

GREEN ECONOMY AS A COMPONENT OF SUSTAINABLE DEVELOPMENT

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Abstract: This article examines the green economy as a strategic component of sustainable development. The study is based on an analysis of international and domestic scientific literature, data from the Yale Environmental Performance Index, and national policy documents of the Republic of Uzbekistan. The article presents the theoretical foundations of the green economy, the interrelationship between its environmental, social, and economic dimensions, as well as a comparative international analysis of selected countries. The results of the study indicate that the transition to a green economy is not only an environmental issue but also a necessary condition for long-term economic stability and competitiveness. For Uzbekistan, the formation of a national green taxonomy system, reform of water resource management, and development of a green finance ecosystem are identified as priority directions.

Keywords: green economy, sustainable development, Environmental Performance Index (EPI).

Introduction

It is well known that the "green economy" as an economic science emerged in the late twentieth century. It studies the intrinsic interconnection between the economy and the natural environment, emphasizing that the economy functions as an integral part of the ecosystem and operates within the limits of natural resource availability. The concept of the green economy incorporates scientific ideas from various fields, including resource-efficient economic models, ecological economics, environmental economics, green policy, theories of international economic relations, economic modernization, and innovative economics.

The green economy can be viewed as a development model aimed at ensuring environmental sustainability while simultaneously promoting economic growth. Sustainable development is largely dependent on energy resource availability, and it is projected that globally identified natural energy sources are sufficient to meet energy demands for more than the next 50 years at current consumption levels. However, economic development simultaneously increases energy demand and intensifies the risks associated with resource scarcity.

International experience demonstrates that the green economy not only enhances human well-being but also strengthens environmental security and enables the rational use of natural resources. In this context, the development of green finance and green technologies contributes to the modernization of production processes in enterprises, the introduction of new industrial standards, and the acceleration of industrial transformation. At the same time, global climate change and population growth further increase the necessity of improving resource efficiency and reducing waste.

According to the Decree of the President of the Republic of Uzbekistan "2030-yilgacha O'zbekiston Respublikasining "yashil iqtisodiyot"ga o'tishiga qaratilgan islohotlar samaradorligini oshirish bo'yicha chora-tadbirlar to'g'risida" the main objectives include the effective implementation of tasks defined in the Development Strategy of New Uzbekistan for 2022–2026, enhancing the efficiency of measures to ensure green and inclusive economic

growth within the framework of the national green economy transition strategy, expanding the use of renewable energy sources, and further improving resource-saving practices across all sectors of the economy.

Literature Review: This article analyzes a wide range of literature related to the topic. In particular, the book “Blueprint for a Green Economy” published in 1989 by D. Pearce, A. Markandya, and E. Barbier is considered one of the fundamental sources of green economy theory. The authors examined the environmental impact of economic development and introduced the concept of “natural capital,” emphasizing the need to integrate it into national accounting systems. Furthermore, they demonstrated that environmental protection can be achieved through ecological taxation and market-based mechanisms. This work has served as a theoretical foundation for subsequent research in the field of the green economy.

The article by B. Olivi titled “The Green Economy and Sustainable Development: An Uneasy Balance?” examines the complex relationship between the green economy and sustainable development. The author employs a qualitative analysis approach to compare 24 policy documents and academic articles, demonstrating that the greening agenda has become a contested field shaped by different interpretations of sustainable development, resource efficiency, and fundamental paradigm shifts. The study highlights that the concept of the green economy is often inclined toward a narrow economic interpretation and warns against such one-sidedness. It further emphasizes the necessity of strengthening the social dimension of the green economy in order to ensure a more balanced and comprehensive approach to sustainable development.

The report “Towards a Green Economy: Pathways to Sustainable Development and Poverty Eradication” published by UNEP examines policy measures for transitioning to a green economy with the aim of promoting sustainable development and reducing poverty. The report analyzes several key sectors, including energy, agriculture, transport, and waste management, and demonstrates that allocating even a small share of global economic investment to green initiatives can generate significant environmental and social benefits.

It further emphasizes that the most vulnerable groups, particularly low-income populations, can gain substantial advantages from environmental restoration and more efficient resource utilization.

The work “A Global Green New Deal” by E. Barbier highlights the potential of public investment in green infrastructure as a means to stimulate economic recovery while simultaneously addressing environmental challenges. The author provides a comparative analysis of green economic programs implemented in South Korea, China, and the European Union, demonstrating that green investments can contribute significantly to job creation and enhance economic competitiveness.

At the same time, the study underscores the continued relevance of these approaches in the context of post-pandemic economic recovery processes, where sustainable and environmentally oriented development strategies are increasingly prioritized.

The research by Bekmirzayev Mirzoxid Adashaliyevich, titled “O‘zbekistonning “yashil iqtisodiy strategiyasi” va uni amalga oshirishning asosiy yo‘nalishlari” interprets Uzbekistan’s green economic strategy as an integral component of the sustainable development model. In this study, the primary objective is defined as ensuring integration between economic growth, environmental balance, and social welfare. According to this approach, the green economy forms an institutional foundation for sustainable development by promoting efficient resource utilization, reducing anthropogenic pressure on the environment, and improving energy efficiency. In particular, the large-scale introduction of

renewable energy sources, the development of environmentally friendly technologies, and the application of resource-saving production methods are identified as priority directions.

The study by A.S. Jamaldinova, titled “Yashil iqtisodiyot: ekologik barqarorlik va iqtisodiy samaradorlik uygʻunligi” interprets the concept of the green economy as a development model formed on the basis of the integration of environmental sustainability and economic efficiency. The author substantiates the necessity of transitioning from a traditional resource-intensive economic model to resource-efficient and environmentally safe production systems. The research emphasizes that rational use of natural resources, reduction of waste generation, and improvement of energy efficiency do not decrease economic performance; rather, they ensure long-term sustainability. Furthermore, the integration of environmental factors into economic policy is shown to enhance the stability and competitiveness of production systems. The author also evaluates the green economy not only as a solution to environmental problems but as a comprehensive mechanism that contributes to innovative development, job creation, and the modernization of the economic system.

The study by S. Ibragimova, titled “Barqaror iqtisodiy rivojlanishda yashil investitsiyalarning moliyaviy mexanizmlari” evaluates green investments as an important financial mechanism ensuring sustainable economic development. According to the author, financing environmental projects enables more efficient use of resources and reduces negative impacts on the environment. In this regard, green investments constitute the practical foundation of the green economy and demonstrate their crucial role as an essential component in achieving sustainable development.

The analysis of the green economy concept indicates that it represents a comprehensive model that integrates economic growth, environmental sustainability, and social well-being. The research findings show that the traditional model of economic development relies on intensive resource use and generates short-term economic growth; however, in the long term, it leads to the degradation of ecological balance.

Therefore, the transition to a green economy is increasingly regarded as an alternative and necessary pathway for ensuring sustainable development. The analysis further demonstrates that the use of renewable energy sources, improvement of energy efficiency, and introduction of resource-saving technologies contribute not only to enhancing economic efficiency but also to reducing environmental damage. In particular, in agriculture, the rational use of water resources-especially through the implementation of drip irrigation technologies-significantly increases production efficiency and helps mitigate the problem of water scarcity.

The conducted analyses also demonstrate the significant importance of green finance mechanisms. In particular, directing investments toward environmentally friendly technologies and infrastructure makes it possible to achieve structural transformation of the economy. In this process, state support, financial incentive instruments, and institutional reforms play a crucial role.

Figure 1. Dimensions of Sustainable Development and Its Structural Components.

The green economy, as an important component of sustainable development, is manifested through three main dimensions: environmental, social, and economic. These dimensions are closely interconnected, and their balanced interaction contributes not only to economic growth but also to environmental stability and social well-being.

The environmental dimension is one of the core areas of the green economy, focusing on the rational and efficient use of natural resources. In this process, the protection and restoration of ecosystems, conservation of biodiversity, reduction and recycling of waste, and proper waste management are of great importance. Additionally, implementing measures to

mitigate and adapt to the negative impacts of climate change is one of the key factors in ensuring environmental sustainability.

The social dimension reflects the human-centered aspect of the green economy. In this direction, ensuring social equity, promoting inclusive development, creating green jobs, and increasing environmental awareness among the population are considered essential. In addition, providing a healthy living environment and a high quality of life, as well as ensuring fair access to resources, contribute to strengthening social sustainability.

The economic dimension represents the role of the green economy in ensuring sustainable growth. It includes improving energy efficiency in economic activities, expanding the use of renewable energy sources, attracting green investments, and developing financial mechanisms. At the same time, the introduction of innovative and resource-efficient technologies helps to increase production efficiency and reduce negative environmental impacts.

International Comparison: Green Economy Index (on a 100-point scale)

The analysis based on the 2024 Environmental Performance Index (EPI) indicates significant disparities in the level of implementation of green economy principles across different countries. In particular, Germany achieved a high score of 74.5 points, securing one of the leading positions in the global ranking. This outcome can be explained by the systematic nature of the country's environmental policy, the extensive use of renewable energy sources, and the modernization of industrial processes in accordance with environmental standards.

Moderate performance levels were observed in countries such as South Korea 57.0 points and Brazil 54.7 points. Despite relatively high rates of economic growth in these countries, certain challenges remain in ensuring environmental sustainability. In particular, industrial emissions, rapid urbanization processes, and intensive use of natural resources negatively affect their environmental performance indicators.

Kazakhstan 47.8 points and Uzbekistan 42.6 points represent an average level characteristic of developing economies. Uzbekistan's relatively low EPI score is associated with insufficient development of environmental governance systems, low efficiency in water resource management, and the limited implementation of green technologies. At the same time, recent reforms aimed at developing renewable energy sources and strengthening environmental policy have begun to form a positive trend in the country.

The lowest indicators are observed in China 38.9 points and Turkmenistan 27.4 points. This situation is explained by the high level of industrial load, the volume of harmful emissions into the atmosphere, and the insufficient effectiveness of environmental regulation mechanisms in these countries.

The above analysis indicates that the level of environmental performance is directly linked to the degree of practical implementation of green economy principles. The transition to a green economy not only reduces environmental problems but also contributes to long-term economic stability. In particular, improving energy efficiency, expanding the share of renewable energy, developing waste recycling systems, and supporting environmental innovations are considered priority tasks in this direction.

Conclusion and Recommendations

In conclusion, the results of the conducted research provide a scientifically grounded justification for the strategic importance of the green economy in ensuring sustainable development. The analysis demonstrates that the integration of economic growth with environmental factors is not only essential for environmental protection but also a key prerequisite for long-term economic stability and competitiveness. At the same time, the

transition to a green economy in Uzbekistan is constrained by several systemic challenges, including limited financial resources, low efficiency in the use of natural resources, and insufficient development of institutional mechanisms.

Based on the above analysis, the following scientifically grounded recommendations are proposed:

Firstly, it is necessary to establish a national green taxonomy system. This system would clearly define the environmental criteria of economic activities, ensure effective allocation of green investments, prevent greenwashing practices, and improve transparency in financial markets.

Secondly, reforming the water resource management system and expanding the use of drip irrigation technologies are essential. This would significantly increase irrigation efficiency. In this regard, providing long-term concessional loans to farmers, ensuring stability of land tenure rights, and introducing economic incentives for water-saving practices are of particular importance, especially in the Aral Sea region.

Thirdly, it is necessary to deepen the green finance ecosystem. In particular, the development of a secondary green bond market, the introduction of preferential refinancing mechanisms for green lending by commercial banks, and the establishment of a green guarantee fund for small and medium-sized enterprises would help expand investment flows.

Fourthly, strengthening public-private partnerships in the industrial sector is crucial. The introduction of environmentally friendly technologies can be supported through state incentives such as tax and customs benefits, while also leveraging the innovative potential of the private sector to improve resource efficiency.

Fifthly, integrating environmental indicators into the national statistical system is highly recommended. In particular, the gradual implementation of the “green GDP” concept would enable a more accurate assessment system that accounts for the environmental impact of economic activities.

Sixthly, expanding international cooperation and adopting best practices is essential. Developing a regional “Green New Deal” concept, strengthening cooperation with international financial institutions, and adapting advanced global experiences would accelerate the green transformation process.

Overall, the consistent implementation of these recommendations would provide a strong scientific and practical foundation for accelerating the transition to a green economy in Uzbekistan, strengthening environmental sustainability, and ensuring long-term sustainable economic development.

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