



STRATEGIES FOR DEVELOPING GREEN FINANCIAL INSTRUMENTS IN THE UZBEKISTAN ECONOMY



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Abstract:

The article studies the views of leading scientists from around the world on strategies for developing green financial instruments in the economy of Uzbekistan, analyzes the main types of green financial instruments and their functions, develops the stages of the strategy for developing green financial instruments in Uzbekistan based on international standards, develops proposals on the topic, and gives recommendations for their application in our country.

Keywords: Green economy, green sukuk, environmental insurance, sustainable development, renewable energy, green energy, energy efficiency, green bonds, green financing, savings, innovative technology, investment

INTRODUCTION.

Today, global problems such as climate change, environmental problems, and depletion of natural resources are among the most pressing issues facing humanity. Therefore, countries around the world are working to transition to a sustainable and environmentally friendly economy, develop green technologies, and reduce the negative impact on the environment. Green financial instruments play an important role in this process, serving to ensure balanced economic growth and environmental sustainability.

In recent years, the Republic of Uzbekistan has consistently followed the path of deepening economic reforms, improving market mechanisms, and strengthening international integration and is also developing a strategy for developing a green economy in line with global trends. In particular, the "Strategy for Transition to a Green Economy" adopted in 2019 and the Investment Policy Concept for 2021-2025 pay special attention to the introduction of green financing mechanisms [1]. However, currently, the level of development of green financial instruments in our country is not yet at the required level, and there is a need to form systematic strategic approaches in this direction.

The specific characteristics of the Uzbek economy, including the low share of renewable energy sources in the energy sector, limited water resources, desertification problems, and the dominance of traditional methods in agriculture, make the development of green financial instruments even more

urgent. Because these instruments create opportunities not only to solve environmental problems but also to increase economic efficiency, create new jobs, and increase the competitiveness of the national economy. Also, the growing interest of international financial institutions and investors in green projects indicates the need to develop an effective strategy in this direction.

The volume of green bonds, green loans, climate bonds, and other green financial instruments in global financial markets is growing year by year. According to the Climate Bonds Initiative, the global green bond market will exceed \$500 billion by 2023 [2]. This trend also presents significant opportunities for Uzbekistan, as the country has enormous potential in the field of green economy with its natural resources, geographical location, and young population. The role of the strategy for developing green financial instruments in Uzbekistan is critical in order to gain leadership in green finance in the Central Asian region, produce products and services that meet international environmental standards, and find its place in global green value chains [3].

Thus, the strategy for developing green financial instruments in the Uzbek economy is gaining importance not only in terms of improving the environmental situation but also in terms of accelerating economic transformation processes, integrating into international markets, and ensuring sustainable development. Through the effective implementation of this strategy, our country can achieve the creation of a healthy and sustainable



economic and environmental environment for future generations. This clearly demonstrates how urgent the topic is.

LITERATURE REVIEW.

In the process of analyzing the literature on the topic, several leading economists and experts from the world have conducted scientific research on strategies for developing green financial instruments in the Uzbek economy. Uzbek economist M.Kh. Saidov, in his study "Green Financing: New Opportunities for Uzbekistan," emphasizes that the development of green financial instruments is of great importance for Uzbekistan not only from an environmental perspective but also from an economic perspective. According to the scientist, "it is necessary to form a national green bond market to finance green projects in the Uzbek economy, such as renewable energy, energy efficiency, and water resources management"[4].

Professor G.A.Kasimova, in her scientific work, emphasizes the role of public-private partnership mechanisms in the introduction of green financial instruments: "The development of innovative models of public-private sector cooperation in financing green projects can lead to the effective development of green financial instruments in our country"[5].

International expert and economist William Thompson, in his book "Green Finance in Transition Economies," states, "The formation of a green bond market in Uzbekistan creates an opportunity to attract not only domestic but also international investors. However, this requires the creation of clear standards, certification systems, and financial incentive mechanisms by the government." [6]

Doctor of Economics B.T.Baykhonov believes that "in order to develop green financing instruments in Uzbekistan, it is first necessary to improve the financial market infrastructure, strengthen institutional capacity, and bring the legal and regulatory framework into line with international standards"[7].

Professor Miyuki Tanaka, in her study "Green Finance Opportunities in Central Asia," concluded: "Uzbekistan has the potential to become a leader in green financing in the Central Asian region. To do this, it is necessary to redirect banks to green lending, introduce tax incentives for green bonds, and adopt advanced international experience"[8].

Uzbek economist Sh.A.Yuldoshev states in his research, "The development of green financing instruments will serve to fulfill the country's global climate commitments, increase energy efficiency, and diversify the economy. However, this requires strengthening the potential of central and commercial

banks, encouraging companies to implement green projects, and increasing the financial literacy of the population." [9] Economist Elena Romanova states in her research, "In developing a green financing strategy in Uzbekistan, regional characteristics and the country's needs should be taken into account. Renewable energy, water resources management, and the introduction of innovative technologies in agriculture should be priority areas for green financing"[10].

Uzbek academician F.Kh. Nazarov concludes in his research, "The introduction of green financial instruments is one of the most important factors in ensuring sustainable economic growth in Uzbekistan. Financing green investment projects can increase the competitiveness of the country's economy, create new jobs, and ensure environmental sustainability"[11].

Richard Lee, an expert at the Institute of International Finance, states in his research, "Uzbekistan has great potential in the field of green financing, especially in areas such as projects for the transition to renewable energy sources, energy efficiency, and the introduction of green technologies in agriculture. However, the country needs to improve the system for assessing and monitoring green projects"[12].

Professor Ahmad Khan in his research states, "The most effective strategy for introducing green financial instruments for Uzbekistan is a phased approach, first forming the market through large state-owned companies and banks and then expanding private sector participation. Strengthening cooperation with international financial institutions plays an important role in this process"[13].

RESEARCH METHODOLOGY.

Economic research methods such as analysis of research conducted by world scientists on strategies for developing green financial instruments in the economy of Uzbekistan, collection of all information on the topic, comparison, and logical thinking were used.

ANALYSIS AND DISCUSSION OF RESULTS.

The strategy for the development of green financial instruments in the economy of Uzbekistan is a comprehensive approach aimed at ensuring the country's transition to a sustainable and environmentally friendly economy. The main goal of the strategy is to create the necessary mechanisms for financing environmentally friendly and resource-efficient projects, improve the institutional and legal framework, and integrate into international green financial markets. The implementation of the strategy will expand the possibilities for financing projects in



Uzbekistan aimed at reducing the negative consequences of climate change, developing renewable energy sources, rational use of natural resources, and ensuring environmental sustainability. This, in turn, will also lead to multifaceted positive results, such as economic growth, creating new jobs, and improving the living standards of the population.

The first priority area of the strategy is the creation of the necessary institutional and legal framework for green financing. Within the framework of this direction, it is planned to develop systems for identifying, assessing, and certifying green projects in Uzbekistan in accordance with international standards; create a national taxonomy of green financial instruments and improve the regulatory framework for green bonds and loans. It is also important to standardize reporting by financial market participants on green financial instruments, introduce requirements for companies to disclose information on environmental, social, and corporate governance (ESG) criteria, and create mechanisms for monitoring these processes. The establishment of institutional structures (for example, the Green Finance Council) regulating green financial instruments will contribute to the effective implementation of the strategy

The second important direction of the strategy is to diversify the types of green financial instruments and their implementation in the market. This includes the active introduction of green bonds, green loans, green mortgages, climate bonds, sustainable development bonds, environmental funds, green investment funds, green sukuk, and other innovative instruments in the financial market. Especially in the conditions of Uzbekistan, it is important to develop special instruments to finance projects in areas such as renewable energy sources, efficient use of water resources, green technologies in agriculture, energy efficiency, and waste recycling. This direction involves the development of various innovative models of public-private partnership, improving mechanisms for attracting risk capital, and diversifying methods of financing startup projects.

The third direction includes the creation of mechanisms for the state to encourage green financial instruments. This includes tax incentives (tax deductions for green bond income, tax credits for green investments), state subsidies, guarantees, insurance mechanisms, and other financial incentives. The creation of preferential conditions for green financing by the central bank and financial regulators (for example, reducing reserve requirements for green loans, providing preferential loans to banks financing green projects) is also important. The introduction of

the principles of "green budgeting" in state budget expenditures, the use of environmental criteria in public procurement, and the implementation of special state programs for enterprises implementing green technologies are also important elements of this direction.

The fourth direction is aimed at developing human resources in the field of green financing and increasing financial literacy among the population and business representatives. Within the framework of this direction, it is envisaged to introduce special training programs on green financing in higher educational institutions, organize advanced training courses for financial sector employees, and introduce international certification programs. It is also important to inform the population about green financial instruments, conduct explanatory work on their advantages and possibilities of use, and conduct practical seminars and trainings to attract business entities to finance green projects. Studying and adapting international best practices in the field of green financing to local conditions, strengthening scientific research in the field, and allocating state grants to them are also important parts of this direction.

The fifth direction is aimed at developing international cooperation and integration into global green finance markets. This direction envisages strengthening cooperation with international financial institutions (World Bank, Asian Development Bank, Green Climate Fund, etc.), using their technical assistance programs, and developing mechanisms for co-financing green projects. Ensuring Uzbekistan's participation in the global green bond and other green financial instrument markets, entering international green finance indices, becoming a member of international organizations and associations in the field of green finance, and actively cooperating with them are also of strategic importance. At the regional level, strengthening cooperation with Central Asian countries in the field of green finance, implementing joint green projects, and creating mechanisms for exchanging experiences are important directions. Introducing international green finance standards into local practice and adapting them to the conditions of Uzbekistan is also one of the important tasks within the framework of international cooperation.

The sixth direction is aimed at creating a system for monitoring and evaluating the results achieved through green finance. This direction includes the development of a methodology for assessing the environmental, economic, and social effectiveness of projects financed through green financial instruments; the identification and regular monitoring of key



indicators of the green financing strategy; and the creation of mechanisms for preparing regular reports on the development of green financial instruments and their impact on the economy. It is also important to assess the effectiveness of reforms in the field of green financing and, if necessary, make changes to

the strategy, identify best practices, and create mechanisms for their widespread dissemination. The creation of a national rating system for green financing and its harmonization with international rating systems is also an important part of this direction.

Table 1

Main types of green financial instruments and their functions¹

№	Financial instrument	Task	Potential area of use
1	Green bonds	Debt securities issued to finance specific environmental projects	Renewable energy, energy efficiency projects, water resources management
2	Green loans	Soft loans aimed at financing environmental projects	Implementation of green technologies by small and medium-sized businesses, environmental projects on farms
3	Climate bonds	Special bonds issued for climate change adaptation and prevention	Climate-resilient infrastructure, carbon capture technologies
4	Sustainability bonds	Financing projects linked to the UN Sustainable Development Goals	Socio-ecological projects, environmental projects in the field of education and healthcare
5	Green mortgages	Preferential mortgage loan for the purchase of energy-efficient homes	Construction of energy-efficient residential buildings, eco-houses
6	Green sukuk	Sharia-compliant financing of environmental projects	Green projects that comply with the principles of Islamic finance
7	Green investment funds	Investment funds focused on environmental projects	Innovative projects in the field of green technologies
8	Environmental insurance	Environmental risk insurance mechanisms	Agriculture, climate risks, natural disasters

¹ Prepared by the author.



Green financial instruments are becoming an important part of the global economy and financial system. These instruments are aimed at financing projects necessary to solve environmental problems, combat climate change, and ensure sustainable development. Their main tasks are to redirect financial resources from traditional sectors to green projects, stimulate the efficient use of resources, and ensure the introduction of environmentally friendly technologies. The development of green financial instruments in the economy of Uzbekistan creates opportunities for diversifying the country's economy, ensuring energy security, and complying with international environmental standards. On the one hand, green financial instruments perform the function of mobilizing and attracting financial resources, and on the other hand, they also serve as a mechanism for controlling their allocation to environmental goals.

The most common type of green financial instrument is green bonds, which are debt securities issued to finance specific environmental projects. Green bonds allow issuers (states or companies) to attract funds from investors to finance long-term environmental projects. These bonds are directed to renewable energy, energy efficiency projects, water resources management, waste recycling, and other environmentally important projects. Green loans are loans provided on preferential terms to companies implementing green projects, small and medium-sized businesses, and farms, which are aimed at introducing green technologies, increasing energy efficiency, and

organizing the production of environmentally friendly products. Another important instrument is climate bonds, which are issued mainly to adapt to and prevent climate change and are directed to areas such as climate-resilient infrastructure and carbon capture technologies.

The system of green financial instruments also includes various instruments such as sustainable development bonds, green mortgages, green sukuk, green investment funds, and environmental insurance. Sustainable development bonds are designed to finance projects linked to the UN Sustainable Development Goals and cover socio-environmental projects and environmental projects in the fields of education and health. Green mortgages serve as preferential mortgage loans for the purchase of energy-efficient houses. Green sukuk are securities issued to finance green projects that comply with the principles of Islamic financing, which are an effective tool for financing green projects in Muslim countries and other countries that have adopted the principles of Islamic financing. Green investment funds are special investment funds focused on innovative projects in the field of green technologies, which create favorable opportunities for investors who want to form a diversified portfolio and invest in the green sector. Environmental insurance mechanisms, on the other hand, reduce risks associated with agriculture, climate risks, and natural disasters by insuring environmental risks and providing a reliable protection mechanism for green projects.

Table 2

Stages of Uzbekistan's strategy for developing green financial instruments²

Stage	Time interval	Main tasks	Expected results
I stage	2025-2027	Creating a legal and regulatory framework Developing a national taxonomy Forming institutional foundations Implementing pilot projects	Green Finance Legislative Framework National Green Project Assessment Standards Establishment of the Green Finance Council First Green Bond Issue
II stage	2028-2030	Expanding the range of financial instruments Introducing state incentive mechanisms Engaging the private sector Strengthening international cooperation	Development of the green bond market Increase in the share of green loans to 15% Enter the international green bond market 30% share of the private sector
III stage	2031-2035	Introducing innovative financial instruments Achieving regional leadership	The share of total green financing instruments in GDP is 5% Leading position in Central Asia

² Prepared by the author.



		Full integration into the global green finance market Achieving sustainable development goals	High position in global green finance indices Share of green projects in the energy sector is 40%
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The strategy for the development of green financial instruments in Uzbekistan is designed for the long term and is planned to be implemented in several stages. The first stage (2025-2027) is mainly aimed at forming an institutional and legal and regulatory framework and implementing pilot projects. During this period, important tasks such as creating a legislative framework for green financing, developing a national taxonomy, and introducing national standards for assessing green projects will be implemented. In particular, regulatory and legal documents such as the Law "On Green Financing," "Standards for the Issuance of Green Bonds," and "Regulations for the Assessment and Certification of Green Projects" will be developed. A Green Financing Council will also be established, which will be tasked with coordinating the strategy, approving standards, and monitoring and evaluating. At this stage, the first green bond issue will be carried out—this will be more of a pilot project, which will serve to gain experience, form the market, and strengthen investor confidence. At the end of the first phase, the basic institutional framework necessary for green finance in Uzbekistan will be created [14, 15].

The second stage (2028-2030) is a period of active development of the strategy. At this stage, tasks such as expanding the types of financial instruments, introducing state incentive mechanisms, widely involving the private sector, and strengthening international cooperation will be implemented. As a result of the development of the green bond market, their volume will increase significantly, the share of green loans in the financial system will reach 15%, and Uzbekistan will enter the international green bond market. During this period, the state will actively introduce tax incentives, subsidies, guarantees, insurance mechanisms, and other financial incentives. For example, mechanisms such as tax deductions for green bond income, tax credits for green investments, and subsidies to increase energy efficiency will be developed. The Central Bank will create preferential conditions, such as reducing reserve requirements for green loans and providing preferential loans to banks financing green projects. It is also envisaged that the share of the private sector in green financing will reach at least 30%. During this period, cooperation with international financial institutions will be further strengthened, the number of joint projects with

organizations such as the World Bank, the Asian Development Bank, and the Green Climate Fund will increase, technical assistance programs will expand, and national human resources capacity will be enhanced [16, 17].

The third stage (2031-2035) is the maturity period of this strategy. This stage envisages the introduction of innovative financial instruments, achieving regional leadership, full integration into the global green finance market, and achieving sustainable development goals. The total volume of green financing instruments will reach 5 percent of GDP, which will make Uzbekistan a leader in green financing in Central Asia. Uzbekistan will occupy high positions in global green finance indices (for example, the Climate Bonds Initiative indices and the S&P Global ESG index) and will actively participate in international green capital markets. At this stage, the share of green projects in the energy sector (renewable energy sources, energy efficiency, smart grids, etc.) will reach 40 percent of investments in the energy sector. Innovative green financial instruments will be introduced, such as new approaches such as result-based financing, impact investments, transition bonds, and mechanisms for financing full ecosystem services. During this period, the national green financing ecosystem will be fully formed, meet global requirements, operate effectively, and serve the "green" transformation of the economy. By the end of the third stage of the strategy, Uzbekistan will have achieved significant progress in the transition to a green economy, the stability and competitiveness of the national economy will have increased, the standard of living of the population will have increased, and environmental sustainability will be ensured [18, 19].

The reforms that need to be implemented to transition Uzbekistan to a green economy are aimed at making all sectors of the economy environmentally sustainable. These reforms include investing in renewable energy, upgrading industry with green technologies, making the transport system environmentally friendly, developing sustainable agriculture, and managing waste. By transitioning to a green economy, the country can ensure social well-being, economic stability, and environmental safety.

CONCLUSION AND SUGGESTIONS

The reforms that need to be implemented in the Uzbek economy in accordance with the strategies for



developing green financial instruments require updating the country's economic and environmental structure.

For the effective development of green financial instruments in the Uzbek economy, it is advisable to implement the following measures:

Development and implementation of green credit development programs by central and commercial banks;

It is advisable to allocate loans to agricultural producers for a period of 5 years, including a 2-year grace period, at the refinancing rate of the Central Bank of the Republic of Uzbekistan for the implementation of investment projects on the introduction of water-saving irrigation technologies;

In order to ensure food security in the republic, commercial banks, at the expense of funds from international financial institutions, allocate loans in national currency at a rate of 4 percentage points higher than the annual base rate of the Central Bank for a period of 10 years with a 3-year grace period to finance investment projects in the food sector, aimed at creating a value-added chain from the production of products in the sector to their delivery to the consumer;

It is advisable to allocate loans by commercial banks at a rate of 4 percentage points higher than the annual base rate of the Central Bank for a period of one year on a preferential basis to finance up to 50 percent of the costs of installing pumps and pipelines to provide water to farms from the funds of the State Trust Fund for the Development and Support of Agro-Industry;

Creation of special-purpose financial instruments for renewable energy, energy efficiency, and water resources;

Establishment of a national climate fund and a green investment fund in Uzbekistan;

Implementation of joint projects in cooperation with the World Bank, the Asian Development Bank, and the Green Climate Fund;

Assessment of the results of reforms in the field of green financing and improvement of the strategy based on it;

Creation of platforms for financing green projects using digital technologies (crowdfunding, P2P lending);

Improvement of mechanisms for financing green projects based on public-private partnerships;

In short, the implementation of these measures will serve to effectively develop green financial instruments in Uzbekistan and increase their role in the economy. Such a strategic approach will serve not only

to ensure environmental sustainability but also to promote innovative development, create new jobs, and increase the competitiveness of the national economy.

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