



IQTISODIYOT & TARAQQIYOT

Ijtimoiy, iqtisodiy, texnologik, ilmiy, ommabop jurnal

No6
MAXSUS SON



BAKALAVR TALABALARINIG MAQOLALARI TO'PLAMI



ISSN: 2992-8982

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

2025



IQTISODIYOT&TARAQQIYOT

Ijtimoiy, iqtisodiy, texnologik, ilmiy, ommabop jurnal

Bosh muharrir:

Sharipov Kongiratbay Avezimbetovich

Bosh muharrir o'rinbosari:

Karimov Norboy G'aniyevich

Muharrir:

Qurbonov Sherzod Ismatillayevich

Tahrir hay'ati:

Salimov Oqil Umrzoqovich, O'zbekiston Fanlar akademiyasi akademigi
Abduraxmanov Kalandar Xodjayevich, O'zbekiston Fanlar akademiyasi akademigi
Sharipov Kongiratbay Avezimbetovich, texnika fanlari doktori (DSc), professor
Rae Kvon Chung, Janubiy Koreya, TDIU faxriy professori, "Nobel" mukofoti laureati
Osman Mesten, Turkiya parlamenti a'zosi, Turkiya – O'zbekiston do'stlik jamiyati rahbari
Axmedov Durbek Kudratillayevich, iqtisodiyot fanlari doktori (DSc), professor
Axmedov Sayfullo Normatovich, iqtisodiyot fanlari doktori (DSc), professor
Abduraxmanova Gulnora Kalandarovna, iqtisodiyot fanlari doktori (DSc), professor
Kalonov Muxiddin Baxritdinovich, iqtisodiyot fanlari doktori (DSc), professor
Siddiqova Sadoqat G'afforovna, pedagogika fanlari bo'yicha falsafa doktori (PhD)
Xudoyqulov Sadirdin Karimovich, iqtisodiyot fanlari doktori (DSc), professor
Maxmudov Nosir, iqtisodiyot fanlari doktori (DSc), professor
Yuldashev Mutallib Ibragimovich, iqtisodiyot fanlari doktori (DSc), professor
Samadov Asqarjon Nishonovich, iqtisodiyot fanlari nomzodi, professor
Slizovskiy Dimitriy Yegorovich, texnika fanlari doktori (DSc), professor
Mustafakulov Sherzod Igamberdiyevich, iqtisodiyot fanlari doktori (DSc), professor
Axmedov Ikrom Akramovich, iqtisodiyot fanlari doktori (DSc), professor
Eshtayev Alisher Abdug'aniyevich, iqtisodiyot fanlari doktori (DSc), professor
Xajiyev Baxtiyor Dushaboyevich, iqtisodiyot fanlari doktori (DSc), professor
Hakimov Nazar Hakimovich, falsafa fanlari doktori (DSc), professor
Musayeva Shoira Azimovna, iqtisodiyot fanlari bo'yicha falsafa doktori (PhD), professor
Ali Konak (Ali Ko'nak), iqtisodiyot fanlari doktori (DSc), professor (Turkiya)
Cham Tat Huei, falsafa fanlari doktori (PhD), professor (Malayziya)
Foziljonov Ibrohimjon Sotvoldixo'ja o'g'li, iqtisodiyot fanlari bo'yicha falsafa doktori (PhD), dots.
Utayev Uktam Choriyevich, O'z.Respub. Bosh prokuraturasi boshqarma boshlig'i o'rinbosari
Ochilov Farkhod, O'zbekiston Respublikasi Bosh prokuraturasi IJQKD boshlig'i
Buzrukxonov Sarvarxon Munavvarxonovich, iqtisodiyot fanlari nomzodi, dotsent
Axmedov Javohir Jamolovich, iqtisodiyot fanlari bo'yicha falsafa doktori (PhD)
Toxirov Jaloliddin Ochil o'g'li, texnika fanlari bo'yicha falsafa doktori (PhD), katta o'qituvchi
Bobobekov Ergash Abdumalikovich, iqtisodiyot fanlari bo'yicha falsafa doktori (PhD), v.b. dots.
Djudi Smetana, pedagogika fanlari nomzodi, dotsent (AQSH)
Krissi Lyuis, pedagogika fanlari nomzodi, dotsent (AQSH)
Glazova Marina Viktorovna, iqtisodiyot fanlari nomzodi (Moskva)
Nosirova Nargiza Jamoliddin qizi, iqtisodiyot fanlari bo'yicha falsafa doktori (PhD), dotsent
Sevil Piriyeva Karaman, falsafa fanlari doktori (PhD) (Turkiya)
Mirzaliyev Sanjar Makhmatjon o'g'li, TDIU ITI departamenti rahbari
Ochilov Bobur Baxtiyor o'g'li, TDIU katta o'qituvchisi

Elektron nashr. 115 sahifa.

E'lon qilishga 2025-yil mayda ruxsat etildi.



IQTISODIYOT & TARAQQIYOT

Ijtimoiy, iqtisodiy, texnologik, ilmiy, ommabop jurnal

Editorial board:

- Salimov Okil Umrzokovich**, Academician of the Academy of Sciences of Uzbekistan
Abdurakhmanov Kalandar Khodjavevich, Academician of the Academy of Sciences of Uzbekistan
Sharipov Kongiratbay Avezimbetovich, Doctor of Technical Sciences (DSc), Professor
Rae Kwon Chung, South Korea, Honorary Professor at TSUE, Nobel Prize Laureate
Osman Mesten, Member of the Turkish Parliament, Head of the Turkey–Uzbekistan Friendship Society
Akhmedov Durbek Kudratillayevich, Doctor of Economic Sciences (DSc), Professor
Akhmedov Sayfullo Normatovich, Doctor of Economic Sciences (DSc), Professor
Abdurakhmanova Gulnora Kalandarovna, Doctor of Economic Sciences (DSc), Professor
Kalonov Mukhiddin Bakhridinovich, Doctor of Economic Sciences (DSc), Professor
Siddikova Sadokat Gafforovna, Doctor of Philosophy (PhD) in Pedagogical Sciences
Khudoykulov Sadirdin Karimovich, Doctor of Economic Sciences (DSc), Professor
Makhmudov Nosir, Doctor of Economic Sciences (DSc), Professor
Yuldashev Mutallib Ibragimovich, Doctor of Economic Sciences (DSc), Professor
Samadov Askarjon Nishonovich, Candidate of Economic Sciences, Professor
Slizovskiy Dmitriy Yegorovich, Doctor of Technical Sciences (DSc), Professor
Mustafakulov Sherzod Igamberdiyevich, Doctor of Economic Sciences (DSc), Professor
Akhmedov Ikrom Akramovich, Doctor of Economic Sciences (DSc), Professor
Eshtayev Alisher Abduganiyevich, Doctor of Economic Sciences (DSc), Professor
Khajiyev Bakhtiyor Dushaboyevich, Doctor of Economic Sciences (DSc), Professor
Khakimov Nazar Khakimovich, Doctor of Philosophy (DSc), Professor
Musayeva Shoira Azimovna, Doctor of Philosophy (PhD) in Economic Sciences, Professor
Ali Konak, Doctor of Economic Sciences (DSc), Professor (Turkey)
Cham Tat Huei, Doctor of Philosophy (PhD), Professor (Malaysia)
Foziljonov Ibrokhimjon Sotvoldikhoja ugli, Doctor of Philosophy (PhD) in Economic Sciences, Associate Professor
Utayev Uktam Choriyevich, Deputy Head of Department, Prosecutor General's Office of Uzbekistan
Ochilov Farkhod, Head of DCEC, Prosecutor General's Office of Uzbekistan
Buzrukkhonov Sarvarkhon Munavvarkhonovich, Candidate of Economic Sciences, Associate Professor
Akhmedov Javokhir Jamolovich, Doctor of Philosophy (PhD) in Economic Sciences
Tokhirov Jaloliddin Ochil ugli, Doctor of Philosophy (PhD) in Technical Sciences, Senior Lecturer
Bobobekov Ergash Abdumalikovich, Doctor of Philosophy (PhD) in Economic Sciences, Acting Associate Professor
Judi Smetana, Candidate of Pedagogical Sciences, Associate Professor (USA)
Chrissy Lewis, Candidate of Pedagogical Sciences, Associate Professor (USA)
Glazova Marina Viktorovna, Candidate of Economic Sciences (Moscow)
Nosirova Nargiza Jamoliddin kizi, Doctor of Philosophy (PhD) in Economic Sciences, Associate Professor
Sevil Piriyeva Karaman, Doctor of Philosophy (PhD) (Turkey)
Mirzaliyev Sanjar Makhmatjon ugli, Head of the Department of Scientific Research and Innovations, TSUE
Ochilov Bobur Bakhtiyor ugli, Senior lecturer at TSUI

Ekspertlar kengashi:

Berkinov Bazarbay, iqtisodiyot fanlari doktori (DSc), professor
Po'latov Baxtiyor Alimovich, texnika fanlari doktori (DSc), professor
Aliyev Bekdavlal Aliyevich, falsafa fanlari doktori (DSc), professor
Isakov Janabay Yakubbayevich, iqtisodiyot fanlari doktori (DSc), professor
Xalikov Suyun Ravshanovich, iqtisodiyot fanlari nomzodi, dotsent
Rustamov Ilhomiddin, iqtisodiyot fanlari nomzodi, dotsent
Hakimov Ziyodulla Ahmadovich, iqtisodiyot fanlari doktori, dotsent
Kamilova Iroda Xusniddinovna, iqtisodiyot fanlari bo'yicha falsafa doktori (PhD)
G'afurov Doniyor Orifovich, pedagogika fanlari bo'yicha falsafa doktori (PhD)
Fayziyev Oybek Raximovich, iqtisodiyot fanlari bo'yicha falsafa doktori (PhD), dotsent
Tuxtabayev Jamshid Sharafetdinovich, iqtisodiyot fanlari bo'yicha falsafa doktori (PhD), dotsent
Xamidova Faridaxon Abdulkarim qizi, iqtisodiyot fanlari doktori, dotsent
Yaxshiboyeva Laylo Abdisattorovna, katta o'qituvchi
Babayeva Zuhra Yuldashevna, mustaqil tadqiqotchi

Board of Experts:

Berkinov Bazarbay, Doctor of Economic Sciences (DSc), Professor
Pulatov Bakhtiyor Alimovich, Doctor of Technical Sciences (DSc), Professor
Aliyev Bekdavlal Aliyevich, Doctor of Philosophy (DSc), Professor
Isakov Janabay Yakubbayevich, Doctor of Economic Sciences (DSc), Professor
Khalikov Suyun Ravshanovich, Candidate of Economic Sciences, Associate Professor
Rustamov Ilkhomiddin, Candidate of Economic Sciences, Associate Professor
Khakimov Ziyodulla Akhmadovich, Doctor of Economic Sciences, Associate Professor
Kamilova Iroda Khusniddinovna, Doctor of Philosophy (PhD) in Economics
Gafurov Doniyor Orifovich, Doctor of Philosophy (PhD) in Pedagogy
Fayziyev Oybek Rakhimovich, Doctor of Philosophy (PhD) in Economics, Associate Professor
Tukhtabayev Jamshid Sharafetdinovich, Doctor of Philosophy (PhD) in Economics, Associate Professor
Khamidova Faridakhon Abdulkarimovna, Doctor of Economic Sciences, Associate Professor
Yakhshiboyeva Laylo Abdisattorovna, Senior Lecturer
Babayeva Zuhra Yuldashevna, Independent Researcher

- 08.00.01 Iqtisodiyot nazariyasi
- 08.00.02 Makroiqtisodiyot
- 08.00.03 Sanoat iqtisodiyoti
- 08.00.04 Qishloq xo'jaligi iqtisodiyoti
- 08.00.05 Xizmat ko'rsatish tarmoqlari iqtisodiyoti
- 08.00.06 Ekonometrika va statistika
- 08.00.07 Moliya, pul muomalasi va kredit
- 08.00.08 Buxgalteriya hisobi, iqtisodiy tahlil va audit
- 08.00.09 Jahon iqtisodiyoti
- 08.00.10 Demografiya. Mehnat iqtisodiyoti
- 08.00.11 Marketing
- 08.00.12 Mintaqaviy iqtisodiyot
- 08.00.13 Menejment
- 08.00.14 Iqtisodiyotda axborot tizimlari va texnologiyalari
- 08.00.15 Tadbirkorlik va kichik biznes iqtisodiyoti
- 08.00.16 Raqamli iqtisodiyot va xalqaro raqamli integratsiya
- 08.00.17 Turizm va mehmonxona faoliyati

Muassis: "Ma'rifat-print-media" MChJ

Hamkorlarimiz: Toshkent davlat iqtisodiyot universiteti, O'zR Tabiat resurslari vazirligi, O'zR Bosh prokuraturasi huzuridagi IJQK departamenti.

Jurnalning ilmiyligi:

“Yashil” iqtisodiyot va taraqqiyot” jurnali

O'zbekiston Respublikasi Oliy ta'lim, fan va innovatsiyalar vazirligi huzuridagi Oliy attestatsiya komissiyasi rayosatining 2023-yil 28-fevraldagi 333/5-sonli qarori bilan ro'yxatdan o'tkazilgan.



MUNDARIJA

Strategies for achieving sustainable growth through green economy transition.....	14
Umida Kakhramonova Gayratovna, Tillayev Khurshidjon Sulaymon oglu	
Current state and development prospects of tourism: comparative analysis and Uzbekistan's experience.....	20
Risolatbonu Shakhzodova, Laziza Khalilova, Nabijonov Biloliddin, Aziza Usmanova	
Инновационные подходы к повышению эффективности корпоративного управления.....	26
Тлеумуратова Мадинабону Дилмурат кизи, Уринов Бабур Насиллоевич	
Startup проекты и их реализация	30
Ёдгорова Мухайе Шухратовна, Иминова Наргиза Акрамовна	
Methodology of Teaching English: Traditional and Modern Approaches	34
Ravshanova Ziyoda Qahramon Qizi, Xoliqova Dilafruz Shuhratovna	
Государственный кредит и государственный долг.....	37
Срождиддинова З.Х., Тухтасинова Д.Н.	
Сравнительный анализ реформ государственных финансов в Китае и Грузии: уроки для Узбекистана	42
Срождиддинова Зарина Хайриддиновна, Шарифзода Мубина Дилмуроджон кизи	
Korxonalarda asosiy vositalar hisobini yuritishni takomillashtirish	49
Shakarov Shahzod Sobir o'g'li, Po'latov Xudoyberdi Uktamovich, Esanov Oybek Madatovich	
Sustainable consumption and production: economic challenges and solutions.....	55
Abdullayev Abdug'ofur, Abdubaxromov Abduazim, Eshniyozov Ozodbek, Azizbek Abdullayev	
Traffic congestion in Uzbekistan: causes and strategic solutions	60
Abdulloh Qodirov, Imron Egamberdiyev, Isomiddin Ravshanov, Munisa Bekmirzayeva	
The relationship between corruption and economic growth.....	64
Jurayev Jo'rabek, Abdullayeva Aziza, Mamatova Sarvinoz, Maha Ibrahim	
Crisis management in the tourism industry	74
Ikromova Munisa, Bahodirova Mohigul, Xalimova Dilbar, Abdullajonova Muslimabonu	
Impact of the touristic indicators on the poverty rate.....	80
Abdumanova Maftuna, Azizova Ruhshona, Shavkatova Mubiyabonu, Durdona Bahodirova	
Bringing sustainability: the role of the green economy in enhancing resource efficiency	91
Salokhiddinova Farangiz, Mardonov MuhammadYusuf, Shovkiyeva Munisa, Ahmadova Xurshida	
The relationship between innovation and environmental emissions.....	98
Mamadiyorova Ruxshona, Nurullayev Asliddin, Abduraimov Sardor Anvar o'g'li, Aysayeva E'zoza	
Green finance unlocked: innovations, challenges in Uzbekistan's perspectives.....	107
Dildora Khodjaeva Mukhamedkhodjaevna, Jamolova Madina Talgatovna, Lola Qidiralieva Ulug'bekovna	



GREEN FINANCE UNLOCKED: INNOVATIONS, CHALLENGES IN UZBEKISTAN'S PERSPECTIVES



Dildora Khodjaeva Mukhamedkhodjaevna

Associate Professor,
IMC Krems Transnational
Department, Tashkent State
University of Economics
d.khodjaeva@tsue.uz
ORCID: 0000-0001-8248-4720
Scientific supervisor

Jamolova Madina Talgatovna

Foundation student of the
International Double Degree
Faculty of TSUE with
IMC UAS Krems
Zhamolovamadina3@gmail.com
ORCID: 0009-0004-4134-1837

Lola Qidiralieva Ulug'bekovna

Foundation student of the
International Double Degree Faculty
of TSUE with IMC UAS Krems
lolakidiralieva0@gmail.com
ORCID: 0009-0000-7057-6556

Abstract: This study examines the progress of green finance from 2000–2025, exploring its challenges and importance for Uzbekistan as well as other countries. While green bonds play a significant role in combating climate change and promoting eco-friendly development, the industry still faces issues such as confusion over what qualifies as green, lack of unified standards, greenwashing, and generally low public awareness. It is demonstrated that green finance performs well when explanations are clear, regulations benefit all stakeholders, and investors are satisfied. Success stories from the EU, China, and India show that cooperation, consistent regulations, and a variety of financial instruments drive the growth of green finance. Similar policies, improved financial education, and consistent terminology use are recommended for Uzbekistan. Advanced training of experts could help Uzbekistan's economy better utilize clean technologies and green financial systems. Overall, studies indicate that when used properly, green finance can increase the region's financial and environmental well-being.

Key words: Green finance; green bonds; ESG investing; sustainable development; climate investment; Uzbekistan; regulatory frameworks; investor education; greenwashing; emerging markets; financial innovation.

Annotatsiya: Ushbu tadqiqot 2000–2025-yillar davomida yashil moliyaning rivojlanishini, uning dolzarb muammolari va O'zbekiston hamda boshqa davlatlar uchun ahamiyatini tahlil qiladi. Yashil obligatsiyalar iqlim o'zgarishiga qarshi kurashish va ekologik barqaror rivojlanishni rag'batlantirishda muhim rol o'ynasa-da, ushbu sohada hali ham bir qator muammolar mavjud. Jumladan, "yashil" tushunchasining aniq belgilanmagani, yagona standartlarning yetishmasligi, yashil moliyadagi soxta faoliyat (greenwashing) va aholi o'rtasida bu boradagi tushunchaning pastligi kuzatilmoqda. Tadqiqotda shuni ko'rish mumkinki, yashil moliya samarali natija beradi, agar tushuntirishlar aniq bo'lsa, me'yoriy hujjatlar barcha manfaatdor tomonlarga foyda keltirsa va investorlar rozi bo'lsa. Yevropa Ittifoqi, Xitoy va Hindiston tajribalari



shuni ko'rsatadiki, hamkorlik, izchil tartibga solish va moliyaviy vositalarning xilma-xilligi yashil moliyaning rivojiga turtki beradi. O'zbekiston uchun ham shunga o'xshash siyosatlar, moliyaviy savodxonlikni oshirish va atamalarni yagona tarzda qo'llash tavsiya etiladi. Mutaxassislarni chuqurlashtirilgan tayyorlash O'zbekiston iqtisodiyotiga toza texnologiyalar va yashil moliyaviy tizimlardan samarali foydalanishga yordam berishi mumkin. Umuman olganda, tadqiqotlar shuni ko'rsatadiki, yashil moliya to'g'ri qo'llanilganda mintaqaning moliyaviy va ekologik farovonligini oshiradi.

Kalit so'zlar: yashil moliya; yashil obligatsiyalar; ESG investitsiyalari; barqaror rivojlanish; iqlim investitsiyalari; O'zbekiston; tartibga solish tizimlari; investorlarni o'qitish; yashil yuvish; rivojlanayotgan bozorlar; moliyaviy innovatsiyalar.

Аннотация: В настоящем исследовании рассматривается развитие зеленого финансирования в период 2000–2025 годов, его ключевые проблемы и значение как для Узбекистана, так и для других стран. Несмотря на важную роль зелёных облигаций в борьбе с изменением климата и продвижении экологически устойчивого развития, отрасль по-прежнему сталкивается с рядом проблем, включая неясность критериев "зелёности", отсутствие единых стандартов, практику «зелёного камуфляжа» (greenwashing) и низкий уровень осведомлённости населения. Установлено, что зелёное финансирование даёт положительные результаты, когда объяснения понятны, регулирование выгодно для всех заинтересованных сторон, а инвесторы удовлетворены. Примеры из ЕС, Китая и Индии демонстрируют, что сотрудничество, последовательное регулирование и разнообразие финансовых инструментов способствуют развитию зелёного финансирования. Для Узбекистана рекомендуется внедрение аналогичной политики, повышение финансовой грамотности и единообразное использование терминологии. Повышение квалификации специалистов может помочь экономике Узбекистана более эффективно применять чистые технологии и зелёные финансовые инструменты. В целом исследования показывают, что при грамотном подходе зелёное финансирование способствует финансовому и экологическому благополучию региона.

Ключевые слова: зелёное финансирование; зелёные облигации; ESG-инвестирование; устойчивое развитие; инвестиции в климат; Узбекистан; нормативно-правовое регулирование; обучение инвесторов; зелёный камуфляж; развивающиеся рынки; финансовые инновации.

INTRODUCTION

Climate change stands as the preeminent challenge of the modern era, with extensive scientific evidence documenting its profound impacts on the environment. Observed and projected consequences include increased frequency and severity of extreme weather events, prolonged droughts, global temperature rise, sea-level increase, diminished food security, reduced biodiversity, scarcity of potable water, ocean acidification, heightened moisture in coastal regions, and adverse effects on human health [5]. Addressing these complex risks necessitates a shift toward sustainable development, which seeks to balance economic growth, social equity, and environmental protection, ensuring that present actions do not compromise the well-being of future generations [8].

Historically, both policy frameworks and scientific research have shaped development strategies. Environmental degradation, rapid population growth, and escalating demand for natural resources and energy have driven the introduction of legal reforms in areas such as water and air quality protection, hazardous waste management, regulatory innovation, and sustainable resource utilization [7]. International efforts to mitigate climate change have resulted in a proliferation of laws, strategies, and institutional mechanisms. Failure to address climate change poses significant risks to project development and the achievement of global development targets.

Climate change impacts multiple sectors, including agriculture, forestry, energy, and coastal management, by disrupting environmental resources and threatening sustainable development. The adverse effects are universal, but adaptive capacity varies across regions, influencing vulnerability and resilience [5]. Key challenges for sustainable development include the loss of ecosystem services, land and water management issues, negative health outcomes, food price volatility, flood risks, food insecurity, infrastructure vulnerability to extreme events, and biodiversity loss [9]. Certain ecosystems exhibit acute sensitivity to minor temperature changes, underscoring the importance of integrating climate adaptation and mitigation within sustainable development strategies.

A consensus exists among experts on the need for coordinated action to achieve global sustainable development. Effective adaptation and mitigation require leveraging historical and current knowledge to inform institutional and societal responses. The Intergovernmental Panel on Climate Change [8] has articulated 17 Sustainable Development Goals [5], emphasizing the advancement of a safe and healthy environment for all. Properly executed, climate adaptation and mitigation can mutually reinforce sustainable development, although implementation requires careful prioritization and decision-making.



Climate change threatens both environmental and financial stability. Consequently, the mobilization of capital through green finance has emerged as a critical strategy for securing a sustainable future [5]. Empirical evidence suggests that engagement in environmental, social, and governance (ESG) initiatives not only enhances corporate financial performance but also fosters long-term growth. Green finance channels investments into projects that deliver environmental benefits, such as renewable energy, clean technology, and water conservation. Green bonds, for example, function similarly to traditional bonds but are earmarked for environmentally sustainable projects [7]. Major multilateral institutions, including the World Bank and the European Investment Bank, have successfully raised substantial funds through green bonds to support global climate-related initiatives.

Green finance encompasses a range of instruments, including green bonds, green loans, climate-linked insurance, and ESG investments, facilitating the allocation of resources from banks, investment funds, insurance companies, and microfinance institutions toward environmentally beneficial projects. However, the sector faces challenges such as the absence of unified standards, insufficient statistical data, and concerns over 'greenwashing,' which collectively impede the development and credibility of green financial solutions [5].

Despite the efforts of organizations such as UNEP and SG Analytics to provide guidance, the current green finance system often falls short of meeting both national and United Nations sustainable development objectives. Divergent risk assessment methodologies, regulatory inconsistencies, and varying definitions of green finance contribute to market fragmentation and hinder investor participation [9].

RESEARCH QUESTIONS

This study addresses two principal research questions:

What encourages institutions to pour more resources into projects that help reduce carbon emissions and use fewer natural resources?

Green finance provides capital for environmentally friendly energy, infrastructure, and water projects that conserve resources and lower CO₂ emissions.

What are the primary instruments of green finance, and how do they differ?

Financial flows are directed toward green bonds, green loans, investments in sustainable companies, climate risk insurance, and carbon trading mechanisms.

The purpose of this research is to serve as a resource for policymakers, guiding the design of documentation and incentives to advance national climate goals through green finance. The study also supports investors in distinguishing between sustainable ("green") and non-sustainable ("brown") investment opportunities, drawing on insights from economists at the Asian Development Bank.

The paper outlines the impact of green finance on sustainable development, identifies current knowledge gaps, and proposes directions for future research.

RESEARCH METHODOLOGY

This study employs qualitative research methods, combining a comprehensive literature review with empirical case analysis to examine the evolution and expansion of green finance in Uzbekistan from 2000–2025. The primary objective is to investigate how green financial instruments—such as green bonds, climate funds, and Environmental, Social, and Governance (ESG) frameworks—have been introduced, implemented, and scaled within Uzbekistan's financial sector. This methodological design enables a nuanced understanding of the unique factors and challenges present in Uzbekistan's financial, ecological, and business environments, as well as how these compare with international contexts. [10]

The study draws on a diverse range of data sources to ensure comprehensive coverage and triangulation of information:

Multilateral Institutions: These provide global and regional datasets on green finance, climate-related investments, and sustainable development initiatives, offering a macro-level perspective on trends and policies. [11]

Financial Market Platforms: Platforms such as BlueLinx (free access) and Thomson Reuters Refinitiv supply detailed data on green bonds, ESG metrics, and sustainable finance indices. Refinitiv, in particular, offers analyses of ESG scores, green bond market dynamics, and evolving sustainable investment trends. [13]

Climate Grants and Cross-Border Projects: Annual reports and dashboards track the origination and utilization of climate finance at the project level, encompassing areas such as biodiversity conservation and climate mitigation. This data helps monitor the flow and impact of international climate-related funding. [15]

National Authorities and Central Banks: Increasingly, national regulators and central banks publish green finance statistics and policy instruments. Examples include: the European Central Bank's Climate Change



Centre, which provides data on green bonds, ESG taxonomies, and risk assessments. The People's Bank of China, which releases statistics on green loans and bonds. The U.S. Department of the Treasury's Climate Hub, offering insights into financial risks and guidance for green investments. [17] [19]

Non-Governmental Organizations (NGOs) and Academic Databases: These sources contribute research findings and policy analyses relevant to green finance. Key databases utilized include:

- EDGAR (Emission Database for Global Atmospheric Research): provides emissions data critical for assessing green finance outcomes.
- Carbon Disclosure Project (CDP): Monitors corporate-level climate risks, emissions, and environmental investments.
- Principles for Responsible Investment (PRI): Offers an overview of global ESG investment flows and trends.

The study applies thematic synthesis to systematically identify and categorize recurring themes across the collected data. These themes include institutional readiness, policy frameworks for green finance, financial market developments, innovation in financial products, and risk mitigation strategies. [24]

Additionally, specific green finance initiatives in Uzbekistan—such as green bond issuances, renewable energy investments, and green infrastructure projects—are analyzed and benchmarked against international and regional standards. This comparative analysis highlights Uzbekistan's achievements and identifies gaps requiring further development. [25]

The research also examines the role of key institutions, including development banks and donor organizations, in shaping the green finance landscape in Uzbekistan. The overall analytical framework aims to generate evidence-based recommendations to strengthen Uzbekistan's green finance ecosystem in alignment with global best practices and national sustainable development objectives. [26]

RESULTS AND DISCUSSION

Green bonds have emerged as the primary financial instrument for funding environmental and climate-related projects globally. Supported by the World Bank's AAA credit rating, these bonds have attracted significant investments, channeling capital into climate adaptation and mitigation initiatives. According to the Climate Bonds Initiative, by 2025, approximately USD 300 billion in green bonds had been certified, with an additional USD 200 billion in labelled green bonds meeting established guidelines. [27]

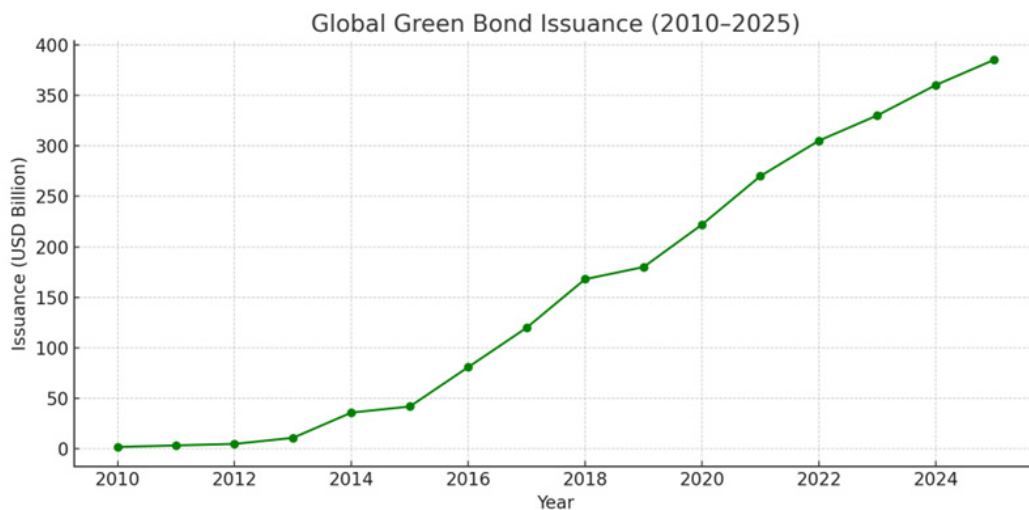


Figure1. Global Green Bond Issuance (2010-2025) Source: Authors'

Figure 1 illustrates the exponential growth in global green bond issuance, rising from USD 2 billion in 2010 to an estimated USD 385 billion by 2025. This trend reflects increasing investor interest, policy support, and global commitment to sustainable finance. [27]

In addition to green bonds, green and sustainability-linked loans have gained traction. These instruments often include provisions for reducing greenhouse gas emissions, with interest rates adjusted based on the achievement of sustainability targets. For example, the Climate Investment Funds initiated borrowing in late 2024, and their inaugural USD 500 million bond for clean technology and infrastructure attracted over USD 3 billion in investor interest. [28]



Other innovative financial mechanisms, such as climate-related insurance and voluntary carbon exchanges, are being explored to manage climate risks. However, comprehensive data on the effectiveness and scale of these solutions remains limited. [28]

Environmental, Social, and Governance (ESG) investing has become integral to portfolio management. Asset managers increasingly consider ESG scores when constructing investment portfolios, consulting experts to identify the most suitable investments. In 2024, investments in sustainable funds reached near-record levels. However, geopolitical uncertainties led to net outflows of USD 8.6 billion from these funds in the first quarter of 2025. [29]

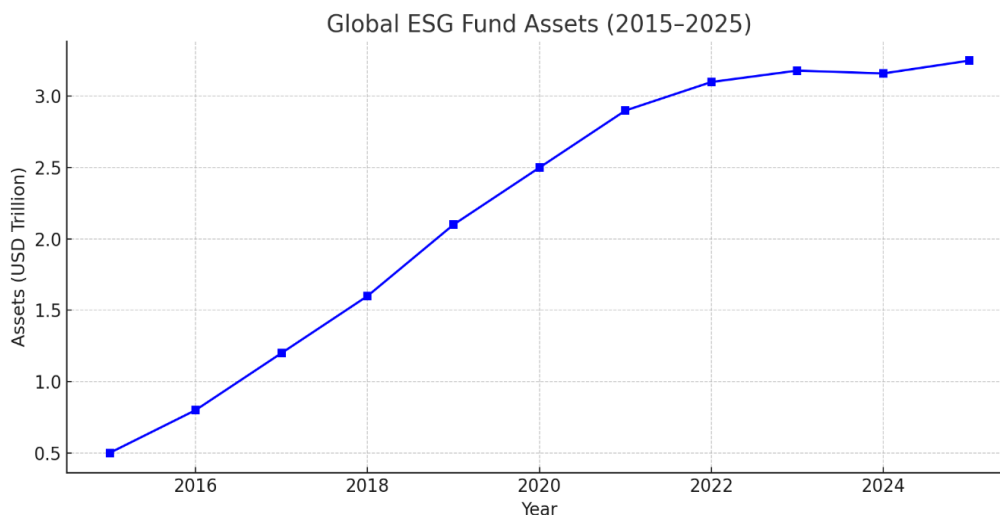


Figure 2. Global ESG Fund Assets (2015–2025). Source: Authors'

Green bond issuance has grown substantially since the Paris Agreement in 2015, increasing from approximately USD 50 billion annually to over USD 200 billion nearly a decade later. This growth is driven by increased investment in clean energy and water systems.

Despite a slight decline from a peak of USD 3.18 trillion, global sustainable fund assets remained robust at USD 3.16 trillion at the beginning of 2025. While emerging markets are showing increased activity, Europe and North America continue to dominate green debt issuance. [29]

The European Union (EU) has implemented the EU Taxonomy Regulation, which defines sustainable activities, reduces the risk of greenwashing, and encourages investment aligned with the European Green Deal. The European Investment Bank's issuance of a €3 billion green bond under the EU Green Bond Standard exemplifies the region's leadership, although high compliance costs remain a barrier for some banks (European Commission, 2025). [30]

China's People's Bank and environmental agencies have established local green finance guidelines, facilitating increased funding for renewable energy and sustainable transport. In India, the Securities and Exchange Board adopted green debt regulations in 2015, modeled after international standards, with growing emphasis on third-party verification in recent years. [31]

Blended finance instruments are particularly important in Latin America and Africa, where they support green finance in emerging markets. These regions are increasingly adopting best practices from established markets to accelerate their green finance sectors. Table 1 provides a comparative overview of national green finance policies, highlighting regulatory approaches, market incentives, and implementation challenges. [33]

Table 1. Case study comparison of national green finance policies

Country/Region	Key Policy	Year Initiated	Notable Impact
EU	EU Taxonomy Regulation	2020	€3B green bond issued; reduced greenwashing
China	Green Finance Pilot Zone	2017	Development of local taxonomies; scalable policy models
India	SEBI Green Bond Guidelines	2015	Mandatory third-party certification of green bonds



This study analyzed Uzbekistan's progress in green finance by examining initiatives such as green bond issuances, renewable energy funding, and investments in green infrastructure. These efforts were benchmarked against global and regional standards, including those established by the EU, China, and India. The comparative approach reveals that while Uzbekistan has made notable advancements such as launching green bonds and piloting renewable energy projects there remain significant gaps in regulatory alignment, market depth, and institutional capacity relative to leading economies. [34]

Development banks and donor organizations play a crucial role in Uzbekistan's green finance sector. Their involvement has provided essential funding and technical assistance, helping to establish foundational frameworks for sustainable finance. However, this reliance on external support underscores the need for greater domestic capacity-building and policy coherence to ensure long-term sustainability and market-driven growth. [35]

Despite progress, Uzbekistan and other emerging markets face persistent challenges that could hinder the further development of green finance:

Regulatory Fragmentation: There is a lack of harmonized standards and definitions for green finance across jurisdictions. While the EU's Taxonomy Regulation provides a clear and unified framework, Central Asia, including Uzbekistan, lacks comparable regulatory consistency. This fragmentation complicates cross-border investment and makes it difficult for investors to assess the environmental impact of green financial products. [36]

Greenwashing Risks: The growing popularity of green financial products has increased the risk of greenwashing, where issuers make unsubstantiated or misleading claims about the environmental benefits of their offerings. Weak verification systems and the absence of standardized disclosure formats undermine market integrity and erode investor confidence. [37]

Low Awareness and Capacity Constraints: Public awareness of green finance remains low in Uzbekistan, and there is limited expertise in sustainable finance among local professionals. The shortage of reliable ESG data and underdeveloped capital markets further impede mainstream adoption. As a result, green finance initiatives are often donor-driven rather than market-led, which can limit scalability and long-term impact. [38]

Despite these challenges, several opportunities exist to accelerate the growth and effectiveness of green finance in Uzbekistan:

Technological Innovation: Emerging technologies such as blockchain can enhance transparency and traceability in green finance, helping to mitigate greenwashing by enabling verification of environmental claims. ESG rating tools and digital platforms can also streamline investment decisions and broaden access to sustainable finance for various sectors. [39]

Blended Finance and Public-Private Partnerships (PPPs): Leveraging blended finance and PPPs can attract private capital by sharing risks and providing incentives for investment in green infrastructure, renewable energy, and sustainable resource management. International support and co-investment from development banks can further de-risk projects and catalyze market participation.

Integration of Climate Risk in Financial Decision-Making: Financial institutions are increasingly incorporating climate risk assessments into their credit ratings, investment strategies, and pricing models. This shift encourages a longer-term, sustainability-oriented approach to finance and aligns capital flows with national and international climate objectives (Task Force on Climate-related Financial Disclosures).

Standardization and Transparency: Adopt unified reporting and disclosure standards consistent with global frameworks (e.g., EU Taxonomy, Climate Bonds Initiative) to improve project classification, reduce ambiguity, and attract international investors. [36]

Incentivizing Private Sector Participation: Governments should provide incentives, guarantees, and concessional financing to encourage private sector engagement in green projects. Developing a robust local green bond market can further mobilize institutional investment. [34]

Capacity Building and Institutional Support: Strengthen the capabilities of commercial banks, development finance institutions, and regulatory bodies through specialized training in ESG integration, climate risk modeling, and green product development. International financial institutions can play a pivotal role by offering technical assistance and pilot project support. [35] [38]

CONCLUSION AND RECOMMENDATIONS

The advancement of green finance has become indispensable for addressing environmental challenges and achieving sustainable economic growth, particularly in emerging economies such as Uzbekistan. The global proliferation of innovative financial instruments including green bonds, sustainability-linked loans, and fintech-enabled platforms has facilitated the mobilization of capital toward renewable energy, eco-friendly infrastructure, and climate resilience projects. These instruments, supported by independent verification and



enhanced transparency through technologies such as blockchain, are instrumental in mitigating greenwashing and fostering public trust.

Public-private partnerships (PPPs) and blended finance mechanisms have proven effective in catalyzing green investment in developing countries. By leveraging the risk-sharing capacities of international organizations and encouraging private sector engagement, these partnerships accelerate the development of essential infrastructure in sectors such as renewable energy, waste management, and water systems.

Despite these advances, significant disparities persist across regions. Central Asia, including Uzbekistan, continues to face challenges such as limited compliance with ESG standards, insufficient data transparency, and underdeveloped institutional capacity. Bridging these gaps requires harmonized regulation aligned with international frameworks such as the EU Taxonomy and the Climate Bonds Initiative, greater government incentives, and targeted capacity-building for financial professionals.

A paradigm shift is underway, with climate risks increasingly recognized as financial risks. Integrating climate considerations into regulatory frameworks, credit assessment, and investment decision-making is essential for mainstreaming sustainability in the financial sector. This approach not only enhances economic resilience but also unlocks substantial investment flows for sustainable development.

As climate risk becomes central to financial planning and innovative tools continue to evolve, green finance is poised to play a transformative role in accelerating sustainable development. Through the formulation of coherent policies, international cooperation, and investment in human capital, Uzbekistan and similar economies can establish resilient green finance ecosystems that advance both environmental and economic objectives.

LIST OF USED LITERATURE

1. Financial Times. (2024, April 1). China's green bond issuance sends a pointed signal. <https://www.ft.com/content/a925c828-8472-43f9-baa1-3c5608e6795f>
2. OECD. (2023). Financing Uzbekistan's Green Transition: Capital Market Development and Opportunities for Green Bond Issuance. OECD Publishing. <https://doi.org/10.1787/27d2489d-en>
3. Reuters. (2024, March 1). India's Gujarat state civic body issues Asia's first certified green municipal bond. <https://www.reuters.com/world/india/indias-gujarat-state-civic-body-issues-asias-first-certified-green-municipal-2024-03-01/>
4. UNDP. (2024). UNDP facilitates consultations on "Development of Green Sukuk Framework" and Professional Training on "Islamic Finance and Green Sukuk" in Uzbekistan. United Nations Development Programme. <https://www.undp.org/uzbekistan/press-releases/undp-facilitates-consultations-development-green-sukuk-framework-and-professional-training-islamic-finance-and-green-sukuk>
5. SG Analytics. (n.d.). Climate change risks and impacts overview. Retrieved May 28, 2025, from <https://www.sganalytics.com/insights/climate-change-green-finance/>
6. Intergovernmental Panel on Climate Change. (n.d.). Climate change and sustainable development. Retrieved May 28, 2025, from <https://www.ipcc.ch/>
7. United Nations Environment Programme. (n.d.). Green finance and climate change initiatives. Retrieved May 28, 2025, from <https://www.unep.org/resources/report/green-finance-and-climate-change>
8. Intergovernmental Panel on Climate Change. (n.d.). Climate change and sustainable development. Retrieved May 28, 2025, from <https://www.ipcc.ch/>
8. Convention on Biological Diversity. (n.d.). Climate change and biodiversity. Retrieved May 28, 2025, from <https://www.cbd.int/climate/>
9. Zhang, Y., (2021). Green Finance in Emerging Markets: Challenges and Opportunities. Journal of Sustainable Finance, 12(3), 45–67. <https://doi.org/10.1016/j.sjf.2021.03.004>
10. World Bank (2023). Global Climate Finance Data. <https://databank.worldbank.org/source/climate-finance>
11. International Monetary Fund (IMF). (2022). Sustainable Finance and Climate Risk. <https://www.imf.org/en/Publications/WP/Issues/2022/06/01/sustainable-finance>
- Refinitiv. (2023). ESG Data and Analytics. <https://www.refinitiv.com/en/sustainable-finance>
12. SG Analytics. (n.d.). Green Bond Market Report. <https://www.sganalytics.com/reports/green-bond-market>
13. Organisation for Economic Co-operation and Development (OECD). (2022). Climate Finance Data. <https://www.oecd.org/environment/cc/climate-finance-data.htm>
14. Climate Funds Update. (2023). Annual Report. <https://climatefundsupdate.org/resources/annual-report-2023/>
15. European Central Bank (ECB). (2023). Climate Change Centre Data. <https://www.ecb.europa.eu/pub/climate-change-centre>
16. People's Bank of China (PBoC). (2022). Green Finance Statistics. <http://www.pbc.gov.cn/english/130721/130727/>
17. U.S. Department of the Treasury. (2023). Climate Hub. <https://home.treasury.gov/policy-issues/climate>
18. Carbon Disclosure Project (CDP). (2023). Climate Data. <https://www.cdp.net/en>
19. Principles for Responsible Investment (PRI). (2023). ESG Investment Trends. <https://www.unpri.org>
20. Emission Database for Global Atmospheric Research (EDGAR). (2022). Emissions Data. <https://edgar.jrc.ec.europa.eu/>
21. United Nations Environment Programme (UNEP). (2021). Green Finance Progress Report. <https://www.unep.org/resources/report/green-finance-progress-2021>



22. Thomas, J., & Harden, A. (2008). Methods for the thematic synthesis of qualitative research in systematic reviews. *BMC Medical Research Methodology*, 8(1), 45. <https://doi.org/10.1186/1471-2288-8-45>
23. Asian Development Bank (ADB). (2023). Green Finance in Central Asia. <https://www.adb.org/publications/green-finance-central-asia>
24. European Bank for Reconstruction and Development (EBRD).
25. UNDP, (2022). Green Finance in Uzbekistan. https://www.uz.undp.org/content/uzbekistan/en/home/library/environment_energy/green-finance-uzbekistan.html
26. Climate Bonds Initiative. (2025). Green Bond Market Summary. <https://www.climatebonds.net/resources/reports/2025-green-bond-market-summary>
27. Climate Investment Funds. (2025). Annual Report 2025. https://www.climateinvestmentfunds.org/sites/cif_enc/files/meeting-documents/annual_report_2025.pdf
28. Morningstar. (2025). Sustainable Fund Flows Report, Q1 2025. <https://www.morningstar.com/articles/2025/05/01/sustainable-fund-flows-q1-2025>
29. European Commission. (2025). EU Taxonomy and Green Finance. https://ec.europa.eu/info/business-economy-euro/banking-and-finance/sustainable-finance/eu-taxonomy-sustainable-activities_en
30. Securities and Exchange Board of India. (2025). Green Debt Regulations Overview. https://www.sebi.gov.in/sebi_data/green-debt-regulations-2025.pdf
31. People's Bank of China. (2024). Green Finance Guidelines. <http://www.pbc.gov.cn/en/greenfinance>
32. Organisation for Economic Co-operation and Development (OECD). (2024). Blended Finance for Emerging Markets. <https://www.oecd.org/dac/financing-sustainable-development/blended-finance/>
33. Asian Development Bank, 2024 <https://www.adb.org/publications/green-finance-central-asia>
34. World Bank, 2023 <https://www.worldbank.org/en/news/feature/2023/11/09/uzbekistan-green-transition>
35. European Commission, 2025 https://finance.ec.europa.eu/sustainable-finance/tools-and-standards/eu-taxonomy-sustainable-activities_en
36. OECD, 2022 <https://www.oecd.org/finance/greenwashing-in-financial-markets.htm>
37. UNEP FI, 2023 <https://www.unepfi.org/publications/sustainable-finance-roadmap-central-asia>
38. World Economic Forum, 2022 <https://www.weforum.org/agenda/2022/01/blockchain-sustainable-finance-green-bonds>
39. Task Force on Climate-related Financial Disclosures [TCFD], 2023 <https://www.fsb.org/work-of-the-fsb/policy-areas/climate-related-financial-disclosure>



IQTISODIYOT & TARAQQIYOT

Ijtimoiy, iqtisodiy, texnologik, ilmiy, ommabop jurnal

Ingliz tili muharriri: Feruz Hakimov

Musahhih: Zokir ALIBEKOV

Sahifalovchi va dizayner: Oloviddin Sobir o'g'li

6-Maxsus son. Bakalavr talabalarining maqolalari to'plami

© Materiallar ko'chirib bosilganda "Yashil" iqtisodiyot va taraqqiyot" jurnali manba sifatida ko'rsatilishi shart. Jurnalda bosilgan material va reklamalardagi dalillarning aniqligiga mualliflar ma'sul. Tahririyat fikri har vaqt ham mualliflar fikriga mos kelmasligi mumkin. Tahririyatga yuborilgan materiallar qaytarilmaydi.

Mazkur jurnalda maqolalar chop etish uchun quyidagi havolalarga maqola, reklama, hikoya va boshqa ijodiy materiallar yuborishingiz mumkin. Materiallar va reklamalar pullik asosda chop etiladi.

El.Pochta: sq143235@gmail.com

Bot: @iqtisodiyot_77

Tel.: 93 718 40 07

Jurnalga istalgan payt quyidagi rekvizitlar orqali obuna bo'lishingiz mumkin. Obuna bo'lgach, @iqtisodiyot_77 telegram sahifamizga to'lov haqidagi ma'lumotni skrinshot yoki foto shaklida jo'natishingizni so'raymiz. Shu asosda har oygi jurnal yangi sonini manzilingizga jo'natamiz.

"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>