

Uzbekistan's Transition To A Green Economy: Current Challenges And Prospects For Sustainable Development

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Abstract

Today, countries around the world are facing environmental challenges such as climate change, depletion of natural resources, and loss of biodiversity. As an alternative solution to these problems, there is an increasing need to transition to a "green economy" that reduces negative environmental impacts and creates the basis for equitable development.

This article analyzes the need for transition to a green economy in Uzbekistan, existing problems, their causes, and economic and environmental factors. The main goal of the study is to identify the main principles and strategic directions of transition to a green economy in the conditions of Uzbekistan, assess existing problems, and develop scientifically based recommendations for their elimination.

Keywords: green economy, sustainable development, environment, environmental sustainability, environmental problems, renewable energy, waste, natural resources, low-carbon development, climate change, ecology.

O'zbekistonni Yashil Iqtisodiyotga O'Tishi: Mavjud Muammolar Va Barqaror Rivojlanish Istiqbollari

Khudayarov Azizbek Avaz Ugli

Annotatsiya

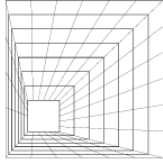
Bugungi kunda dunyo mamlakatlari iqlim o'zgarishi, tabiiy resurslarning kamayishi va biologik xilma-xillikning yo'qolishi kabi ekologik muammolarga duch kelmoqda. Ushbu muammolarga muqobil yechim sifatida atrof-muhitga salbiy ta'sirini kamaytiradigan va adolatli rivojlanishga zamin yaratuvchi "yashil iqtisodiyot"ga o'tish zarurati tobora kuchayib bormoqda.

Ushbu maqolada O'zbekistonda yashil iqtisodiyotga o'tish zarurati, mavjud muammolar, ularning kelib chiqish sabablari va iqtisodiy va ekologik omillar tahlil qilinadi. Tadqiqotning asosiy maqsadi – O'zbekiston sharoitida yashil iqtisodiyotga o'tishning asosiy tamoyillari va strategik yo'nalishlarini aniqlash, mavjud muammolarni baholash hamda ularni bartaraf etishga doir ilmiy asoslangan tavsiyalar ishlab chiqishdan iborat.

Kalit so'zlar: Yashil iqtisodiyot, barqaror rivojlanish, atrof-muhit, ekologik barqarorlik, ekologik muammolar, qayta tiklanadigan energiya, chiqindilar, tabiiy resurslar, past uglerodli rivojlanish, iqlim o'zgarishi, ekologiya.

Introduction

A number of scientific researches are being conducted in the areas of increasing environmental problems in the world, the use of new economic development models in preventing environmental pollution and introducing resource-efficient production, sustainable socio-economic development of the country's economy in the context of the transition to a green economy, the effective implementation of low-carbon production in the context of global



warming, sustainable development of regions during various crises and their aftermath, and ensuring socio-economic equality.

The need for Uzbekistan to transition to a "green economy" is due to the fact that energy production in the country is carried out almost entirely dependent on hydrocarbons (oil, natural gas, coal).

In Uzbekistan, an average of 4.5 percent of GDP is lost annually due to the use of hydrocarbon energy. In comparison with international practice, the country's economy is considered an energy-intensive and carbon-intensive economy. The republic is one of the ten leading countries in the world in terms of energy intensity of GDP.

Uzbekistan's energy intensity per GDP is twice as high as that of countries such as Germany, Turkey, Italy and Spain, and its carbon intensity is 1.5 times higher than the world average.

At the same time, the country's hydrocarbon reserves are likely to run out in the next decade, which requires the use of new types of alternative energy sources. Therefore, in the transition to a "green economy" in Uzbekistan, there is a need, first of all, to develop "green energy". Because the formation of an alternative energy system in the country will attract other sectors to this direction and accelerate their movement on this path.

According to various calculations and forecasts, rational and efficient use of the world's natural resources will allow future generations to receive an economic benefit of \$2 trillion annually by 2050.

At the initiative of the Head of our state, Shavkat Miromonovich Mirziyoyev, 2025 was named the "Year of Environmental Protection and the "Green" Economy." This decision is based on important factors aimed at ensuring the sustainable development of our country and economic growth through solving emerging environmental problems.

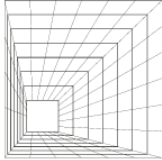
"Why, we are dedicating a year to this, refining our laws and putting our affairs in order. No one believed us: that Uzbekistan would do this with wind, solar, and hydroelectric power. We are learning from experience in the Year of the Green Economy. I think it would be good if we took every decision, law, and decree to the green," our esteemed head of state said in his speech. In addition, the implementation of the national project "Green Space" in our country has revived one of the ancient values of our people - planting saplings on vacant lots and creating gardens. It has strengthened the sense of connection with mother nature. The promotion of the idea of transitioning to a "green" economy is creating a favorable environment for diversifying the consumption of energy resources and developing the use of renewable energy sources, mitigating the effects of climate change, increasing the efficiency of natural resource use, preserving natural ecosystems, and ensuring an efficient, resource-efficient, and environmentally friendly economy in the face of climate change.

The President of the Republic of Uzbekistan Shavkat Mirziyoyev has been drawing the world's attention to issues related to the Aral Sea. At the initiative of the Head of State, equipment and specialists from all regions of our country have been involved in improving the ecological balance in the Aral Sea region. Greening work has been carried out on the dried-up land areas of the Aral Sea, trees suitable for the characteristics of the area have been planted, and this process is continuing steadily.

One of the most important priorities in our country is the rational use of natural resources and mitigation of the negative impact of economic activity on the environment through the transition to a "green economy".

Analysis of literature on the topic

Among the foreign scientists who conducted scientific research on the problems of ecologization of the economy and the transition to a "green economy", we can cite A.M. Rodriguez, D. Zhang, M. Mohsin, R. Sho'derholm, A. Kasztelan, L. Georgeson, N. Norouzi.



We can also cite important studies on the green economy by scientists from the CIS countries: V. Frolov, A. Shevchuk, A. Lebedev, N. Grigoryeva, Y. Danilov.

Local scientists and researchers A. Vakhobov, Sh. Khajibakiyev, A. A. Isadjonov, Z. Nurov, N. I. Abdurakhmonov, Sh. A. Sultanov, M. M. Hamdamov have conducted important studies on the development of the green economy in Uzbekistan.

Research methodology

The study was based on the relevant resolutions and decrees of the President and Government of the Republic of Uzbekistan, the “Strategy for Transition to a Green Economy” and documents of the United Nations Environment Program (UNEP). The study used induction and deduction, a systematic approach, logical and comparative methods of analysis, and statistical analysis methods.

Analysis and results

Over the past few decades, Uzbekistan’s economic growth has been driven largely by resource extraction and mining. The country’s economy is currently the fifth most greenhouse gas-intensive economy in the world. It is also among the top emitters of greenhouse gases in Europe and Central Asia. The main sources of these emissions are the mining, energy and heavy industries. However, it is these sectors that have the lowest energy efficiency.

Based on global experience, it is observed that energy efficiency indicators are much higher mainly in developed countries.

(Table 1)

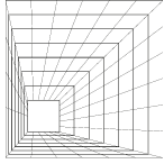
| Country | Renewable energy share (%) | Basic documents programs | The purpose |
|---------------|----------------------------|---|--------------------------------|
| Japan | 25.7% (2023) | Green Growth Strategy (2050) | Carbon neutrality by 2050 |
| Germany | 55% (2023) | Energiewende, Klimaschutzgesetz | Carbon neutrality by 2045 |
| South Korea | 8.3% (2023) | Green New Deal (2020), 2050 Net Zero Plan | Carbon neutrality by 2050 |
| Great Britain | 47.5% (2023) | Green Finance Strategy, Net Zero by 2050 | Carbon neutrality by 2050 |
| Uzbekistan | 25–30% (2024) | Green Economy Strategy – 2030 | 40% green energy share by 2030 |

Source: *Compiled by the author based on UN Environment Programme: Green Economy and Sustainable Development and World Bank statistics.*

Uzbekistan, like other countries in the world, is highly vulnerable to climate change. A changing climate threatens its natural capital, agriculture, land and water productivity, and increases the risk of natural disasters. The country ranks 96th out of 191 countries in terms of climate vulnerability.¹ Prone to earthquakes and floods affects an average of 1.4 million people and causes almost \$3 billion in damage annually. According to regional research estimates, about 70 percent of development challenges in the Central Asian region are related to freshwater scarcity²

¹ Uzbekistan: Climate Risk Profile. World Bank Publications. World Bank. (2021).

² Berndtsson, R. and Tussupova, K. 2020. “The Future of Water Management in Central Asia.” Water 12



The importance of transitioning to a green economy for Uzbekistan

(Table 2)

| | Objectives and programs | Expected result |
|---|---|--|
| 1 | Striving for sustainable economic growth | While the traditional economy focuses on short-term profits, the green economy ensures long-term sustainability. This will help strengthen Uzbekistan's integration into the global economic system. |
| 2 | International cooperation and investments | Many international financial institutions (for example, the World Bank, the European Bank for Reconstruction and Development) are ready to finance green projects, which creates additional investment opportunities for Uzbekistan. |
| 3 | Creating green jobs | The green economy creates jobs in new areas - for example, renewable energy, waste recycling, and clean transport. This helps reduce unemployment. |

According to the World Resources Institute, Uzbekistan is among the 25 countries most affected by water scarcity. A changing climate is likely to exacerbate this problem. Severe water scarcity and land degradation pose a serious threat to agricultural productivity and food security.³ Today, Uzbekistan has a unique opportunity to move beyond its existing development model and strengthen its economic competitiveness in a climate- and ecologically sensitive global market. Based on the acceleration of structural reforms, the country is choosing a low-carbon and climate-resilient green growth model for its economy, population, and the planet as a whole, based on the flexible, inclusive, sustainable, and efficient use of natural resources, and creating new jobs in new sectors.

Goals planned to be implemented within the framework of the program for transition to a "green" economy and ensuring "green" growth in the Republic of Uzbekistan by 2030⁴.

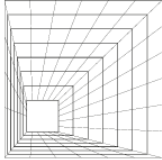
(Table 3)

| | Program for transition to a "green" economy and ensuring "green" growth in the Republic of Uzbekistan until 2030 | Expected result |
|---|--|--|
| 1 | Specific emissions of greenhouse gases per unit of gross domestic product | A 35 percent reduction from 2010 levels |
| 2 | Production of renewable energy sources | Increase production capacity to 15 GW and increase their share to more than 30 percent of the total volume of electricity generation |
| 3 | Energy efficiency in industry | increase by at least 20 percent |
| 4 | Energy consumption per unit of GDP | Reduce by 30 percent through increased use of renewable energy sources |

No. 8: 2241.

³ Water Scarcity and Climate Change in Central Asia: Strategies for Adaptation. WRI Publications. World Resources Institute (WRI). (2020).

⁴ On measures to increase the effectiveness of reforms aimed at the transition of the Republic of Uzbekistan to a "green" economy by 2030



| | | |
|---|---|--|
| 5 | Significantly increase water use efficiency in all sectors of the economy | Introducing water-saving irrigation technology on up to 1 million hectares |
| 6 | Planting 200 million seedlings per year and increasing the total number of seedlings to 1 billion | Expand green spaces in cities by more than 30 percent |

One of the main problems facing our country is the efficient use of water supply. Similarly, the most effective way to solve the main problems facing our society is to develop a "green economy" in our country. If we look at the data in the table above, reducing greenhouse gas emissions by 35 percent by 2030, expanding green spaces in cities by 30 percent, and introducing water-saving irrigation technology on up to 1 million hectares of land are considered effective solutions to the above-mentioned problems.

Priority areas in the transition to a "green economy" in world practice ⁵

(Table 4)

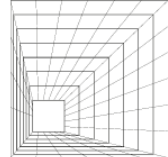
| | Priority areas |
|---|--|
| 1 | Development of renewable energy sources; |
| 2 | Improving the waste management system; |
| 3 | Optimize water resources management; |
| 4 | Widespread introduction of "clean" and sustainable vehicles; |
| 5 | Development of organic farming in agriculture; |
| 6 | Development of markets for the production and commercialization of "green technologies". |

According to expert estimates, significant additional annual economic benefits are expected from the transition to a "green economy" in each of the above sectors. In particular, the annual benefit in the renewable energy sector can exceed 5 billion US dollars. In addition, the "greening" policy will create new jobs. In particular, it is projected that 175 thousand additional jobs will be created in this sector by 2020, and 270 thousand by 2050.

It is important in our country to rationally use natural resources and mitigate the negative impact of economic activity on the environment by transitioning to a "green economy". Existing problems related to the environmental situation in Uzbekistan can be grouped into global, regional, national and institutional problems. The Decree of the President of the Republic of Uzbekistan No. PF-16 dated January 30, 2025, "On the State Program for the Implementation of the Strategy "Uzbekistan-2030" in the Year of Environmental Protection and "Green Economy", established the main goals of implementing a harmonious "green transformation" of sectors and industries in fulfilling the country's obligations to the global community within the framework of the Kyoto Protocol and the Paris Agreement of the United Nations Framework Convention on Climate Change, ensuring their competitiveness and resource efficiency, mitigating and adapting to the consequences of climate change, improving the quality of life of the population, and transitioning to a new "green development" model of economic growth.

Conclusion

⁵ Green Growth in Developing Economies: Approaches for Central Asia. GGGI. Global Green Growth Institute (GGGI) (2021).



In conclusion, we can say that in recent years, our country has undergone significant changes in the field of ecology, in the field of "Green Economy". The decisions, strategies, and intergovernmental agreements adopted by our President are the basis for bringing our ecology to a new level. The widespread introduction of a green economy in Uzbekistan will create conditions for more rational use of the country's natural resources, elimination of various environmental problems, and ensuring economic growth by increasing the eco-literacy of the population.

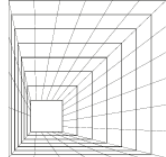
The following proposals are put forward to ensure Uzbekistan's effective transition to a green economy:

- Increasing energy efficiency: It is necessary to introduce modern technologies in the industrial and municipal sectors to reduce energy consumption and minimize losses.
- Expanding renewable energy sources: It is advisable to develop solar and wind energy projects on a public-private partnership basis.
- Reforming the water resources management system: Rational use of resources will be ensured through the popularization of water-saving technologies and modernization of water infrastructure.
- Financial incentives and tax benefits: Financial incentives should be established for business entities implementing environmentally friendly technologies.
- Strengthening education and scientific capacity: It is necessary to support personnel training and research in the field of green economy, especially to increase the number of practice-oriented studies. The implementation of the above proposals will serve the sustainable development of Uzbekistan on the basis of a green economy, ensuring environmental safety.

In order to transition to a "green economy" in our country and eliminate environmental problems more quickly, the most urgent tasks today are the economical use of energy resources, water and land, investment in the production of environmentally friendly alternative electricity and waste recycling, and strengthening the principle of public-private partnership.

References

1. Decree of the President of the Republic of Uzbekistan No. PF-16 dated January 30, 2025 "On the State Program for the Implementation of the Strategy "Uzbekistan-2030" in the Year of Environmental Protection and "Green Economy"".
2. Speech of the President of the Republic of Uzbekistan Shavkat Mirziyoyev at the session of the Legislative Chamber of the Oliy Majlis on November 20, 2024
3. Resolution of the President of the Republic of Uzbekistan dated December 2, 2022 No. 436 "On measures to increase the effectiveness of reforms aimed at transitioning the Republic of Uzbekistan to a Green Economy by 2030" <https://lex.uz/ru/docs/-6303230>
4. Resolution of the President of the Republic of Uzbekistan "On approval of the Strategy of the transition of the Republic of Uzbekistan to a "Green" economy for 2019-2030" No. PQ-4477 dated 04.10.2019. <https://lex.uz/docs/-4539502>
5. Decree of the President of the Republic of Uzbekistan "On the new Development Strategy of Uzbekistan for 2022-2026" No. PF-60 dated 28.01.2023. <https://lex.uz/uz/docs/-5841063>
6. Resolution of the President of the Republic of Uzbekistan "On measures to accelerate the introduction of renewable energy sources and energy-saving technologies in 2023" <https://lex.uz/uz/docs/-6385716>
7. Law of the Republic of Uzbekistan dated October 2, 2018 No. ZRQ-491 "On ratification of the Paris Agreement (Paris, December 12, 2015)".



8. Decree of the President of the Republic of Uzbekistan dated October 30, 2019 No. PF-5863 "On approval of the Environmental Protection Concept of the Republic of Uzbekistan for the period until 2030".
9. On approval of the national "green economy" taxonomy. Resolution of the Cabinet of Ministers of the Republic of Uzbekistan dated 10.25.2023 No. 561. <https://lex.uz/uz/docs/-6644013>
10. "Green" economy and modernization. Ecological and economic foundations of sustainable development. – 2012. – No. 60. – 90 p.;
11. Alinov M.Sh.. Fundamentals of green economy: textbook / M.Sh. Alinov - Almaty: "Bastau" publishing house, 2016. - 340 p.;
12. Vakhobov A. V., Khazhibakiev Sh. Kh.: "Green economy" textbook p. 196.
13. Vakhobov A.V., Khazhibakiev Sh.Kh., Theoretical and practical aspects of ensuring sustainable economic growth based on the "green economy", scientific electronic journal "XXI century: issues of science and education". No. 2, 2017
14. Isadjanov A.A. "Green economy": characteristics and development factors. Economics and education / 2020 No. 1
15. Hamidov O.Kh., Yavmutov D.Sh. The need to transition to a green economy in Uzbekistan. – Bukhara: Bukhara State University, 2024. – 16 p.
16. Policy Dialogue Series on "Green" Growth and Climate Change in Uzbekistan: A Collection of Works. 2022 World Bank 1818 H Street NW, Washington DC 20433.
17. Green Economy Policies in Central Asia: Pathways to Sustainable Development. GEF. Global Environmental Facility (GEF). (2019).