

## PROSPECTS FOR THE USE OF GREEN BONDS IN THE NATIONAL ECONOMY

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## **Abstract**

At present, the state of the world economy is characterized by deep contradiction. On the one hand, the issue of transition to a green economy is still on the agenda against the backdrop of aggravated climate risks, on the other hand, in a crisis situation, countries need, if not to achieve sub-standard economic growth rates, then at least to minimize the loss of gross domestic product.

Commodity inflation driven by the post-pandemic recovery of economies amid disrupted supply chains, as well as the current political environment, has led to a reprioritization by many green economies and decarbonization advocates.

The energy crisis has put states before a choice between energy security and climate risks and, perhaps, only actualized the problem of the transition of developed countries to alternative, green, energy sources.

At the same time, to achieve the green goals set by the Paris Agreement, it is necessary to attract a huge amount of investment, which only the financial sector can handle. For example, to achieve carbon neutrality, China will need from 140 to several hundred thousand trillion yuan, and Europe will need investments in the amount of ~1 billion euros per year.

The uniqueness of green finance as an element of greening the economy is that it can help reduce the degree of climate risks and has an impact not only on the financial sector, but on the entire economy as a whole. That is why the issue of developing green finance is very acute for developed and developing countries.

**Keywords:** Green economy, green bonds, green finance, inclusive economy, environmental projects, environmental restoration.

## Introduction

Today, the national infrastructure market is experiencing its new revival, taking into account a number of new laws, norms and conditions adopted in our state, which leads to new opportunities for the implementation of new projects and the development of various forms of financing. To date, the country has accumulated



significant experience and formed a legal basis for the more active use of financial instruments that previously seemed not quite effective due to the difficulties of implementation in practice.

The main trend of the last decade is the global concept of sustainable development, integrating economic, social and environmental processes. The raw material export model is being replaced by a "green" economy, linking the growth of the quality of life of the population with the growth of natural capital. In the context of the ecologization of the economy, qualitatively new financing instruments appear, including green bonds, which have a high potential for attracting financial resources and interacting with investors.

The relevance of the article is due to the fact that at present the greening of the economy is the subject of increased attention, as evidenced by the increase in the volume of emission of "green" bonds in developed and developing countries. The study of the practice of issuing such bonds in different countries is an indicator of their financial success and may be an incentive to increase the interest of private investors in this financial instrument.

Today, green bonds are considered one of the significant and venture types of bonds. Most states and large corporations are now resorting to their use. Green bonds are debt securities that are issued to attract investment in projects aimed at improving the environmental situation or at least minimizing the harm caused to nature.

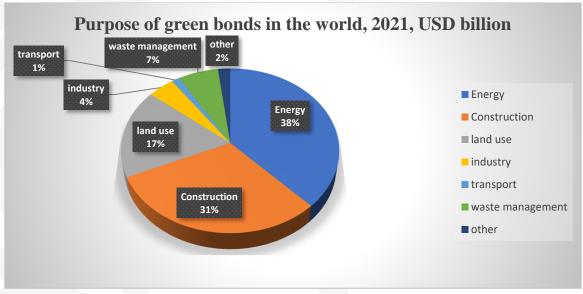
Table 1. Main types of green bonds

Types of green bonds	Issuers	Debt recourse	Performance risk	Examples			
Green bonds of direct issue							
State (municipal) and bonds issued by international banks and financial organizations with a general obligation. Provide for the usual payments on obligations and maturity for this type of bonds	State and municipal authorities. International banks and financial organizations	The right of standard (full) recourse to the issuer. The bonds have an issuer rating	Issuer	Since 2008, the IBRD has issued approximately \$8.5 billion of fixed income green bonds with an AAA credit rating			
Corporate bonds with a general obligation. They are issued to finance their own "green" projects. The corporation guarantees the payment of the bonds with its balance sheet	Corporations	The right of standard (full) recourse applies to the issuer. The bonds have an issuer rating	Issuer	At the end of 2013, green bonds were issued by Electricite de France (\$1.9 billion), Bank of America Merrill Lynch (\$500 million), Swedish real estate company Vasakronan (\$300 million), French utility EDF (\$1.95 billion)			
Project bonds. Bond payments are guaranteed by the cash flow of the infrastructure project, as well as by banks and	Subnational governments. Corporations. Banks	The right of recourse refers to the totality of assets, including "non-green", which are collateral	Issuer	Solar Star Funding's \$1 billion bond issue in 2013 for a solar power generation project in Southern California (USA)			

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subnational authorities, if they provide such guarantees.				
Income bonds (bonds secured by income). Payments are made through the sale of goods and services produced as a result of the project	Subnational governments. Corporations. Banks	The right of recourse applies only to "green" assets, as well as to income from the implementation of the project. The rating on green bonds may differ from the rating of other bonds of the issuer	Investor	In 2013, the government of the state of Hawaii (USA) issued green infrastructure bonds to finance the modernization of local power plants
	Bonds issued using	aggregation mechanisms	(securitized bonds)	
Bonds secured by a separate (withdrawn from the issuer's balance sheet) pool of assets.  Bond payments are guaranteed by the cash flow of the project	Corporations	The right of recourse refers to the set of "green" assets that are collateral. The credit quality of bonds depends on the underlying assets	Investor	At the end of 2013, Solar City issued an issue of \$54 million, loans for rooftop solar projects were securitized
Covered bonds (secured by assets kept on the issuer's balance sheet).  Bond payments are guaranteed by the cash flow of the project	Banks and special credit organizations	The right of recourse applies to the full balance sheet of the issuer and to the pool of collateral assets. The credit quality of bonds depends on the underlying assets	Issuer	In May 2015, such bonds were issued by the mortgage bank BerlinHyp, the issue volume is €500 million

Proceeds from the placement of bonds are used to implement green projects, which must be properly described in the documentation for the issuance of securities. All of these green projects must provide environmental benefits to be assessed by the issuer in terms of qualitative and, if possible, quantitative characteristics.

Considering green bonds as a new financial market instrument, one can single out the main distinguishing feature - the direction of funds raised to finance environmental projects, for example, those related to renewable energy, energy efficiency, environmentally friendly transport or a low-carbon economy.



**Figure 1.** Purpose of green bonds in the world for 2021.

The issue of "green" bonds is beneficial for both issuers and investors. By investing in environmental, energy-efficient and low-carbon projects, the issuing company creates a positive image by focusing on long-term and sustainable development. The importance of this factor for business development is increasing every year.

The Green Bond Principles expressly provide for several general categories of eligible green projects that contribute to environmental goals such as climate change mitigation, natural resource conservation, biodiversity conservation, and pollution prevention and control.

Net proceeds from the issuance of green bonds, or an amount equal to these net proceeds, must be credited to a separate account, formed into a separate portfolio or otherwise separately accounted for by the issuer. The accounting method should be fixed by the issuer in the form of a separate internal procedure related to credit and investment operations in relation to green projects.

By issuing green bonds according to international methodologies, issuers undertake to use investor funds exclusively for environmentally responsible projects, indicating in advance a list of possible uses and performance indicators.

In addition to a high level of social responsibility and compliance with the principles of sustainable development, in the eyes of the investor, this instrument is primarily characterized by relative safety compared to other portfolio instruments. Also, among the advantages of "green" bonds, one can note the lower cost of attracting investments due to lower coupon payments, associated with high demand for this financial instrument.

The number of institutional investors who want to include "green" assets in their portfolios is increasing every year, as the deterioration of the environmental situation is fraught with a threat to long-term economic growth. In addition, green bonds tend to be more stable in the event of macroeconomic changes, such as fluctuations in oil prices.

Decree of the President of the Republic of Uzbekistan PP No.-4477 dated 04.10.2019 approved the "Strategy for the transition to a "green" economy of the Republic of Uzbekistan for the period 2019-2030». The country is developing a completely new direction of economic policy aimed at the transition to a "green" economy.

Based on the results of the adopted Strategy, by 2030 we must achieve an increase in the energy efficiency of the basic sectors of the economy, diversification of energy consumption and development of the use of renewable energy sources, climate change mitigation, development of financial and non-financial mechanisms to support the



"green" economy, including mechanisms for environmental taxation and payments for pollutant emissions.

According to the Ministry of Finance of Uzbekistan, US\$870 million worth of bonds were issued in 2021 to finance activities aimed at achieving the Sustainable Development Goals (SDGs), which include land reclamation, the development of green technologies and the launch of the green sukuk mechanism.

Today, our country is faced with the task of developing a green economy in order to increase the energy efficiency of the economy and the rational consumption of natural resources through technological modernization and the development of financial mechanisms, as well as the inclusion of "green" criteria based on advanced international standards in the priority areas of public investment and spending.

Table 2. Green bond issue analysis

	Issuance of green bonds (in USD)					
Country	Volume	Issuer	Purpose of the prospectus			
USA	81.9 billion	Fannie Mae	Financing socially oriented projects			
China	68.1 billion	State Development Bank of China	Driving Infrastructure Transformation			
Turkey	110 million	Enerjisa Enerji	Digitization of the grid, improved reliability of power supply, integration of renewable energy sources, and environmental, health and safety measures			
Portugal	130 million	GreenVolt	Energy production from renewable sources			
Greece	32 billion	GEK TERNA	Development of energy, construction and waste management			
Canada	42 billion	Canadian Solar Inc.	Развитие солнечных фотоэлектрических систем и аккумуляторов в регионе EMEA			
Hong Kong	127 million	Government	Financing the state program on green bonds			
Kazakhstan	400 million	JSC "Samruk-Energy"	Contribute to the achievement of carbon neutrality in Kazakhstan by increasing the environmental responsibility of business and society			
Latvia	28,2 billion	Augstsprieguma tīkls AS (AST)	Refinancing of the 3rd stage of the Kurzeme ring, CHPP-2 to the Riga hydroelectric power station and the 3rd infrastructure project of interconnection between Latvia and Estonia			
Netherlands	543 million	Photon Energy Group	Development of solar energy and water supply			
Colombia	35 million	Celsia	Financing your projects in the field of solar energy			
Uzbekistan	870 million	Ministry of Finance	Land reclamation, development of "green" technologies and the launch of the "green sukuk" mechanism			



According to the table, it can be seen that the leading positions in the issue of green bonds are occupied by the USA, China, Greece, Canada and Latvia. This is because these countries began adopting green bonds in the 2000s, when other countries were prioritizing other types of external financing. The hype about issuing green bonds in other countries began during the pandemic, when countries felt the need to renew the environment.

In Uzbekistan, the green finance market is at the initial stage of formation. Its development involves the active use of the opportunities provided by the international green finance ecosystem. However, there are a number of reasons why Uzbekistan entered the green bond market only in 2021.

Such significant shortcomings include the lack of a number of legal, organizational, methodological, informational, consulting support measures that will increase the interest of issuers and investors in issuing and purchasing green bonds. In addition, it is necessary to form a portfolio of "green" energy projects, stimulate financial and economic innovations, and most importantly, increase the awareness of all participants in the national market.

Summarizing the above facts, we can conclude that "green" bonds are a rapidly developing instrument of the financial market throughout the world, covering an increasing number of countries and expanding the industry affiliation of issuers. It can be noted that by the current year, significant positive experience has been accumulated in issuing green bonds and financing various environmental projects, which confirms the high demand for the instrument and the prospects for its use to solve relevant problems.

In our opinion, it is the successful experience of previous issues of "green" bonds that is the main incentive for the dissemination of this instrument at the private, municipal and state levels. Undoubtedly, an important driver of growth in the number of issuers is a favorable political environment that stimulates long-term "green" private investment, because the successful implementation of "green" projects improves the quality of life, creates new jobs, increases taxes and has a positive effect on the environment.

## **List of Used Literature**

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