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# DEVELOPMENT OF THE GREEN BONDS MARKET: GLOBAL AND REGIONAL ANALYSIS, UZBEKISTAN'S EXPERIENCE

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***Keywords***

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## INTRODUCTION

In recent decades, the problems of climate change, environmental degradation, and the depletion of natural resources have become a priority on the international agenda. In this regard, developing sustainable financing mechanisms aimed at supporting ecologically and socially significant projects is particularly relevant. One of the most dynamically developing instruments in this area is green bonds - debt securities, the issuance of which is carried out to attract capital for the implementation of projects that have a positive impact on the environment.

Green bonds represent an innovative financial instrument that contributes to the mobilization of private and institutional investments in an environmentally sustainable economy. Their dissemination is stimulated not only by the efforts of states and international organizations, but also by the growing interest of investors focused on the principles of ESG (environmental, social, and corporate governance). In the context of the global transition to a low-carbon development model, green bonds are becoming an important element of financial architecture, ensuring a balance between economic growth and environmental responsibility.

This article is aimed at analyzing the essence, functions, and principles of green bond issuance, as well as assessing their role in ensuring sustainable development. Special attention is paid to international standards, key market participants, and current trends in global application practices, as well as the provision of such a financial instrument.

**Literary review**

In the context of increasing global attention to sustainable development and climate change, the green bond market has become an integral element of modern financial architecture. According to the Climate Bonds Initiative, the total volume of the global GSS+ (green, social, sustainability bonds) market by 2024 exceeded $4 trillion, of which more than $2.6 trillion comes from green bonds [Climate Bonds Initiative, 2024].

Since its inception in 2007, green bonds have undergone a qualitative transformation: from portfolio image diversification tools to a full-fledged asset class with stable returns and a high level of institutional support. As noted by the OECD (2023), disclosure standards (in particular, ICMA Green Bond Principles), as well as the formation of specialized classifications such as the EU Green Bond Standard in Europe, have had a significant impact on market development.

The regional dynamics of green bond issuance is characterized by pronounced asymmetry. Europe consistently maintains leadership, providing over 50% of global output, while the Asia-Pacific region (APAC) and developing markets are demonstrating rapid growth. In particular, in 2023, BRICS countries issued ESG bonds worth over $930 billion, with about 60% of them being green-backed [Vedomosti, 2024]. At the same time, North America is experiencing stagnation, including due to political factors and the "greenhushing" effect [Financial Times, 2024].

Against this backdrop, the case of Uzbekistan, which is taking active steps to integrate sustainable financial instruments into the national economy, is particularly interesting. In 2021, the republic issued the first sovereign SDG bond denominated in national currency. In 2023, Uzbekistan became the first Central Asian country to place green Eurobonds on the London Stock Exchange. An important stage was the formation of the regulatory framework for corporate green issues and the launch of the first such instrument in September 2024. These steps were accompanied by external certification and participation of international partners, including AIFC Green Finance Centre, UNDP and OECD [UNDP, 2024; OECD, 2023].

Nevertheless, as experts emphasize, despite institutional progress, the green bond market in Uzbekistan still faces a number of barriers: low liquidity levels, limited private sector participation, and the need to develop the secondary market [OECD, 2023; Biofin, 2024].

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Thus, the existing body of scientific and applied literature emphasizes the importance of a comprehensive approach to the development of sustainable debt financing, combining regulatory, market, and institutional mechanisms. The experience of Uzbekistan, which is at the initial stage of establishing its green financial sector, is of particular research value in the context of analyzing transformational strategies in developing markets.

**Research results**

«Green financing» is a general term that broadly describes any financial activity if its results are favorable for the environment. In this context, it means that green financing is aimed at improving and maintaining the current state of the environment, along with managing climate risks that are currently occurring and may occur in the future.

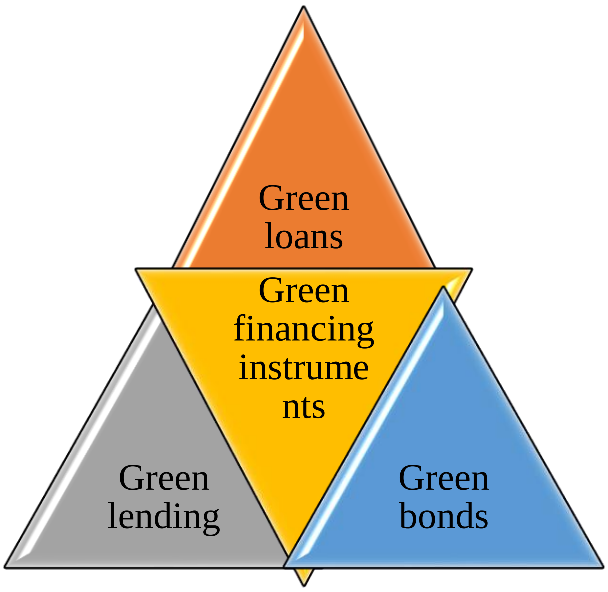


Fig.1 **Types of green financing**

According to the International Capital Markets Association (ICMA), green bonds represent any securities from which revenues are directed to financing or refinancing green projects. The criteria for determining whether a particular project is green differ in different countries, as there is currently no unified approach to their allocation.

The two main bodies dealing with green bond issuance standardization are ICMA and the Climate Bonds Initiative (CBI).

The consistent redistribution of emphasis towards environmentally sustainable alternatives, including in the financial sector, has led to an increasing trend among investors to consider nonfinancial factors such as environmental, social, and corporate responsibility (Environmental, Social, and Corporate Governance, ESG) when making investment decisions. While at the initial stage of their development, green bonds were primarily viewed as a tool for image diversification of investment portfolios, they have now acquired the status of a full-fledged financial instrument that ensures economic efficiency.

Firstly, substantial institutional support provided to ESG assets by state and supranational bodies contributes to the assignment of higher credit ratings to such instruments, which increases their investment attractiveness. Secondly, green projects, as a rule, are characterized by a long implementation period, which determines their duration (from three years and more) and makes them especially in demand among strategic investors focused on long-term capital investment.

**Analysis of research**

The similarity of green loans and green bonds lies in the fact that both instruments are aimed at financing the corresponding projects, the difference is only in the amount (the loan is smaller) and that the bonds can be publicly offered.As with bonds, the criteria for obtaining loans are sufficiently stringent and require full transparency of operations to establish the project's green status.

At the same time, the main recipients of loans are developing countries, which often have limited internal financial resources to address environmental issues. Of course, banks play an important role in the borrowing process, which can use such loans to protect themselves from sharp changes in environmental policy, as states today are more loyal to green projects and encourage their financing in every way.

Table 1.

**Regional Dynamics of Green Bond Issuance Volumes (2020–2024) ($ billion)**

| Region | 2020 | 2021 | 2022 | 2023 | 2024 (forecast) |
|---|---|---|---|---|---|
| Europe | – | – | ~229 (47%) | 310 (≈50%) | Stable growth |
| USA | – | 3 | – | – | 24.4 (Jan–May 2025) |
| Canada | – | – | – | 5.7 | Recovery |
| Asia-Pacific Region | – | – | 33 (27%) | 190 | Steady growth |
| Emerging Markets | – | – | – | 135 (+34%) | Growth ~ 7–10% |
| CIS | – | – | – | 6.71 | – |
| Middle East and Africa | – | – | – | Spike +158% | Growing |

In the period from 2020 to 2024, there is a significant regional differentiation in the dynamics of green bond issues. The most significant trends can be summarized as follows:

The European region maintains a leading position in the global green bond market, providing more than 50% of the total volume of issues. A significant role in this is played by the introduction and development of a regulatory framework, including the EU Green Bond Standard, which contributes to strengthening investor confidence and expanding the market.

The North American region demonstrates diverse dynamics: in the United States, a decrease in production volumes is observed, including due to changes in the political and regulatory environment, while Canada, on the contrary, shows signs of recovery in the sustainable financing market.

The Asia-Pacific region (APAC) and emerging markets (EMDE) are characterized by intensive growth in green bond issuance volumes. The activation of issuers in BRICS countries and the African continent, which is facilitated by both domestic demand and support from international development institutions, deserves special attention.

The CIS countries are at the initial stage of forming the green bond segment. Despite the limited volume of issues, there are positive trends related to institutional development and increased interest from issuers and investors.

The Middle East and African (MEA) regions, while holding a small share in the global market volume, are demonstrating high growth rates. This is due both to the launch of the first major issues and the growing attention to sustainable development issues in the strategic documents of individual states.

Bond security is a guarantee of the return of investments provided by the issuer, which can be in the form of a pledge, guarantee, independent guarantee, state or municipal guarantee.

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Table 1.

**Green Bonds in Uzbekistan: Key Parameters**

| Parameter | Status |
|---|---|
| Types of Issuance | Sovereign SDG (2021), green Eurobonds (2023), corporate green bonds (2023–2024) |
| Volumes | 235 million USD (SDG), 4.25 trillion UZS (~$300 million at current rate) in green Eurobonds, 50 billion UZS in corporate green bonds |
| Regulation | Reformed in June 2024: framework standards, certification, KPIs introduced |
| Market Participants | Government bodies, banks (SQB, Agrobank), MFCA, international institutions |
| Financing Directions | Energy-efficient construction, green transport, water supply, housing and utilities |
| Pros and Challenges | Positive international assessment, growth of instruments; remaining barriers: liquidity, scale, private sector involvement |

The development of the green bond market in Uzbekistan demonstrates a positive trend reflecting the state's efforts to integrate the principles of sustainable financing into national economic policy. Since the beginning of the 2020s, the country has implemented a number of key issues, including the first sovereign bond instrument linked to sustainable development goals, the placement of green Eurobonds on an international platform, and the launch of corporate emission with a proven environmental focus.

The formation of a regulatory framework governing the issuance and circulation of green bonds, including the introduction of certification requirements, target indicators (KPI), and mechanisms for verifying the use of attracted funds, is of particular importance. This created prerequisites for attracting institutional and private investors, as well as ensuring transparency and trust in sustainable financing instruments.

Despite the relatively limited scale of the market, the formation of a stable institutional infrastructure and interest from both state and corporate issuers are observed. In the long term, Uzbekistan has the potential to transform into a regional center for sustainable financing, provided that market liquidity is further expanded, the private sector participates, and international standards are integrated.

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