



Article

## The Urgency of "Green" Financing in the Financial System

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**Abstract:** This article examines the urgency of developing a "green" financial system in the context of global environmental challenges and the transition to sustainable economic growth. The introduction highlights that global green finance is expected to reach USD 40 trillion by 2030, yet many obstacles—such as inconsistent environmental policies, short-term investor behavior, and the lack of unified green standards—continue to limit effective investment flows. The study employs scientific abstraction, comparative analysis, and synthesis to evaluate the theoretical foundations of green finance and analyze existing statistical data and international experiences. The results show that green financial instruments—including green bonds, loans, insurance, and climate funds—play a crucial role in directing public and private capital toward environmental protection, renewable energy, resource efficiency, and climate adaptation. Global practices from China, the United Kingdom, and EU countries demonstrate that state intervention, transparent reporting systems, and risk-based regulatory policies significantly accelerate the expansion of green finance. The discussion emphasizes the need to strengthen national regulatory frameworks, establish fair carbon pricing, eliminate fossil fuel subsidies, and integrate environmental criteria into investment decisions. In conclusion, the study argues that building an effective green finance system is essential for decarbonizing the national economy, mobilizing long-term investments, and ensuring sustainable economic development.

**Keywords:** "Green" Finance, "Green" Economy, "Green" Financial Instruments, "Green" Projects, "Green" Loans, "Green" Investments, "Green" Financial System

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### 1. Introduction

Developed and developing countries, all countries are striving for green financing. Global green financing is expected to reach \$40 trillion by 2030. Green financing is the principle of green credit. It refers to a set of administrative tools that require commercial banks and other financial institutions to conduct research and development on the creation of pollution treatment facilities, and to participate in environmental protection and restoration. On the other hand, there are a number of problems in attracting such capital at the micro level, including the mismatch between the long-term horizons of green investments and the short-term horizons of modern investors. In addition, the approaches to financial and environmental policies of countries are often not coordinated. The state should encourage, develop green financing and achieve the priority of green investments over traditional investments to ensure sustainable economic development.

The development and expansion of green finance requires serious state intervention as a creator of green financial institutions, a market regulator, an investor and a client of green projects. Investors need to clearly understand what types of activities can be

classified as green. A set of standards in the field of green finance is needed to identify green projects, as well as a list of investment instruments and benchmarks for risk analysis. Market regulators should also establish rules for information disclosure and monitor their implementation, that is, the principle of transparency is fundamental in the development of green finance. Finally, market participants should encourage green investments by introducing a certain incentive system and increasing environmental responsibility.

### **Literature Review**

Based on the existing literature on green finance, most green investments are financed through banks. By taking into account environmental factors in their decision-making, banks can more effectively manage the risks associated with lending to polluting industries and help increase the stability of the financial system. The development of green finance is becoming an important part of the economic and environmental policies of countries around the world, which determines the relevance of the research topic. Currently, the issue of "green" financing is integrated into all spheres of human activity around the world. Most international organizations, guided by objective reality and the problem of achieving balanced sustainable development, introduce an environmental component into their scope of activity. The transition of economic relations to a "green" economy as an economy that leads to "increasing human well-being and social equality, significantly reducing environmental risks and environmental deficits," requires theoretical justification.

An important direction for sustainable development and the transition to new economic models is related to the transformation of the financial sector, which includes the development of several types of financing taking into account the environmental factor: namely, sustainable, green, low-carbon, responsible, climate finance and related financial instruments. In our work, as the main terms, we use the most common and often generalizing concepts of "green finance" and "green finance" for other financial sectors in this area. The same terms are often used in the context of implementing the listed new economic models - green, low-carbon, closed loop, etc.

At the international level, green finance issues are addressed by organizations such as the World Bank and the UN. Among renowned economists, Paul Krugman [1] and Jeffrey Sachs [2] have made significant contributions to this field. Various studies on green finance highlight the works of B. Rubtsov and colleagues [3], B. Porfiriyev [4], V. Arkhipova [5], and I. Yakovlev and L. Kabir [6]. These studies explore green finance tools and institutions, as well as the impact of environmental and climate factors on the global financial system, its stability, and green investments.

It is important to note that many foreign authors view green finance not just as an area of financial sector development, but as a transformative shift—possibly even a new stage. This transformation is intended to foster environmental sustainability, while also contributing to financial, economic, and social stability.

German authors argue that "green" finance is a general term describing the substantial changes in financial flows needed to support climate protection and pollution prevention projects [7]. Furthermore, they propose viewing "green" finance as a strategic approach to integrating the financial sector in the transition to a low-carbon, resource-efficient economy and adapting to climate change [8]. Building a "green" economy is impossible without establishing an effective green finance system. Notably, modern economic literature lacks a universally accepted definition of "green finance." In a general sense, it is understood as addressing environmental issues and managing resources. Currently, the most widely used definition of green finance refers to funds allocated to finance environmental projects. "Green" finance is a cornerstone of the "green (low-carbon) economic growth" concept, linking financial institutions, environmental protection efforts, and economic growth.

Even if financing is available, relevant green investment projects are often not available. Therefore, our financial system needs to be further adapted to the carbon price. Green finance includes three components:

- 1) financing public and private green investments, including preparatory and capital expenditures in areas such as environmental protection; management and protection of water resources, biodiversity and landscapes; prevention, reduction of damage to the environment and the climate in general; measures to build dams or increase energy efficiency;
- 2) support for public policies consisting of operational costs for the implementation of projects to mitigate or adapt to environmental damage, such as feed-in tariffs for natural energy sources;
- 3) introduction of components of the financial system designed for green investments, such as green climate funds (green bonds and funds, including their economic, legal and institutional frameworks)[9-10-11].

In addition, in most countries, the use of fossil fuels is heavily subsidized. This means that investments in new energy sources and energy efficiency are not attractive. The best solution to this problem is to eliminate fossil fuel subsidies on the one hand and to set a fair price for carbon emissions on the other, through carbon trading or a carbon tax. This has been successful only to a limited extent. UNEP officially defines a "green" economy as an economy that improves human well-being and ensures social justice, while significantly reducing the risks to the environment and its degradation. At the same time, existing national and international statistical aggregation systems that are open to public access provide information in a different classification for investments in projects implemented in the field of environmental protection and rational use of natural resources in all sectors of the economy[12-13-14].

## 2. Methodology

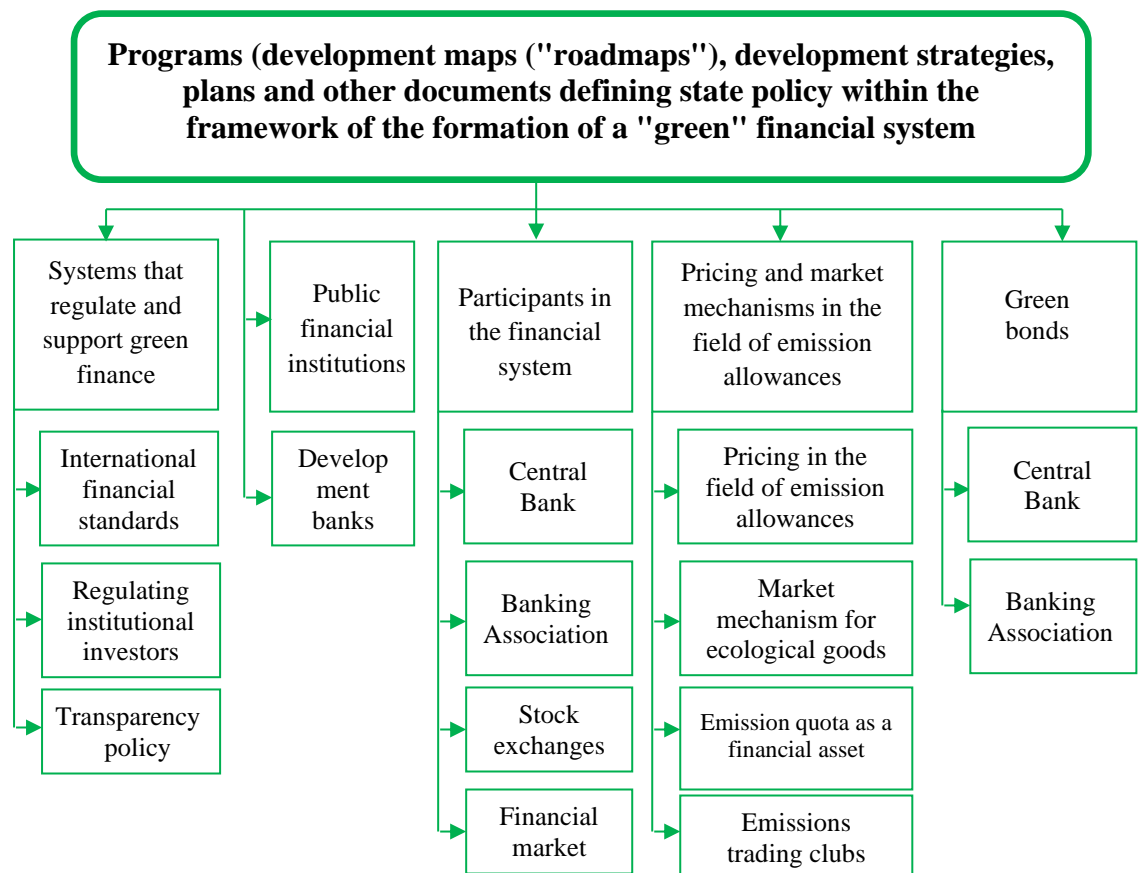
The methods of scientific abstraction, analysis and synthesis, and comparison were used to cover the topic. Literature written by economists, scientists, researchers on ensuring sustainable development based on the principles of the green economy, as well as statistical data, were theoretically analyzed and compared[15].

## 3. Results and Discussion

In world practice, innovative financial instruments and technologies have emerged that allow attracting both public and private investments to solve the problems of the "green" economy. Innovative trends in the field of "green" financing of the global financial system are, along with "green" bonds, "green" loans, "green" mortgages, "green" insurance, etc. In our opinion, the development of large-scale green financial technologies in our country will attract large foreign investments for the implementation of environmental projects. To do this, we believe that it is necessary to study the world experience in using "green" financial instruments. Let's consider the main segments of the global "green" financial system. The "green" financial instruments and structures used by leading countries are not fundamentally new. The "green" component gives their content a new qualitative content.

We have tried to highlight the main areas of use of "green" financial instruments in financing global infrastructure projects: preservation and protection of the ecosystem; combating the consequences of climate change; controlling the negative impact of humans on the environment; creation of "green" materials and technologies; use of renewable energy sources; development of waste processing technologies; development of water supply systems; sanitation measures. At the same time, it is impossible to develop a "green" economy without identifying the main participants, appropriate channels of activity and financing instruments, creating a transparent reporting system and risk management

system, that is, without creating an effective "green" financial system. The report "Analysis of International Experience in "Green" Financial Systems" emphasizes that the "green" financial system is a complex multi-stage mechanism that includes various elements (central banks, financial regulators, development banks, stock exchanges, rating agencies, international organizations, etc.), each of which has the appropriate competence, tasks, tools used to develop goals. In turn, national, international programs and development maps ("roadmaps") prevail over all elements of the system, in which agreed and interconnected main directions and mechanisms for the implementation of "green" economy projects are established and strengthened, see Figure 1.



**Figure 1.** Structure of a "Green" Financial System

For example, in China, a special working group consisting of experts from the People's Bank of China and the UNEP research group developed a plan for creating a "green" financial system, within the framework of which the following policy sets were identified:

- Development of "green" lending;
- Support for "green" investments by the securities market;
- Development of "green" insurance;
- Improvement of environmental trade and financing instruments;
- Support for local authorities in the field of "green" financing;
- Prevention of financial risks, etc.

In turn, the tools are defined for each set. Thus, within the framework of the policy "Support for "green" investments by the securities market", the following are considered the main tools: standardization of trading rules and verification of trading in "green" bonds; requirements for "green" ratings; support for "green" IPOs; mandatory disclosure of environmental information; Support institutional investments in "green" assets.

The creation of a “green” financial system is an integral part of the national development plan. To this end, a development map (“roadmap”) was approved, which includes such key stages as improving the regulatory framework, creating reports, interacting with government agencies, and in the long term - establishing a risk management system, determining bank ratings and creating an information and financial system. Since 2000, various innovations have been implemented in the UK for 15 years in the field of building a “green” financial system. In 2016, the “Green Finance Initiative” (GFI) was launched in the country, the goal of which is to implement a plan to promote London as a leading international financial center that will determine key regulatory changes in the field of “green” finance, as well as provide a full range of “green” financial services. In other words, according to experts, this strategy will expand the flow of projects based on the issuance of “green” bonds, create transparent and understandable standards that will increase confidence in these financial instruments, and also allow for the introduction of a more advanced system of market information disclosure.

State financial institutions and specially established development banks play a major role in determining the support and incentives for participants in “green” financing. These organizations, which have special powers and various sources of capital, have a significant impact on the financing of various environmental projects. For example, the European Bank for Reconstruction and Development, together with the Global Environmental Facility, created a new energy lending program worth \$ 1.4 billion to provide credit lines to 13 countries in the Middle East and North Africa. Luxembourg and the European Investment Bank launched the “Climate Finance Platform”. The most important element in building a “green” financial system are central banks, one of whose tasks is to assess the threat of climate change to the stability of the financial system (its ability to understand, measure and assess the long-term risks associated with climate change), as well as to create an effective system for the financial sector to reflect climate-related data and information in reporting. For example, the Dutch Central Bank has assessed the risks associated with climate change and their impact on the financial system. In one of its studies, the bank also assessed the risk and emergence of a “carbon bubble” (i.e. excessive exposure to fossil fuel companies) among the assets of Dutch banks, pension funds and insurers.

The greening of the banking sector in China is being implemented by the People's Bank of China, in conjunction with the Banking Regulatory Commission and the Ministry of Environmental Protection. In 2015, a set of indicators for measuring the effectiveness of “green” banking operations was established, as a result of which banks accounting for 80 percent of all banking assets adopted environmental and safety risk management policies.

The Brazilian Central Bank, as a banking regulator, also pays special attention to environmental risk management. Some analysts have explored the possibility of using banking and monetary regulation to encourage banks to move away from high-carbon bank lending. Greening banking regulation could be one way to encourage countries to increase financing for low-carbon investments. The introduction of differentiated reserve requirements by the central bank to support low-carbon projects is an example of such a “green” banking policy. In the case of “green” stratification, the reserve requirements that a bank must meet are lower than the average for loans to low-carbon sectors, which means that such a policy incentivizes banks to lend more to “green” investments. Central banks can also encourage commercial banks to include environmental, social and governance criteria in their asset risk assessment. These and other soft measures that can guide commercial banks towards more sustainable and responsible lending are a new way to use macroprudential regulation to create more green banking products. Some of these practices may be less prominent in OECD countries, but China is one of the countries where these tools are actively supported and are currently being implemented.

But it would be wrong to talk about the greening of the banking system only from the point of view of regulating central banks, since specialized “green” financial

institutions, “green” banks, etc. are currently being created. Among the participants in the “green” financial system, the “green” bank of New York, the “green” investment bank of the United Kingdom and the “green” fund of Japan currently stand out. A “green” bank is a state-supported financial institution that works with the private sector to increase investment in “green” markets. Although the focus is traditionally on renewable energy, the focus of “green” banks may cover other ecological areas, including the preservation of biodiversity. However, when talking about the need to use one or another financial instrument, it is impossible to understand that without a coordinated policy at the state level, without cooperation between public and private structures, it is impossible to talk about building an effective “green” policy. Among such obstacles, the following can be distinguished:

- the absence of an effective market mechanism that allows determining the true social value of environmental benefits;
- the presence of energy subsidies in the Eastern Partnership countries;
- the absence of a reliable and adequate tariff for greenhouse gas emissions;
- further support for the production and consumption of fossil fuels (i.e., the need for a transition to a low-carbon economy is in doubt).

There is now widespread agreement that the global financial system should actively support sustainable development. In recent years, the scale and relevance of financing for sustainable development, as well as the recognition that the public sector alone cannot fulfill its role as a financial source, have led to increasing attention around the world to the concept of a green finance system. The implementation of these areas will help to mobilize sufficient domestic and international green finance and create a range of financial services necessary for the necessary investments in low-carbon technologies, energy efficiency and renewable energy sources.

#### 4. Conclusion

An important condition for sustainable economic growth in a “green” economy is the existence of a “green” financing mechanism to mobilize the necessary financial resources for the “greening” and “decarbonization” of the national economy. Although periods of economic crisis have led to a temporary reduction in green investments in the short term, they also demonstrate the importance of developing a green economy. The formation of green government portfolios and grants for green projects, creating conditions for the development of green financing are a prerequisite for the transition of the national economy to a new stage of development. In this transition, financial instruments created in the process, such as green loans, green bonds, parametric insurance, green crowdfunding, etc., play an important role. Credit institutions play an important role in the green financing system, helping to finance green projects, setting standards and criteria for green financial instruments, and raising awareness about green finance and its role in sustainable development.

To develop the green finance market, it is necessary to take measures aimed at encouraging financial institutions and investors to invest in green projects. There are several directions in the world that are aimed at stimulating the implementation of the environmental agenda: direct public investments; the use of appropriate green instruments and their inclusion in the Lombard list; the adoption of certain mitigating measures by regulatory authorities in relation to financial institutions; the provision of state subsidies at low interest rates. Thus, in the global context, the process of green finance is a key element of a sustainable development strategy. The involvement of an increasing number of countries in this process leads to the formation of global agreements that require each country participating in the agreement not only to officially declare its policy of transition to a “green” economy, but also to confirm these intentions in practice with real actions in the field of transitioning industrial production to a green system, using natural

resources, developing transport and other infrastructure, and "greening" the national financial system. Many countries have taken serious steps in this regard.

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