ensure the protection of the environment...
and specific natural resources. According to the author, ecologization is undoubtedly a process that serves to expand the scope and improve the quality of environmental relations, if it is not carefully thought out, comprehensively developed and tested in the framework of environmental legislation, it may not justify itself [4].

The relationship between the use of natural resources and the protection of the environment is a “two-way process”. "The protection of nature, if understood dialectically, means its rational, comprehensive and scientific use”[5]. The relationship that arises from the use of natural objects and the protection of the environment is similar. Although these relationships are different, they have the same, single purpose and content in the field of their origin (maintenance, restoration, improvement, rational use of nature or its components). The relationship between the use of natural resources and the protection of the environment is so closely intertwined that in fact it is difficult to separate them [6], although these relationships in some cases also have contradictory aspects.

The role of natural resources is determined, on the one hand, by the satisfaction of economic needs of man through their use, on the other hand, by the performance of life-giving functions and their importance in the ecosystem. In this regard, as S.A. Bogolyubov noted, the understanding of environmental law as a complex network of law "allows protecting nature and the use of nature without artificial separation."[7].

Legal regulation of social relations related to the environment is carried out not only in special laws, but also in civil, administrative, labor, criminal, urban planning and other areas of law, covering environmental relations.

M.M. According to Brinchuk, the mechanism of implementation of environmental and legal norms includes environmentalized norms governing the various stages of economic activity [8]. Achieving the goal of legal regulation in the field of environmental protection is “impossible by separating other branches of law from ecologization” and “taking into account environmental protection requirements should be the most important principle for the development of the legislative system”[9]. Ecologization of legislation means the reflection of environmental requirements in other areas of legislation [10]. At the same time, environmental requirements are not always directly reflected in the legislation, and in some cases, the ecologization of law enforcement practice through the interpretation of norms also plays an important role [11]. Ecologization of legislation has been widely used not only in Uzbekistan, but also in many foreign countries. For example, the Federal Republic of Germany has carried out ecologization in all areas of legal regulation as a result of confrontation with a number of serious environmental problems [12].

The inclusion of environmentalized norms in various normative legal acts is related to the economic development of the country, the risk of environmental crisis, the complexity of social relations and the need to take into account the laws of nature, environmental requirements and compliance by people in various spheres of life [13].

Methodology
This article as a doctrinal study includes an analysis of legislation and scientific and theoretical sources. This article examines the scientific concepts related to the field, the views, conclusions and opinions of theoretical scholars. Also, comparatively analyzed the legislation in the field of construction. The article began with a study of the basic concepts of the topic, continued with the development of these concepts, and ended with the conclusion that the improvement of existing mechanisms, showing ways to solve the problems. The implementation of these conclusions will serve to reveal the role and place of ecologization of the construction industry in ensuring the sustainable development of mankind, to achieve the goals of ensuring the right of citizens to a favorable natural environment through the improvement of the environment in settlements.

Discussion
The ecologization of the construction process will largely depend on the technical means and the technologies used to carry out this activity. In the construction of settlements, a number of pollutants (nitrogen dioxide, iron oxide, manganese and its compounds, etc.) are released into the atmosphere as a result of the use of special technical tools and the performance of certain technical operations (welding, metal cutting, painting and other materials containing volatile components such as varnish).

Depending on the temporal nature of the construction activity, the emissions into the air have a short-term nature and their composition and nature change after the construction activity starts.

At the same time, it should be noted that in most cases there are no special landfills for the disposal of construction waste generated in the areas where construction work is carried out.

The growth of natural resource use is one of the main factors of environmental degradation on a
global scale when natural resources are depleted. Rational use of non-renewable natural resources and full use of renewable resources are the main tasks in this area. In this regard, V.V. According to Kruglov, the legal regulation and organization of environmental protection activities of industrial enterprises should be aimed at ensuring the introduction of waste-free, non-waste, resource-saving technologies, production of environmentally friendly products and rational use of natural resources. [14].

In recent years, the construction industry in the Republic of Uzbekistan has become a driver of steady economic development. At the same time, the necessary measures are being identified for the ecologization of the construction industry, that is, the use of environmentally friendly, waste-free technologies. In particular, the Decree of the President of the Republic of Uzbekistan "On measures to radically improve the system of public administration in the construction industry" dated April 2, 2018 No PF-5392 also provides for the introduction into construction activities of energy efficient and energy-saving innovation projects and decisions that provide rational use of resources as one of the main objectives of the Ministry of Construction[15].

It should be noted that the natural and economic damage of brick production is many, in particular, the soil can not be rehabilitated, soil fertility decreases, gas consumption is high, as well as the negative impact on the environment and the environment is high. With the exception of the Former Union countries, many countries, especially European countries, have already given up brick production. Taking this into account, the expansion of the production of modern building materials such as aerated concrete, foam concrete in the future will contribute to the ecologized of the construction sector.

The study of the system of legislation of the Republic of Uzbekistan in the field of construction shows that over the past 2-3 years have been adopted, about 10 legislative acts in the country aimed at ecologization the construction industry. They include the following procedures:

first, it was established that the project documentation is subject to expert examination in the mandatory procedure for compliance with the requirements of the facility's energy efficiency;

secondly, the control and territorial units of the Ministry of construction of the Republic of Uzbekistan in the field of construction were given the right to send submissions to relevant bodies and organizations on suspension of production, sale and application of building materials and articles articles in cases of detection of poor quality construction materials and products threatening human health and life.

third, the gradual transition of manufacturers of construction materials that do not meet the criteria of energy efficiency to use coal and other fuels that are an alternative to natural gas from 2021;

fourth, a number of measures are being taken to improve building codes and regulations, taking into account modern innovative developments, and to introduce environmentally safe building materials;

fifth, special attention is paid to the development of technological modernization and financial mechanisms to ensure the transition of the Republic of Uzbekistan to a "green" economy;

sixth, by 2025, the task has been set to bring national urban planning norms and regulations in line with international norms and standards at a level of at least 50 percent.

It should be noted that in order to achieve this target, it is planned to harmonize national norms and rules of 10% in 2021, 30% in 2023 and 50% in 2025 with international norms and standards. However, to achieve these targets we need revise the list of national urban planning norms and regulations.

Legal regulation using the ecological-legal mechanism of construction activity [16] (as a type of economic activity) has been applied for a long time. The construction industry itself, driven by population growth and urbanization, is a favorable factor for both international and national economic growth. The UN Development Program emphasizes that the construction sector should play a central role in solving the problem of resource conservation, as the construction sector consumes many of the world's energy resources, while the sector (compared to other sectors) is large to increase its efficiency and has the greatest potential to reduce greenhouse gases worldwide [17].

The ecologization of the construction industry implies the adoption of a system of organizational, legal, economic, technological, technical and other measures aimed at improving the efficiency of the use of nature, reducing the harmful impact on the environment, ensuring natural objects for construction and a comfortable environment and environmental safety throughout the entire life cycle of the building or construction.

Ecologization is closely connected with increasing the competitiveness of the construction industry, accelerating economic growth, solving social problems. The principle of rational harmonization of environmental, economic and social interests of man, society and the state in order to ensure sustainable development and a favorable environment is laid on the basis of ecologization of the construction sector.

The concept of sustainable development consists in the rational adaptation of human activity and
saving of natural resources, implies economic development, which allows to satisfy the basic needs of modern society, the possibility of securing the needs of future generations, without jeopardizing them.

The main task of the state in the conditions of economic development is to ensure the balance of public and private interests as well as an indicator of the settlement of environmental and economic disputes.

Global environmental problems associated with climate change, loss of biological diversity, depletion of natural resources and other environmental problems that have a negative impact on the environment determine that the term "green" in science and practice is more actively used in relation to various objects and processes of life activity, indicating their environmentally safe properties.[18]. For example, the UN Environment Programme, the International Labour Organization, the international employers' organization and the International Conference of trade unions jointly hold an event called "green jobs". At the same time, the ecologization of the construction sector has led to the emergence in recent years a new direction in science and practice, which ensures such high quality as the construction of new buildings and structures – "green" construction [19]. The emergence of the concept of "green" construction is inextricably linked with the general trend of the world economy towards the transition to the "green" economy, which primarily pursues objectives such as energy efficiency of production, promotion of energy efficiency strategies, the widespread use of alternative energy sources. The concept of "green" economy was used by the international community as a means of solving the financial crisis in 2008, which was one of the topics in the framework of sustainable development and poverty reduction at the "Rio + 20" conference on Sustainable Development, which was held in 2012. In 2011, the UN Development Programme published a report on the "green economy" and described it as an economy aimed at improving the well-being of mankind and ensuring social equality by mitigating the threats associated with environmental change and lack of environmental resources.

The legislation consistently reflects the general direction of the economy of Uzbekistan in terms of energy savings and energy efficiency. The implementation of this direction at all stages of the construction process and in the life cycle of the building leads to a decrease in the consumption of natural non-renewable energy sources (oil, coal, natural gas) and a decrease in the negative impact on the environment in the form of emissions of greenhouse gases and other harmful substances.

In particular, the Article 14 of the law of the Republic of Uzbekistan "On the use of renewable energy sources" No. 539 on May 21, 2019, sets out preferences in the field of the use of renewable energy sources. According to him, producers of renewable energy resources are free from paying property taxes for the installation of devices of renewable energy sources (with a nominal capacity of 0.1 mW and more), as well as from the payment of land tax on lots occupied by these devices for a period of ten years from the moment of their assignment to use. Manufacturers of devices of renewable energy sources are exempted from paying all types of tax for a period of five years from the date of state registration. Property tax from individuals for a period of three years from the month of use of renewable energy resources to the property owned by the user of renewable energy resources in the places intended for living, fully disconnected from the current energy resources networks, shall not be imposed.

The legal and technical regulation of green construction in our country is aimed at building the environment, reconstruction, protection from the negative impact of the use of the transferred object, reducing the impact of building materials and structures, significantly reducing the volume of waste generated during construction work, saving energy, ensuring the energy efficiency of the building, the construction site and the rational use.

"Green" construction is an integrated concept, which implies the use of environmentally friendly materials in the construction of buildings and structures, increasing the energy efficiency of buildings, structures and minimizing their negative impact on the environment. The introduction of " green " building requirements ensures the ecologization of the construction industry and is the most important condition for reducing the harmful impact on nature, reducing the level of consumption of natural resources (including energy) and rational use of them.

In the special literature, three pillars of the "green building" are expressed: special requirements for the convenience of the building, a significant reduction in the expenditure of resources by the object, as well as the absence of the influence of the building on the people and the environment inside it [21]. In other words, "green" construction is a construction that meets the requirements of comfort, energy saving, environmental cleanliness and environmental protection in accordance with the principles of sustainable development.

At the same time, insufficient legal regulation is one of the serious obstacles to the development of "ecological construction" by the participants of the real estate market. Legal norms aimed at promoting "green" construction should ensure the harmony of public and private interests in the field of construction and lay the groundwork for the development of entrepreneurship aimed at ecology.
The concept of environmental protection of the Republic of Uzbekistan until 2030 [22] includes measures to optimize the use of resources and increase the efficiency of environmental protection, as well as the creation of "green infrastructure", energy efficiency of buildings, low-carbon technologies (heat pumps, renewable energy sources) and encouraging the use of cleaner fuels in private households.

As we have seen, the concept of environmental protection of the Republic of Uzbekistan until 2030 includes the basics of state policy for the development of this sector, the main objectives of achieving the strategic goals of state policy in this area, ensuring the growth of environmentally oriented economy and environmentally friendly innovative technologies prevention and reduction of adverse effects. The solution of this problem, including in the field of economic sectors, taking into account international experience in the application of "green" standards requires an increase in the volume of construction of certified buildings and structures (in the system of voluntary environmental certification of real estate objects).

**Results**

"Green" standards have been developed in foreign countries to assess the environmental performance of buildings and structures under construction and existing for various purposes. There are several international systems for assessing the environmental performance of buildings. Among the international "green" standards in construction, the most popular systems include BREEAM (UK), LEED (USA), DGNB (Germany). Each of these systems provides different levels of certification based on developed rating indicators. These systems have an international status and are used to evaluate buildings regardless of their territorial location and "national" affiliation [23]. For example, according to 2018 year, 43% of buildings with LEED certification are located outside the US territory, such buildings are in this period 122 units in the Russian Federation, while 44 units in Kazakhstan are covered by BREEAM standards, in Uzbekistan there is not a single building with a "green" standard. At the same time, it has been reported that the Tashkent City complex is planned to pass certification under the BREEAM standard.

It is worth noting that this system provides for the legal regulation of construction activities in terms of formation of environmentally requirements imposed on buildings and structures under construction (including at the design stage) on the basis of a technical regulation mechanism that covers elements of standardization and certification in the national legislation.

It should be noted that standardization on the basis of "green" criteria should be considered as an effective means of increasing the quality of life of citizens and the competitiveness of products (works, services). By setting additional requirements for the objects of technical regulation, the implementation of the standards will increase the level of life or health of citizens, environmental safety, safety of animals and plants.

Buildings with "green" standards allow the same criteria to be used to assess the harmful effects on the environment, regardless of their location. The green certification system allows consumers to compare buildings in terms of their level of impact on the environment. The "green" (environmental) standards adopted by organizations play an important role in shaping the rules that ensure "green" construction in the country.

The development of "green" construction in the world will be ensured by popularizing this concept and increasing the overall level of environmental culture and environmental activity of citizens. Consumer attitudes towards natural resources lead to their inefficient use and negative impact on the environment.

The use of increasing environmental requirements in the construction industry, including those using private legal instruments, is an additional guarantee of the safety of the building, the construction for the environment, which allows to prevent and minimize possible risks. The economic advantage of using buildings built on "green" standards is manifested in the stage of operation of such a building (reduction in water consumption, increased energy consumption, rent payments, etc.).

At the initial stage of construction – the use of "green" standards in the design of the building, they do not lead to a significant increase in their price. For example, according to international experts, the average increase in the cost of building an environmentally friendly office building is 4-8%, for the most complex projects - up to 18%.

In addition to intangible benefits, such a building allows to reduce the cost of connection to engineering networks, reduce payments for energy and resources, reduce the cost of maintenance, increase the rent and reduce the share of vacancies. As a result, environmental construction is always preferable when considering the entire life cycle of the building[24]. Specifically in Greg Kats researches (2010 y.) it is noted that the difference between ordinary and "green" building prices is not high, as well as data on 170 "green" buildings in the US they are on average 1.5 percent more expensive than ordinary buildings [25]. In the report of the UN Development Programme (2011 y.) it is noted that after the
construction of the building, "green modernization" in the early stages of design [26] requires greater financial and environmental costs than the unification of the rules of sustainable development.

Based on the above, it is expedient to establish requirements for tender documents for the purchase of goods, works and services to meet the state and public needs for construction products with environmental certificates - an effective way to promote and implement "green" standards in the construction process in the Republic of Uzbekistan. It should be noted that similar suggestions have been made by other experts [27]. This is in line with the experience of the United States and the European Union in the implementation of environmental certification and "green" standards. For example, the United States has introduced a system of mandatory environmental certification of social and municipal facilities [28]. It is also worth noting in the legislation the rule of preference in the allocation of land for construction on the basis of auction (tender) to the bidder who offers to carry out construction in accordance with "green" standards.

It should be noted that encouraging the development of "green" construction in the legislation, informing the population about its benefits and implementing the relevant requirements can create a basis for sustainable development of society.

In general, "green" construction is aimed at reducing and optimizing the consumption of natural resources. At the same time, it is necessary to develop a legal framework for ensuring energy saving and energy efficiency of buildings and structures in the future.

Conclusion
In the process of carrying out this research work, the following conclusions were drawn: the existing need for a favorable environment that provides rational use of natural objects in accordance with the interests of present and future generations, and the concept of sustainable development as one of the priorities of the development of the peoples of the world, necessitates consistent and systematic implementation.

Despite the fact that "green" standards are partially used in the design, construction and reconstruction of real estate objects and certification of buildings on their basis, "green" construction is a specific and promising way of ecologization this area. Informing the population about the advantages of "green" construction and the introduction of the requirements of "green" standards on the basis of private and public law in practice create a basis for the sustainable development of society. It is proved that the legal regulation of "green" construction is aimed at reducing the impact of building materials and structures on the environment, reducing waste in the performance of construction work, saving energy, increasing the energy efficiency of buildings, structures, rational use of water. Therefore, another way of ecologizing the construction industry is the rational use of natural objects (forest, land, water bodies, underground resources) for construction purposes, taking into account the requirements for the protection of the environment and its components.

The introduction of "green" building requirements ensures the ecologization of the construction industry and is the most important condition for reducing the harmful impact on nature, reducing the level of consumption of natural resources (including energy) and rational use of them.

In the system of mass-legal instruments, where "green" construction can affect the acceleration of growth rates, measures of economic stimulation by the state are important. Among the main types of state incentives, most of the participants in the real estate market can show special benefits for individuals in the development of tax incentives for "green" projects, development of state programs in the field of environmental construction, subsidizing "green" projects, buying environmentally friendly housing.

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