

YASHIL

IQTISODIYOT & TARAQQIYOT

Ijtimoiy, iqtisodiy, texnologik, ilmiy, ommabop jurnal

GREEN ECONOMY AND DEVELOPMENT

Social, Economic, Technological, Scientific and Popular Science Journal

2026-YIL / SENTABR /
9-SON, II-QISM

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ISSN: 2992-8982

<https://yashil-iqtisodiyot-taraqqiyot.uz/>



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*Elektron nashr. 2026-yil, sentabr.
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Muassis: "Ma'rifat-print-media" MChJ

Hamkorlarimiz: Toshkent davlat iqtisodiyot universiteti,
O'zbekiston Respublikasi Bosh prokuraturasi huzuridagi Iqtisodiy
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Jurnalning ilmiyligi:

“Yashil” iqtisodiyot va
taraqqiyot” jurnali

O'zbekiston Respublikasi
Oliy ta'lim, fan va innovatsiyalar
vazirligi huzuridagi Oliy
attestatsiya komissiyasi
rayosatining
2023-yil 1-apreldagi
336/3-sonli qarori bilan
ro'yxatdan o'tkazilgan.



MUNDARIJA

TIJORAT BANKLARIDA KREDIT RISKLARINI BAHOLASH VA MUAMMOLI KREDITLARNI BARVAQT ANIQLASHNING SUN'YI INTELLEKTGA ASOSLANGAN MENEJMENT MODELINI TAKOMILLASHTIRISHNING NAZARIY ASOSLARI	14
Alovuddin Jamolov	
YASHIL TRANSPORT: BARQAROR RIVOJLANISH UCHUN IMKONIYAT VA ISTIQBOLLAR.....	19
Quliyev Begimqul Melikovich	
SAMARQAND VILOYATIDA MAHALLIY BUDJETLARDAN FOYDALANISH ISTIQBOLLARI	25
Uzakova Kamola Bexzodovna	
O'ZBEKISTONDA EKOTURIZMNI RIVOJLANTIRISHNING ZAMONAVIY TENDENSIYALARI VA ISTIQBOLLARI	31
Xolmurodova Moxichehra Dilmurodovna	
THE IMPACT OF FOREIGN DIRECT INVESTMENT ON ECONOMIC GROWTH IN UZBEKISTAN: EVIDENCE FROM AN ARDL BOUNDS TESTING APPROACH (2000–2024)	36
Ortikov Olloberdi Muzaffar o'g'li	
Rajabova Malika	
O'ZBEKISTONDA KICHIK BIZNESNI RIVOJLANTIRISH MUAMMOLARI VA ULARNI BARTARAF ETISH MEXANIZMLARI	44
Rustamova Dildora Jamshid qizi	
THIS STUDY EXAMINES BEIJING'S EXPERIENCE IN PROMOTING CROSS-BORDER E-COMMERCE IN TASHKENT FROM THE PERSPECTIVE OF REGIONAL COOPERATION	50
Wang Jiahao	
DORI VOSITALARIGA OID AXBOROTLARNI BUXGALTERIYA HISOBI VA HISOBOTLARIDA AKS ETTIRISH USLUBIYATINI TAKOMILLASHTIRISH	58
Yodgorov Xushvakt Mansurovich	
AGROSANOAT MAJMUINI MOLIVAVIY QO'LLAB-QUVVATLASHDA JAMLANMA DARAJA VA KANALLARARO TAKRORLANISHNI O'LCHASH METODIKASI: «YASHIL» YO'NALISHLAR MISOLIDA	63
Xudaynazarov Bekzod Akramovich	
ПУТИ ПОВЫШЕНИЯ КАЧЕСТВА АКТИВОВ И СТАБИЛЬНОСТИ КРЕДИТНОГО ПОРТФЕЛЯ В КОММЕРЧЕСКИХ БАНКАХ	69
Баймуратова Зина Акилбековна	
O'ZBEKISTONDA INVESTITSIYAVIY MUHITNI YANADA RIVOJLANTIRISH VA INFLYATSIYANING SALBIY OQIBATLARINI KAMAYTIRISH YO'NALISHLARI	75
Niyozov Asad Qosimovich	
YASHIRIN IQTISODIYOTNING NAZARIY EVOLYUTSIYASI VA UNI BAHOLASHNING ZAMONAVIY ILMIY YONDASHUVLARI	80
Afenov Nursultan Nugmatillayevich	
ARTIFICIAL INTELLIGENCE AND COMPETITIVE ADVANTAGE IN HIGHER EDUCATION: OPPORTUNITIES AND CHALLENGES.....	86
Boynazarova Iroda Mahmud qizi	
GREEN BONDS IN UZBEKISTAN: OPPORTUNITIES, INSTITUTIONAL DEVELOPMENT AND BARRIERS TO SUSTAINABLE FINANCE	92
Umarova Zulaykho Tursunovna	



GREEN BONDS IN UZBEKISTAN: OPPORTUNITIES, INSTITUTIONAL DEVELOPMENT AND BARRIERS TO SUSTAINABLE FINANCE

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Abstract. Uzbekistan is modernising its economic and financial systems while expanding investment in sustainable infrastructure and accelerating the transition to a green economy. Green bonds are emerging as an important instrument for attracting private and international capital to finance these objectives. The study examines the development and prospects of Uzbekistan's green bond market, with particular attention to sovereign and corporate issuance, financing needs, institutional conditions, and regulatory factors. A qualitative research approach is employed, drawing on academic literature, government publications, and reports from international financial institutions. The findings indicate that Uzbekistan has made notable progress in developing sustainable finance, particularly following the issuance of a sovereign Sustainable Development Goals bond in 2021 and the country's first sovereign green Eurobond in 2023. At the same time, further market development depends on expanding the range of issuers, strengthening institutional capacity, improving transparency, enhancing environmental impact reporting, and continuing capital market reforms. The findings suggest that green bonds can contribute both to financing Uzbekistan's green economy and to the diversification and development of its capital market.

Keywords: green bonds; sustainable finance; Uzbekistan; capital markets; sustainable infrastructure; green economy; green transition.

Annotatsiya. O'zbekistonda iqtisodiy va moliyaviy tizimlarni modernizatsiya qilish, barqaror infratuzilmaga investitsiyalarni kengaytirish hamda yashil iqtisodiyotga o'tishni jadallashtirishga qaratilgan izchil islohotlar amalga oshirilmoqda. Yashil obligatsiyalar ushbu maqsadlarni moliyalashtirish uchun xususiy va xalqaro kapitalni jalb etishning muhim vositalaridan biri sifatida shakllanmoqda. Tadqiqotda O'zbekistonda yashil obligatsiyalar bozorining rivojlanishi va istiqbollari suveren va korporativ emissiyalar, moliyalashtirish ehtiyojlari, institutsional sharoitlar hamda tartibga solish omillari nuqtayi nazaridan tahlil qilinadi. Tadqiqot ilmiy adabiyotlar, davlat organlari nashrlari va xalqaro moliya institutlari hisobotlariga asoslangan sifat tahlili usulida amalga oshirildi. Natijalar 2021-yilda Barqaror rivojlanish maqsadlari bilan bog'liq suveren obligatsiyaning, 2023-yilda esa mamlakatning ilk suveren yashil yevroobligatsiyasining chiqarilishi O'zbekistonda barqaror moliya tizimini rivojlantirishda muhim bosqich bo'lganini ko'rsatadi. Shu bilan birga, bozorning keyingi rivojlanishi emitentlar doirasini kengaytirish, institutsional salohiyatni mustahkamlash, shaffoflikni oshirish, ekologik ta'sir to'g'risidagi hisobotlarni takomillashtirish hamda kapital bozori islohotlarini izchil davom ettirishga bog'liq. Tadqiqot natijalari yashil obligatsiyalar O'zbekistonning yashil iqtisodiyotini moliyalashtirish bilan bir qatorda, kapital bozorini diversifikatsiya qilish va rivojlantirishga ham xizmat qilishi mumkinligini ko'rsatadi.

Kalit so'zlar: yashil obligatsiyalar; barqaror moliya; O'zbekiston; kapital bozori; barqaror infratuzilma; yashil iqtisodiyot; yashil o'tish.

Аннотация. В Узбекистане последовательно осуществляются реформы, направленные на модернизацию экономической и финансовой систем, расширение инвестиций в устойчивую инфраструктуру и ускорение перехода к зелёной экономике. Зелёные облигации становятся одним из важных инструментов привлечения частного и международного капитала для финансирования этих целей. В исследовании анализируются развитие и перспективы рынка зелёных облигаций Узбекистана с особым акцентом на суверенные и корпоративные выпуски, потребности в финансировании, институциональные условия и факторы регулирования. Применён качественный исследовательский подход, основанный на анализе научной литературы, публикаций государственных органов и отчётов



международных финансовых институтов. Результаты показывают, что выпуск в 2021 году суверенной облигации, связанной с Целями устойчивого развития, а в 2023 году — первой суверенной зелёной еврооблигации страны стал важным этапом развития устойчивого финансирования в Узбекистане. Вместе с тем дальнейшее развитие рынка зависит от расширения круга эмитентов, укрепления институционального потенциала, повышения прозрачности, совершенствования отчётности об экологическом воздействии и последовательного продолжения реформ рынка капитала. Полученные результаты свидетельствуют о том, что зелёные облигации могут способствовать как финансированию зелёной экономики Узбекистана, так и диверсификации и развитию национального рынка капитала.

Ключевые слова: зелёные облигации; устойчивое финансирование; Узбекистан; рынок капитала; устойчивая инфраструктура; зелёная экономика; зелёный переход.

INTRODUCTION

The transition toward a low-carbon economy requires substantial investment in renewable energy, energy efficiency, sustainable transport, water management, and climate-resilient infrastructure. For emerging economies, this challenge is particularly significant because the financial requirements of sustainable development frequently exceed the capacity of public budgets. Mobilising private and international capital has therefore become an increasingly important component of national green-transition strategies.

Green bonds have emerged as one of the principal instruments connecting capital markets with environmental objectives. Although their financial structure is similar to that of conventional bonds, their proceeds are earmarked for projects that generate environmental or climate-related benefits. This mechanism enables governments, financial institutions, and corporations to access long-term capital while directing investment toward sustainable activities. The international literature identifies green bonds as a potential mechanism for mobilising private capital, diversifying financing sources, and strengthening transparency in sustainable investment. At the same time, the effectiveness and credibility of green bonds are supported by appropriate regulatory frameworks, clear definitions of eligible activities, reliable disclosure, and credible environmental-impact reporting.

These issues are particularly important for Uzbekistan. The country is actively advancing the modernisation of its economy and energy system, with increasing attention being given to energy diversification, infrastructure development, and environmental sustainability. Significant investment opportunities exist in modern infrastructure and environmentally sustainable projects. The OECD estimates that Uzbekistan's sustainable-infrastructure financing needs amount to approximately USD 6 billion annually. Addressing these financing needs through a combination of public, private, and international financial resources creates favourable opportunities for attracting additional private and international capital and supporting the country's sustainable development objectives.

Uzbekistan has responded by gradually incorporating sustainable finance into its financial-market development strategy. The country's international bond-market experience began in 2019, followed by the issuance of a sovereign Sustainable Development Goals (SDG) bond in August 2021. In 2023, Uzbekistan issued its first sovereign green Eurobond alongside a conventional tranche. The country has subsequently witnessed increasing participation by domestic financial institutions and corporations, suggesting that sustainable bonds are gradually developing from a sovereign instrument into a broader component of the financial system.

The existing literature on Uzbekistan continues to develop and is largely policy-oriented. The OECD's *Financing Uzbekistan's Green Transition: Capital Market Development and Opportunities for Green Bond Issuance* provides an important assessment of the country's financing needs, capital-market conditions, and regulatory environment. More recent OECD and World Bank research highlights the growing role of state-owned financial institutions and the importance of institutional reform. Further research can contribute to a more comprehensive understanding of Uzbekistan's green bond market as an integrated ecosystem involving sovereign issuers, financial institutions, corporations, and potential subnational issuers. Additional empirical evidence concerning the market's effects on financing costs, investor diversification, liquidity, and measurable environmental outcomes can also support the continued development of research in this field.

This study therefore examines the development and prospects of green bonds in Uzbekistan. It seeks to determine the extent to which green bonds can contribute to financing Uzbekistan's green transition while simultaneously supporting the development of its capital market.



LITERATURE REVIEW

The international literature increasingly considers green bonds an important instrument for mobilising long-term capital for environmentally sustainable investment. Green bonds connect capital-market financing with environmental objectives and can contribute to greater transparency in the allocation and monitoring of proceeds. Recent studies emphasise that the effectiveness of green bond markets is supported by regulatory clarity, credible taxonomies, disclosure standards, impact reporting, and the development of a broad issuer and investor base.

For Uzbekistan, the OECD provides one of the most comprehensive assessments in *Financing Uzbekistan's Green Transition: Capital Market Development and Opportunities for Green Bond Issuance*. The study highlights the country's sustainable-infrastructure financing needs, capital-market conditions, and opportunities for expanding green bond issuance. Other OECD and World Bank materials also underline the importance of institutional development, sustainable-finance standards, and effective financing mechanisms, while Uzbekistan's SDG Bond Framework provides an important basis for thematic bond issuance and reporting.

Despite these contributions, research on Uzbekistan's green bond market continues to develop and remains mainly policy-oriented. Existing studies focus primarily on financing needs, regulatory conditions, and sustainable-infrastructure priorities, while further research can provide a more comprehensive assessment of the market as an integrated ecosystem involving sovereign issuers, financial institutions, corporations, and potential subnational issuers. Additional empirical evidence on financing costs, investor diversification, liquidity, and measurable environmental outcomes can further strengthen research in this area.

RESEARCH METHODOLOGY

This study employs a qualitative descriptive research design based on secondary data and documentary analysis. The approach is appropriate because Uzbekistan's green bond market remains relatively young, and long-term quantitative market data are still developing.

The analysis draws on academic and policy literature, as well as reports and publicly available information from the OECD, the World Bank, the United Nations Development Programme, the Asian Infrastructure Investment Bank, and Uzbekistan's Ministry of Economy and Finance. Particular attention is given to information concerning sovereign and corporate thematic bond issuances, sustainable-infrastructure financing requirements, the institutional role of state-owned financial institutions, and regulatory conditions affecting green-finance development.

The collected evidence was analysed thematically according to four dimensions: market development, financing potential, institutional development, and regulatory barriers. The Uzbek experience was then considered in the context of the broader international literature on green bonds in emerging economies.

The principal methodological consideration of the study is the relatively short history of Uzbekistan's green bond market. Consequently, the research focuses primarily on market development and institutional prospects, providing a foundation for future assessments of the relationship between green-bond issuance and environmental outcomes.

ANALYSIS AND RESULTS

The analysis demonstrates that Uzbekistan has already established the foundations of an emerging green bond market. The country's development has followed a relatively rapid progression from international capital-market participation to thematic finance and, subsequently, to green bond issuance. The 2021 sovereign SDG bond represented an important institutional step because its proceeds were allocated to seven priority areas, including education, water management, healthcare, green transport, pollution control, natural-resource management, and green energy. Beyond its financing function, the issuance provided Uzbekistan with experience in identifying eligible projects, allocating proceeds, and reporting on sustainable investment.

A major development occurred in 2023, when Uzbekistan issued its first sovereign green Eurobond. The green tranche amounted to UZS 4.25 trillion, with a three-year maturity and a coupon rate of 16.25% per annum, and was listed on the London Stock Exchange. The proceeds were directed toward water-saving technologies, railway and metro expansion, sanitation projects, and protective forests designed to address wind erosion and water siltation. This issuance demonstrated Uzbekistan's capacity to attract international capital specifically for environmentally oriented projects and created an important benchmark for future sustainable bond issuers.

The emergence of green bonds is closely connected to Uzbekistan's substantial infrastructure-financing requirements. The estimated annual sustainable-infrastructure investment gap of approximately USD 6 billion demonstrates the importance of complementing government resources with additional sources of financing for



the country's green transition. Renewable energy, sustainable transport, water management, energy efficiency, and green housing represent particularly important areas in which green bonds could mobilise additional long-term capital. In this respect, green bonds are not merely environmental instruments; they can become part of a broader strategy for diversifying Uzbekistan's sources of infrastructure finance.

At the institutional level, state-owned financial institutions are likely to play an important role in the next stage of market development. The JSC Entrepreneurship Development Company has already supported solar and other green projects and has set targets to expand green financing. The Business Development Bank is incorporating sustainability into its operations, while the JSC Uzbekistan Mortgage Refinancing Company has the potential to support green housing finance and sustainable bond issuance. Given the substantial role of state-owned financial institutions in Uzbekistan's financial system, their participation could significantly accelerate the development of green finance.

The strong role of the state presents significant opportunities for further market development. State-owned institutions can act as early market leaders because they are closely aligned with national development priorities and can mobilise significant financial resources. At the same time, broader participation by private-sector entities could further strengthen competition and contribute to the development of a diversified sustainable-finance market. The long-term objective should therefore be to use state institutions as catalysts for broader participation by commercial banks, corporations, institutional investors, and other private-sector entities.

Several regulatory and institutional aspects continue to shape the further development of the market. Uzbekistan's capital market is gradually evolving, while further development of the framework for subnational borrowing could create additional opportunities for regional governments to finance sustainable infrastructure through bond issuance. This issue is particularly relevant because many environmentally significant projects—including public transport, water management, waste treatment, and energy efficiency—are implemented at the regional level. Expanding opportunities for financially capable regional governments to issue green bonds, supported by appropriate fiscal and debt-management safeguards, could contribute to a broader pipeline of sustainable projects and further strengthen the development of the green finance market.

Further development of institutional capacity remains important for the effective expansion of the green bond market. Green bond issuance requires specialised expertise in project selection, environmental assessment, proceeds management, impact measurement, and sustainability reporting. The development of Uzbekistan's national green taxonomy represents an important step toward creating common criteria for environmentally sustainable activities, while the effectiveness of such a framework can be further supported through consistent implementation, monitoring, and independent verification.

The development of innovative green financial instruments provides an additional opportunity for Uzbekistan's sustainable-finance market. Such instruments could broaden the country's investor base and introduce alternative mechanisms for financing sustainable infrastructure. The continued development of appropriate legal and regulatory foundations could support the emergence of new green financial instruments and contribute to the further development and diversification of the sustainable-finance market.

Overall, the findings support the argument that Uzbekistan's green bond market has progressed to a stage at which practical issuance experience has been established. Sovereign transactions have demonstrated access to international investors, while the emergence of domestic and corporate sustainable bonds indicates growing institutional capacity. The next stage of development is to support the transition from individual issuances to a deeper and more diversified sustainable-finance market.

This requires particular attention to three interconnected priorities. First, the issuer base should expand beyond the sovereign to include banks, corporations, state-owned enterprises, and, eventually, financially capable regional governments. Second, transparency and environmental-impact measurement should be further strengthened to maintain investor confidence and reinforce the credibility of environmental claims. Third, green bond development should be integrated with broader capital-market reform so that sustainable finance contributes to long-term financial-market diversification and develops as an integral component of the wider financial system.

CONCLUSION AND SUGGESTIONS

This study examined the development and prospects of green bonds in Uzbekistan through a qualitative analysis of academic literature, government information, and reports from international financial institutions. The evidence demonstrates that Uzbekistan has rapidly established the foundations of an emerging green bond market. The country's sovereign SDG bond in 2021 and its first sovereign green Eurobond in 2023 represented important milestones, while subsequent participation by domestic financial institutions indicates that sustainable finance is gradually expanding beyond sovereign issuance.



The country's substantial sustainable-infrastructure financing gap, historical dependence on natural gas, and commitment to renewable energy and low-carbon development provide a strong economic rationale for further green bond development. Green bonds have particular potential to finance renewable energy, sustainable transport, water management, sanitation, energy efficiency, and green housing.

The market is continuing to develop, with further opportunities to strengthen capital-market depth, expand institutional expertise, broaden the role of diverse market participants, enhance subnational financing mechanisms, and improve environmental-impact reporting. Progress in these areas could support the continued expansion, transparency, and long-term effectiveness of Uzbekistan's green bond market.

The study concludes that green bonds can perform a dual function in Uzbekistan: mobilising the capital required for the green transition while simultaneously contributing to the development and diversification of the country's capital market. The next stage of development should therefore focus not simply on increasing the volume of sovereign issuance, but on creating a broader ecosystem involving financial institutions, corporations, institutional investors, and subnational entities.

With continued regulatory reform, stronger institutional capacity, improved transparency, and sustained support from international financial institutions, Uzbekistan has the potential to transform its emerging green bond market into a significant pillar of sustainable finance and a catalyst for the country's broader transition toward a green economy.

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IQTISODIYOT & TARAQQIYOT

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2026. № 9/2

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"Yashil" iqtisodiyot va taraqqiyot" jurnali 03.11.2022-yildan O'zbekiston Respublikasi Prezidenti Adminstratsiyasi huzuridagi Axborot va ommaviy kommunikatsiyalar agentligi tomonidan №566955 reyestr raqami tartibi bo'yicha ro'yxatdan o'tkazilgan.

Litsenziya raqami: №046523. PNFL: 30407832680027

Manzilimiz: Toshkent shahar, Mirzo Ulug'bek tumani
Kumushkon ko'chasi, 26-uy.



Jurnal sayti: <https://yashil-iqtisodiyot-taraqqiyot.uz>
