

# Research on the Challenges and Current Situation Development of Green Finance

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**Abstract:** Compared with traditional finance, green finance emphasizes the living environment interests of human society, regards environmental protection and effective utilization of resources as one of the criteria for measuring the effectiveness of its activities, and guides various economic entities to pay attention to natural ecological balance through their own activities. Green finance emphasizes the coordinated development of financial activities, environmental protection, and ecological balance, ultimately achieving sustainable economic and social development. The development of green finance has achieved certain results in China, but at the same time, many challenges and problems remain to be solved. This paper analyzes the solutions from the aspects of perfecting the relevant laws and regulations system of green finance, ecological resource capitalization, and ecological asset capitalization, which lays a solid foundation for the future development of green finance.

## 1. Introduction

With the development of society, global environmental pollution and climate change have become top issues. The inherent allocation mechanism of various elements of the natural environment is out of balance, and environmental quality is deteriorating, such as atmospheric destruction, soil erosion, land desertification, environmental pollution, etc. The emergence of a series of problems, such as global warming has led to a large number of unimaginable results. For example, sea ice in the Arctic is declining rapidly due to climate change. At present, the amount of ice has decreased so much that even in extremely cold weather, the amount of ice has been significantly reduced compared to decades. At the same time, as sea levels rise, coastal countries are being submerged, and the ecological environment is being impacted, such as damage to environmental resources. The main problems China faces at this stage include environmental pollution and ecological damage. Specifically, large-scale reclamation of forests has resulted in a reduction in forest area. China's total forest area is 124.65 million hectares, with a coverage rate of 12.98%; the per capita area is less than 0.114 hectares, only 14.2% of the world average. Due to the above factors, China has successfully proposed sustainable development, green finance, green credit, and other activities that contribute to environmental improvement and climate change to promote the quality of the national environment. Specifically, green credit refers to the banking industry's compliance with national environmental protection policies and industrial economic policies and the use of interest rate subsidies, preferential interest rates, and other support policies to guide commercial banks to bias their credit business towards environmentally friendly enterprises, usually including energy conservation, environmental protection, cleaner production, ecological protection, green services, and other businesses. Then, local banks joined the ranks of green finance, which has gradually become an important business for mainstream banks. This paper discusses and summarizes the development of green finance and puts forward corresponding strategies [1].

## 2. The Current Development Status and Problems of Green Finance

Green Finance refers to the economic activities that support environmental improvement, climate

change, and resource conservation and efficient use, that is, financial services provided for project investment and financing, project operations, and risk management in the fields of environmental protection, energy conservation, clean energy, green transportation, and green buildings.

The formal development of China's green finance began with the introduction of the green credit policy in 2007. After the Industrial Bank accepted the Equator Principles and began to practice green finance in 2008, more and more financial institutions joined the ranks of green development, including green credit, green securities, green trust, green insurance, green investment, and carbon finance. China's existing green financial instruments account for more than 90 %, and there is a relatively mature operation mode. In 2012, the China Banking Regulatory Commission issued the "Green Credit Guidelines", from the aspects of organizational management, policy systems, and capacity building, process management, internal control management and information disclosure, supervision, and inspection, etc., banking financial institutions are required to promote green credit from a strategic perspective and increase support for the green economy, low-carbon economy, and circular economy, prevent environmental and social risks, and improve its own environmental and social performance.

In 2016, the National Development and Reform Commission issued the "Green Bond Issuance Guidelines", which not only regulated green financial corporate bonds but also sorted out the key project areas supported by green finance. The 2019 Government Work Report mentioned the need to "strengthen the green environmental protection industry" for the first time and clarified the goal of "strengthening pollution prevention and ecological construction, and vigorously promoting green development. It is proposed that green development is an inevitable requirement for building a modern economic system and the fundamental strategy to solve the pollution problem. By the end of 2020, China's green credit balance is about 12 trillion yuan, and the total amount of stock ranks first in the world. China's green credit balance has shown a steady upward trend in recent years, and the growth rate has remained at the level of 5 % -15 %. However, with the establishment of a stable development of green finance, China now has a multi-point problem. For example, China's green finance started late, took a short time to develop, and has not established a policy system and legal environment related to the development of green finance. In terms of policy support, the relevant policy systems and legal measures announced by China to carry out green finance lack operability and pertinence and cannot meet the needs of reality. The state lacks corresponding policy support and incentive mechanisms for the payment of the environmental protection industry and lacks corresponding compensation policies such as financial discount, tax relief and provisions for bad debts for the possible risks of financial institutions supporting the progress of the environmental protection industry, thus affecting the progress of green finance.

### **2.1 Lack of a High Degree of Strategic Understanding**

Some areas blindly pursue high economic growth and increase GDP, at the expense of the environment as the cost of economic development [2]. Problems such as over-exploitation of resources, serious environmental pollution, and deterioration of food safety are still prominent, which seriously affect residents' normal production and life, resulting in the final investment of a lot of manpower and material resources to control environmental pollution. In these areas, the market allocation function of finance has not been fully utilized, and has even been in a state of ineffectiveness or reverse guidance, leading to a loss of harmony between ecology and industrial development and conflicts between the economy and the environment, which is evidence of a lack of ideological understanding of green finance.

### **2.2 Lack of a Good Market Environment**

Although China has incorporated energy conservation and emission reduction into the performance evaluation of local governments, implementing environmental protection policies is not smooth in specific fields, projects, and enterprises, and there is still a lack of a perfect release mechanism for environmental violation information. At present, the scope of "environmental protection information" that can be provided by the "Basic Enterprise Credit Report" of the People's Bank of China's credit reporting system is still very narrow, and financial institutions can only obtain

environmental violations of most enterprises and projects that are not within the scope of national supervision through on-site investigations or media reports. Some are even difficult to obtain, resulting in extremely asymmetric information.

### **3. How to Fully Implement Green Finance**

Strengthen the system concept. Financial institutions must integrate green development standards into all aspects of loan processing, guide and promote branches to establish and practice green development concepts, closely follow national green finance-related policies and systems, conduct in-depth study and research, and accurately grasp the connotation of green development and green finance policies. Enhancing the scientific and normative underpinnings of green finance development is imperative. A comprehensive enhancement of awareness regarding the prevailing circumstances is essential, accompanied by strict adherence to bank regulations. It is crucial to comprehensively grasp the intensity and pace of supporting "low-carbon" economic development and reducing financing "high-carbon" projects. Moreover, it is paramount to circumvent the "swarm" style of mindlessly pursuing large-scale initiatives with haste and the "one-size-fits-all" approach of abruptly halting loans. Instead, a nuanced approach is necessary, taking into account individual realities. The promotion of green finance should be a gradual and systematic process. In December 2021, the Ministry of Ecology and Environment, the National Development and Reform Commission, the Central Bank and other nine ministries and commissions jointly issued the "Notice on the Pilot Work of Climate Investment and Financing ". The " Climate Investment and Financing Pilot Work Plan " was released, which officially launched the declaration of local pilot projects of climate investment and financing in China and guided market funds to invest in the climate field to achieve the goal of " double carbon. "

In September 2017, the Agricultural Bank of China actively coordinated the second phase factory project of Foxconn's fourth-generation green industrial park in Gui'an New District, established a green finance marketing team, and successfully issued green industrial park project loans to Gui'an Electric Power Investment to support the development of the green industrial park. A total of 300 million yuan has been invested in green building projects [3]. The Agricultural Bank of China optimized the credit process for the project, opened a green channel, implemented parallel front-end and back-end operations, and completed project evaluation, approval, and implementation within one month. Gui'an New Area is one of the first 16 sponge city construction pilot projects in China. The Agricultural Bank of China has also implemented preferential cost policies for green projects. The loan execution interest rate for this project is lower than the financing cost of the borrower Gui'an Electric Power Investment in other financial institutions.

## **4. Challenges and Difficulties Facing Green Finance**

### **4.1 Information Asymmetry**

The problem of financing difficulties for small and medium-sized enterprises is solved by issuing green bonds. Due to information asymmetry, traditional high-carbon enterprises have problems such as mismatch in green bond duration, high dependence on fossil energy, difficulty in using renewable energy technology, and long project cycles, which extremely easily create liquidity risks and cause investors to suffer losses.

### **4.2 Supervision Faces New Challenges**

China's green finance has developed rapidly, and the market size of green derivatives has gradually expanded. Financial institutions have stored a large amount of transaction data and customer information [4]. Data coverage is becoming increasingly comprehensive, the amount of data is growing exponentially, and regulatory agencies have a long processing cycle for data, making it difficult to implement effective supervision. In addition, problems such as non-standard data source formats among various financial institutions lead to the island problem. Regulators' data cleaning has a large workload, long time, and high cost, so it is difficult to integrate and identify systemic risks in

time.

### **4.3 Product Innovation and Risk**

The green derivatives market has gradually emerged with the increasing demand for diverse green financial products. The variety of green derivative products is increasing, and gradually derivative financial derivatives, such as forwards, swaps, futures, options, etc. However, green financial derivatives have problems such as insufficient market liquidity, large price fluctuations during delivery, increasingly complex product design, and more opaque product information, resulting in more types of risks, faster transmission speed, more impact, and more concealment.

A large amount of data value generated in the innovation process of green financial products has not been fully and effectively utilized, and it is necessary to explore the scene of data-enabled product innovation. Regulators have difficulty identifying the risks of green financial derivatives, and the scope of risk impact is also difficult to identify. They cannot provide timely advice and guidance to financial institutions. In order to avoid the occurrence of systemic risks, listing some green derivatives has been suspended, which has affected the innovation and market size of green derivatives and hindered the diversified development of green financial markets [5].

### **4.4 Non-market Risk**

In order to achieve a low-carbon economy, many companies are actively developing new energy sources. Due to a large number of enterprises entering the new energy market in a short period of time, the core competitiveness of new energy enterprises has declined, the profit margin has decreased, technological innovation has been rapid, and technology enterprises are facing tremendous competitive pressure [6-7]. When financial institutions provide services to new energy enterprises, they should pay attention to the competitive risks faced by enterprises and avoid the liquidity risks caused by the longer term of financing projects or the difficulty of realizing oversaturated products in the market.

## **5. Solution of the Facing Green Finance Development**

### **5.1 Improve the Relevant Laws and Regulations System of Green Finance**

First of all, it is necessary to improve the support and supporting mechanisms related to green financial products, promote the formation of a good external environment for the development of green financial businesses, reduce unnecessary business risks, and enhance the attractiveness of green financial businesses. Secondly, it is suggested to improve the supervision and legal system related to green finance, clarify the scope of powers and responsibilities of all parties and the reward and punishment mechanism, and ensure the orderly development of green finance business norms by formulating a perfect supervision system.

### **5.2 Capitalization of Ecological Resources and Capitalization of Ecological Assets**

The ecological industry is different from the environmental protection industry. Resource utilization and seeking value increment from participating in the whole chain extension and integration are the characteristics of the industry [8]. There are obvious market mechanism failures in China's ecological field, and the problem of ecological negative externalities is far from being paid attention to and solved. Due to the lack or inability to establish a price mechanism paid by polluters, as well as the relatively low overall economic level and governance level of the region, coupled with the complexity of urban and rural planning required behind the complex concept of "ecosystem", the function of the ecosystem has been underestimated and has become a short board restricting China's environmental improvement. In order to solve the problem of investment and financing in ecological compensation, we must consider the public welfare attribute of ecological compensation and the profit-seeking impulse of social capital and introduce a market mechanism. The capitalization of ecological resources and the capitalization of ecological assets provides new ideas for solving this problem.

## 6. Conclusion

This paper mainly expounds on the current development situation and problems of green finance, how to fully implement green finance, the challenges and difficulties faced by green finance, and explains the current situation of green finance from three aspects. China's green bond market has flourished in the green bond market since 2016, and China has become one of the world's largest green financial markets. It cannot be ignored that while China's green finance is developing at a high speed, there are still some problems. Under the background of promoting carbon neutrality strategy, green finance, as an important capacity support, can better promote carbon neutrality in all walks of life only by solving these problems. At the same time, only by solving the problems existing in the development can green finance develop in the future.

## References

- [1] Zhang Z , Hao L , Linghu Y ,et al.Research on the energy poverty reduction effects of green finance in the context of economic policy uncertainty[J].Journal of Cleaner Production, 2023.DOI:10.1016/j.jclepro.2023.137287.
- [2] Yu-Hong Dai, Xu F .Special Issue on "Operations Research Models for Green Finance"[J]. International transactions in operational research: A journal of The International Federation of Operational Research Societies, 2023.DOI:10.1111/itor.13156.
- [3] Amin M A , Mia M A A , Bala T ,et al.Green finance continuance behavior: the role of satisfaction, social supports, environmental consciousness, green bank marketing initiatives and psychological reactance[J]. Management of Environmental Quality: An International Journal, 2023, 34(5):1269-1294. DOI:10.1108/MEQ-09-2022-0257.
- [4] Shih C M , Gwizdalski A , Deng X .Building a Sustainable Future: Exploring Green Finance, Regenerative Finance, and Green Financial Technology[J].World Scientific Annual Review of Fintech, 2023, 01.DOI:10.1142/S2811004823500021.
- [5] Xin L .Green credit policy and the net value crash risks of fund holding heavily polluting enterprise stocks: a quasi-natural experiment[J].Environmental Science and Pollution Research, 2023.
- [6] Li R , Chen Y .The influence of a green credit policy on the transformation and upgrading of heavily polluting enterprises: A diversification perspective[J].Economic Analysis and Policy, 2022, 74.
- [7] Zhou X Y , Caldecott B , Hoepner A G F ,et al.Bank green lending and credit risk: an empirical analysis of China's Green Credit Policy[J].Business Strategy and the Environment, 2022, 31.DOI:10.1002/bse.2973.
- [8] Wen-Lie W . Research on the Multi-Objective Optimization Strategy of Government Promoting Banks to Implement Green Credit[J].Operations Research and Management Science, 2021, 30(4):178-183. DOI:10.12005/orms.2021.0127.