BG Pulse Journal USA
ISSN:1947-2536 http://www.bgpulseusa.com/index.php/bg

MECHANISMS FOR ATTRACTING GREEN INVESTMENTS IN UZBEKISTAN

Abdurakhmonov Shohruh Sherzod o‘g‘li
3rd-year student, Alfraganus University
Doi: https://doi.org/10.5281/zenodo.23160212

Abstract. This article examines the main mechanisms for attracting green investments in Uzbekistan. It focuses on renewable energy, green bonds, public-private partnerships, concessional financing, foreign direct investment, and green financial instruments. The study highlights the importance of improving investment conditions, reducing financial risks, and strengthening cooperation between the government, financial institutions, and private investors. The findings show that effective green investment mechanisms can support sustainable economic growth, energy efficiency, and environmental protection in Uzbekistan.

Keywords: Green investment; green economy; renewable energy; green bonds; sustainable finance; foreign investment; Uzbekistan.

Introduction

The transition to a green economy has become an important priority for Uzbekistan. Increasing energy demand, environmental challenges, climate change, and the need to modernize infrastructure require significant investment in renewable energy, energy efficiency, sustainable transport, water management, and green infrastructure. Therefore, green investment is becoming an important instrument for both environmental protection and sustainable economic growth.

Uzbekistan has established ambitious targets for renewable energy development. By 2030, the country plans to increase renewable-energy capacity to approximately 25 GW and significantly expand the share of renewable sources in electricity generation. Achieving these objectives requires substantial domestic and foreign investment in solar, wind, hydropower, electricity networks, and energy-storage systems [1].

Recent developments demonstrate the growing role of international financial institutions in Uzbekistan’s green transformation. In 2025, the World Bank approved US$100 million in concessional financing for the modernization of electricity-distribution networks, supported by an additional US$50 million in co-financing. These investments are expected to improve the integration of renewable energy into the national electricity system [2].

Another important development is the strengthening of the country’s sustainable-finance framework. Uzbekistan has introduced a National Green Taxonomy to identify environmentally sustainable economic activities and improve the allocation of financial resources toward green projects [3]. The government is also expanding policies related to green financing, renewable energy, energy efficiency, and environmental protection [4].

Public-private partnerships, green bonds, concessional loans, investment guarantees, and foreign direct investment can contribute significantly to mobilizing additional private capital. International financial institutions can further reduce investment risks through guarantees, blended finance, and technical assistance. In 2025, a World Bank-supported program was designed to mobilize approximately US$38 million in commercial financing for small hydropower projects in Uzbekistan [5].

Despite these opportunities, green investment faces several challenges, including high initial costs, limited long-term financing, currency risks, regulatory uncertainty, and a shortage of

investment-ready projects. Therefore, Uzbekistan needs an integrated mechanism combining financial incentives, risk-sharing instruments, transparent regulations, green-finance standards, and international cooperation.

In this context, this study examines the main mechanisms for attracting green investments in Uzbekistan and identifies measures for improving the country's ability to mobilize domestic and foreign capital for sustainable economic development.

Literature review

Recent studies increasingly emphasize the importance of green finance and investment mechanisms in supporting Uzbekistan's transition toward sustainable economic development. The OECD identifies green bonds as an important financing instrument for Uzbekistan, particularly for renewable energy, sustainable transport, agriculture, water management, and green infrastructure. At the same time, the study highlights regulatory and institutional barriers, including limited market expertise and the need to improve the framework for sustainable financial instruments [6].

Recent research also emphasizes the importance of developing an integrated green-finance system. The UNDP's 2025 Green Development Finance Assessment indicates that Uzbekistan needs to mobilize additional public and private financial resources for green development and strengthen the institutional environment for sustainable finance. The report particularly emphasizes de-risking instruments, development-finance facilities, and coordination between government institutions and financial-market participants [7].

The development of the green taxonomy is another important area discussed in recent literature. According to the OECD, Uzbekistan adopted its National Green Taxonomy in 2023, creating a common framework for identifying environmentally sustainable economic activities. The taxonomy can improve project selection, increase transparency, and reduce the risk of greenwashing while helping investors identify eligible green projects [6]. Recent government information also confirms that the taxonomy is being applied to the classification of green projects financed through green bonds, loans, and other financial instruments [8].

Recent OECD research further points to the growing role of sustainable infrastructure investment in Uzbekistan. State-owned banks are increasingly introducing green lending instruments, while blended finance, guarantees, and other de-risking mechanisms are being used to attract private capital to renewable energy and infrastructure projects. The OECD recommends strengthening green taxonomy, expanding sustainable financial instruments, and improving monitoring, reporting, and verification mechanisms [9].

Academic studies published in 2025 also examine the development of green financing in Uzbekistan. Khasanova emphasizes that green financing mechanisms should be connected with national development priorities and supported by appropriate regulatory and institutional frameworks [10]. Other recent research highlights green bonds, ESG-oriented investment, green lending, and climate finance as important instruments for increasing investment in environmentally sustainable projects. At the same time, challenges such as greenwashing, insufficient investor awareness, and the absence of unified standards remain relevant [11].

Overall, the reviewed literature demonstrates that Uzbekistan has made considerable progress in developing green-finance instruments. However, existing studies tend to focus separately on green bonds, taxonomy, green lending, or institutional reforms. There is still a need for a more integrated approach that examines how these instruments can operate together with public-private partnerships, foreign direct investment, concessional finance, and investment guarantees. This research addresses this gap by considering green-investment attraction as a

comprehensive mechanism combining financial, institutional, regulatory, and risk-sharing instruments.

Methodology

This study uses a qualitative approach to examine the main mechanisms for attracting green investments in Uzbekistan. The research is based on recent academic literature, government documents, and reports from international financial institutions.

Comparative, institutional, and content analysis methods are applied to assess green bonds, green loans, public-private partnerships, foreign direct investment, concessional financing, and investment guarantees. The study evaluates these mechanisms based on their ability to reduce investment risks, mobilize private capital, and support environmental sustainability.

The analysis also considers recent developments in Uzbekistan's green-finance system, including the National Green Taxonomy and renewable-energy investment projects. Based on the findings, the study identifies key barriers and proposes measures to improve the country's green-investment environment.

Result and discussion

The analysis shows that Uzbekistan has made significant progress in creating conditions for green investment. According to official statistics, the share of green energy in total energy production increased from 9.6% in 2023 to 15.7% in 2024 and 21.4% in 2025 [12]. This growth demonstrates the increasing importance of renewable energy in the country's energy system.

Solar energy has shown particularly rapid development. Official data indicate that electricity generation from solar power plants increased from 622.4 million kWh in 2023 to 3,965.2 million kWh in 2024, representing more than a sixfold increase within one year [13]. Wind-energy generation also increased substantially, reaching 789.6 million kWh in 2024, compared with only 7.2 million kWh in 2023 [14].

The statistical evidence indicates that renewable-energy investment is producing measurable results. At the same time, electricity consumption remains high. According to the National Statistics Committee, electricity consumption by subscribers reached 65.49 billion kWh in 2024, before declining to 63.75 billion kWh in 2025 [15]. This situation creates continued demand for investment in energy efficiency, modern electricity networks, energy storage, and renewable generation capacity.

The investment requirements of the energy sector are also substantial. In 2025, the World Bank approved a US$100 million concessional credit, while Uzbekistan's Regional Electric Power Networks provided US$50 million in co-financing for electricity-distribution modernization [16]. The World Bank estimates that approximately US$3 billion of investment will be required to modernize Uzbekistan's electricity-distribution infrastructure through 2030 [16].

Another important finding is the rapid expansion of renewable-energy targets. Uzbekistan aims to reach 25 GW of renewable-energy capacity by 2030, equivalent to around 40% of total electricity consumption [17]. Achieving this target will require not only public financing but also substantial private and foreign investment. Therefore, public-private partnerships, long-term power-purchase agreements, guarantees, and blended financing can become important instruments for reducing investment risks.

The development of individual projects also illustrates the scale of potential environmental benefits. For example, a 100 MW solar power project in Khorezm is expected to generate more than 240 GWh of electricity annually and reduce carbon dioxide emissions by more than 230,000 tonnes per year [18]. Such projects demonstrate that green investments can simultaneously contribute to energy production, emissions reduction, and infrastructure modernization.

The results therefore suggest that Uzbekistan's green-investment mechanism should focus on three interconnected directions: mobilizing private capital, reducing investment risks, and developing supporting infrastructure. The rapid growth of renewable-energy production confirms the potential of green investment, while the aging electricity network and growing energy requirements demonstrate the need for additional financing.

Overall, the statistical evidence supports the conclusion that green investment is becoming an increasingly important component of Uzbekistan's economic development. However, achieving the 2030 renewable-energy targets will require further expansion of green financial instruments, stronger public-private partnerships, international financing, investment guarantees, and mechanisms that improve the bankability of green projects.

Table 1. Selected indicators of renewable-energy development in Uzbekistan

Indicator	2023	2024	2025
Share of green energy in total energy production, %	9.6	15.7	21.4
Solar electricity production, million kWh	622.4	3,965.2	—
Wind electricity production, million kWh	7.2	789.6	—
Electricity consumption by subscribers, million kWh	62,836.3	65,490.5	63,746.0

Source: Compiled by the author based on the National Statistics Committee of Uzbekistan [12–15].

The results therefore suggest that Uzbekistan's green-investment mechanism should focus on three interconnected directions: mobilizing private capital, reducing investment risks, and developing supporting infrastructure. The rapid growth of renewable-energy production confirms the potential of green investment, while the aging electricity network and growing energy requirements demonstrate the need for additional financing.

Overall, the statistical evidence supports the conclusion that green investment is becoming an increasingly important component of Uzbekistan's economic development. However, achieving the 2030 renewable-energy targets will require further expansion of green financial instruments, stronger public-private partnerships, international financing, investment guarantees, and mechanisms that improve the bankability of green projects.

Conclusion

The study demonstrates that green investment is becoming an important driver of sustainable economic development in Uzbekistan. The rapid growth of renewable-energy production, expansion of green-finance instruments, and increasing participation of international financial institutions indicate that the country has significant potential to attract additional green capital.

The analysis shows that public-private partnerships, green bonds, concessional financing, investment guarantees, green loans, and foreign direct investment can play an important role in

mobilizing private resources. At the same time, the development of a green taxonomy and transparent environmental standards can improve investor confidence and strengthen the credibility of sustainable projects.

However, high initial investment costs, currency risks, limited long-term financing, regulatory uncertainty, and insufficient investment-ready projects remain important challenges. To overcome these barriers, Uzbekistan should strengthen risk-sharing mechanisms, improve project preparation, expand sustainable financial instruments, and increase cooperation with international financial institutions.

Overall, creating an integrated green-investment system can help Uzbekistan attract larger volumes of domestic and foreign capital, accelerate renewable-energy development, improve resource efficiency, and support the country's transition toward a low-carbon and sustainable economy.

References

1. World Bank. (2025). *Uzbekistan to Invest in Modernizing Electricity Distribution Networks with World Bank Support*. Washington, DC: World Bank.
2. World Bank. (2025). *Uzbekistan to Invest in Modernizing Electricity Distribution Networks with World Bank Support*. Washington, DC: World Bank.
3. World Bank. (2025). *Climate and Environment Program in Central Asia*. Washington, DC: World Bank.
4. Government of the Republic of Uzbekistan. (2025). *Environmental Protection and Green Economy Policy*. Tashkent: Government of Uzbekistan.
5. World Bank. (2025). *Uzbekistan to Enhance Energy Production through Hydropower with World Bank Support*. Washington, DC: World Bank.
6. OECD. (2023). *Financing Uzbekistan's Green Transition: Capital Market Development and Opportunities for Green Bond Issuance*. OECD Publishing, Paris. https://doi.org/10.1787/27d2489d-en
7. United Nations Development Programme. (2025). *Green Development Finance Assessment for the Republic of Uzbekistan*. UNDP Uzbekistan.
8. Government of the Republic of Uzbekistan. (2023). *National Green Taxonomy of the Republic of Uzbekistan*. Tashkent: Ministry of Economy and Finance.
9. OECD. (2026). *Uzbekistan: Accelerating Sustainable Infrastructure Investments*. OECD Publishing, Paris.
10. Khasanova, N. (2025). Current aspects of green economy and green financing in Uzbekistan. *Review of Multidisciplinary Academic and Practice Studies*, 2(2).
11. Khodjaeva, D., Jamolova, M., & Qidiralieva, L. (2025). Green finance unlocked: Innovations and challenges in Uzbekistan's perspective. *Green Economy and Development*.
12. National Statistics Committee of the Republic of Uzbekistan. (2026). *Share of Green Energy in Energy Production: 2020–2025*. Tashkent: National Statistics Committee.
13. National Statistics Committee of the Republic of Uzbekistan. (2025). *Electricity Production from Solar Power Plants*. Tashkent: National Statistics Committee.
14. National Statistics Committee of the Republic of Uzbekistan. (2025). *National Sustainable Development Goals Indicators of the Republic of Uzbekistan*. Tashkent.
15. National Statistics Committee of the Republic of Uzbekistan. (2026). *Electricity Consumption by Subscribers*. Tashkent: National Statistics Committee.

16. World Bank. (2025). *Uzbekistan to Invest in Modernizing Electricity Distribution Networks with World Bank Support*. Washington, DC: World Bank.
17. World Bank. (2024). *Uzbekistan to Build New Solar Plant and First Battery Energy Storage System with World Bank Group Support*. Washington, DC: World Bank.
18. World Bank. (2024). *Uzbekistan to Launch a New Solar Plant in the Khorezm Region with Support from the World Bank Group*. Washington, DC: World Bank.