

Research on the Strategy and Practical Path of Promoting Low Carbon Development through Green Finance

XiYu Xu^{1*}

¹Business School, Nanfang College
Guangzhou, Guangzhou, China

*Corresponding author:
xuxy220126@stu.nfu.edu.cn

Abstract:

Green finance has become a highly anticipated hot topic, and its extensive promotion has sparked a widespread research trend, attracting the attention and discussion of numerous scholars and the industry. This article explores the practical path of promoting low-carbon development through the green finance in clean energy conservation and emission reduction. This study describes the challenges and countermeasures that green finance may face in promoting low-carbon development, effectively addressing the challenges faced by green finance in promoting low-carbon development, further promoting the maturity and improvement of the green finance system and providing solid financial support for achieving low-carbon development goals. This article proposes the following suggestions for the future development of green finance: firstly, efforts should be made to increase the training of green finance professionals to ensure that the industry has sufficient reserves of high-quality talents; Secondly, strengthen cooperation carry out research and practice together with universities and research institutes in actual situations of green finance projects, and promote the deep integration of theory and practice; In addition, people should actively build an ecosystem for green finance, promote collaborative cooperation among government, enterprises, financial institutions, and various sectors of society, and form a strong force about promoting the development of the green finance. Through these measures, the aim is to make China's green finance development smoother and more effective in addressing the urgent need for sustainable development in the low-carbon economy era.

Keywords: Green finance; low-carbon economy; sustainable development.

1. Introduction

With the sustained development of the entire economy, the concept of sustainable development and environmental protection has become an international consensus. Green finance appears in this context, with the aim of promoting the dual goals of economic prosperity and ecological environment protection. As a tool to promote economic and environmental win-win, colored gold has become a hot spot of research in the global financial field. It supports a low-carbon economy, environmental projects, and sustainable development projects by using financial tools and services.

In 1987, the conference report “Our Common Future” proposed the concept of sustainable development. Since then, the green finance, a synonym for sustainable and environmental finance, has gradually attracted worldwide attention.

In terms of policy, the Guiding Opinions on Green Finance Development issued by the People’s Bank of China and the Sustainable Development Goals (SDGs) issued by the United Nations have guided this concept and encouraged the development of green finance. In recent years, the development trend of China’s green bond market has been good, with significant progress in market size, structure, and product innovation. As of the end of June 2024, the cumulative issuance scale of labeled green bonds in the Chinese domestic market has reached 3.74 trillion yuan, with a stock scale of 2.04 trillion yuan, and the global issuance scale of labeled green bonds has reached 3.03 trillion US dollars.

In practice, there are countless successful cases of green finance, demonstrating its significant effectiveness in promoting sustainable development. For example, emerging economies such as Brazil and Bangladesh have made certain progress in green credit, bonds, and other fields, promoting the efficient development of their green economy [1]. For example, developed economies such as the United States and the European Union have established relatively complete green finance systems, using financial tools such as green funds and green insurance to guide funds towards green industries, promoting economic development while ensuring environmental protection. Color gold has brought a wide range of positive impacts to the economy of various industries [2]. Firstly, green finance has played a significant supervisory role in promoting industrial green development, and green finance has facilitated industrial green development through green technology innovation and ecological industrial structure. Secondly, green finance also has an impact on urban green innovation. Promote green innovation in cities and improve the business environment by improving human capital. Especially when

green finance policies have positive spatial spillover effects on urban green innovation, they can also promote green innovation in neighboring cities [3]. In addition, the green finance development has provided tremendous assistance to China’s low-carbon economic transformation. It can be seen that green finance is developing with a positive image. However, the development of green finance still faces many challenges. Environmental risk assessment and insufficient innovation in green financial products remain a challenge. Therefore, this article aims to analyze the global trends and practical experience of green finance development, and explore the development effectiveness and differences of green finance among different regions and countries, to provide a reference for the further promotion and application of green finance.

2. A Strategic Framework for Promoting Low-carbon Development Through Green and Integrated Approaches

2.1 Policy Support

In terms of policy support, the Chinese government attaches great importance to the development of green finance, providing a solid policy foundation for green and low-carbon development through top-level design and policy guidance. In April 2024, the People’s Bank of China jointly issued the Guiding Opinions on Further Strengthening Financial Support, which proposes to build an internationally leading financial support system for green and low-carbon development in the next five years, and a coordinated and efficient economic and financial green and low-carbon policy system will form a better play in resource allocation, risk management and market function pricing. Regulation is essential in practical implementation. In the guidance for further development, Strengthen financial support for green and low-carbon development, emphasize the importance of environmental information disclosure, and propose gradual classification, and explore the establishment of different coverage. Types of financial institutions, promote disclosure by relevant listed companies and bond issuers, and provide environmental information in accordance with the law. At the same time, the policy also strengthens the prudent management and risk prevention of climate change-related risks, proposes to incorporate climate the change-related risks into the macro-prudential policy framework, and promotes financial institutions to regularly report information on the scale, proportion, and risk exposure of high carbon assets to financial management departments.

To encourage financial institutions and social capital

to participate in green and low-carbon investment, the People's Bank of China has taken a variety of incentive measures, including incorporating green loans and green bonds into qualified mortgages and pledges for monetary policy operations, creating tools that support energy conservation and emission reduction, and support the establishment of special projects refinancing for clean and efficient use of coal.

The local green finance reform and innovation pilot zone have also explored various incentive measures, such as financial and tax subsidies, one-time rewards, assessment incentives, etc., to attract financial institutions to gather and encourage innovation in financial products and services. A comprehensive framework for the development of the green finance has been established through the formulation, regulation, and incentive measures, aimed at promoting the transformation of the Chinese economy towards a greener and low-carbon direction.

2.2 Green Integrated Products and Services

With the increasing awareness of environmental protection, green financial products have become the choice of more and more people. There are many types of green finance products, such as green loans, green bonds, green insurance, green funds, and so on. Green credit is a financial service provided by financial institutions to support project investment, financing, project operation, risk management, as well as environmental protection, energy conservation, clean energy, green transportation, green buildings and other fields. In recent years, China's green credit market has developed rapidly, with increasing growth rates and proportions of total loans.

Color bond refers to a bond that uses the proceeds specifically to fund environmental protection projects. In 2023, the institutional system of China's green bond market will be further improved, but the issuance volume will decrease. The issuance of international green bonds has increased year-on-year, with China ranking among the top three in terms of issuance scale in the global green bond market. Green insurance refers to the economic behavior of the insurance industry in providing risk protection and financial support in environmental resource protection and social governance, green industry operation, green lifestyle consumption, and other aspects. By providing risk protection for environmental projects and green environmental protection, people aim to reduce economic losses and promote the healthy development of green industries.

2.3 Market-based Construction

The color recognition system provides a standardized method for evaluating and certifying the greenness of

products or services, helping consumers and businesses have more choices, and providing standard financial items for evaluating the greenness of green products. The Opinion on Establishing a Unified Green Product Standard, Certification and Labeling System proposes to initially establish a scientifically unified green product. The emissions trading market is an institutional innovation that utilizes market mechanisms to control and reduce greenhouse gas emissions. Pricing carbon emissions, to incentivize companies to take measures to reduce carbon emissions, while providing funding sources for green and low-carbon projects.

In July 2021, China's national carbon emissions trading market was launched, becoming the world's largest carbon market covering greenhouse gas emissions, with over 4 billion tons of carbon dioxide emissions. This market not only promotes the green and low-carbon transformation of high-emission industries, but also provides economic incentives for carbon reduction, promotes innovation in green and low-carbon technologies, and the development of renewable energy [4].

The color recognition system and carbon emission trading market have jointly promoted the green and low-carbon development of the economy by providing standards and incentive mechanisms, and facilitating the deep integration of green finance and low-carbon development.

3. Exploring the Practical Path of Promoting Low Carbon Development with Color Gold

3.1 Clean Source Field

There have been many practical cases in the financing and risk management of clean energy projects such as solar energy and wind, demonstrating the important supporting role of finance in the development of clean energy. Financial institutions provide diversified financing services for clean energy projects through the "new energy+green finance" model. In this model, financial institutions use various financial instruments such as equity, debt, and asset securitization to carry out green market-oriented debt-to-equity swaps, green funds, green credit, and other businesses based on the financing needs of projects at different stages of development. The aim is to provide long-term, low-cost funds for projects while meeting diversified needs such as reducing leverage ratios and supplementing capital. For example, through the model of green asset securitization and green issuers, the State Subway Group has successfully solved the problems of high capital demand and financing costs and expanded new channels for

financing in the clean transportation industry. In addition, ICBC Investment has invested over 20 billion yuan in the new energy industry chain through market-oriented debt-to-equity conversion practices, helping enterprises reduce their asset-liability ratio levels and supporting energy enterprises in cost reduction, efficiency improvement, and low-carbon transformation and development. In terms of risk management, green finance provides risk protection for clean energy projects through products such as green insurance. For example, the “Green Insurance Classification Guidelines (2023 Edition)” released by the China Insurance Industry Association classifies clean energy insurance such as solar energy insurance as green insurance products, which helps to diversify and transfer the risks that clean energy projects may face during construction and operation. Color Gold also provides financial support for clean energy projects by supporting the application of financial products such as green infrastructure public REITs and green funds. For example, Penghua Shenzhen Energy Clean Energy Closed Infrastructure Securities, The investment fund has included the Shenzhen Energy Oriental Power Plant (Phase I) project in its portfolio REITs products with an issuance scale of 3.538 billion yuan have become the first batch of REITs to be publicly issued China’s clean energy infrastructure.

Green finance plays a crucial role in financing and risk management. Clean energy projects provide strong support for sustainable development and promote the development of the clean energy industry through innovative financial tools and service models.

3.2 Energy Saving Emissions and Circular Economy

In terms of industrial energy, according to the guidance issued by the Ministry of Industry and Information Science and technology, the People’s Bank of China, the Bank and Insurance Administration of China, the China Securities Regulatory Commission, the Securities Regulatory Commission and the government, through innovation driven and systematic development, strengthen the innovative application of green low-carbon technologies and accelerate green transformation and upgrading. This policy aims to promote green industrial development, optimize and adjust industrial structure layout, and build a green supply chain by establishing a manufacturing service system through financial support.

By 2025, it is expected to establish a mature mechanism for industry finance cooperation, promote the aggregation of resources from various factors towards green and low-carbon fields, and support industrial enterprises to become carbon emission reduction benchmarks. In terms

of building energy, green finance supports the development of building energy efficiency, green building loans, and green bonds by providing financial instruments. The report “Research on Green Implementation Path” analyzes the characteristics of financial support for building energy efficiency and green buildings, and proposes relevant suggestions for the application of financial instruments in the construction field in the following aspects. In addition, China has prepared various strategies, such as the General Code for Building Energy Efficiency, Renewable Energy Utilization, and the 14th Five Year Plan for Building Energy Efficiency and Environmental Protection, which clarify building energy efficiency standards and development goals. The application of green finance in the construction field not only alleviates the problem of funding shortage, but also promotes the establishment of a green building indicator system and information disclosure.

As a pilot city for the coordinated development of green buildings and green finance, Jiangsu Province has effectively promoted the development of green buildings through measures such as policy guidance, standard promotion, product innovation, and technological support, and achieved significant results. The experience of Huzhou City shows that the coordinated development of the green finance and the green buildings can effectively promote building energy efficiency and the popularization of green buildings [5].

Green finance has played a positive role in promoting industrial energy conservation and building energy conservation. Through policy guidance and financial innovation, it provides financial support and risk management for green transformation promotes the application of green low-carbon technologies and optimizes and upgrades industrial structure.

4. Challenges and Countermeasures Faced by Green and Integrated Promotion of Carbon Development

Color gold plays a crucial role in promoting low-carbon development, but also faces some challenges and issues. At present, the standardization of green finance investment has not been unified, and there is a lack of a widely recognized and followed framework, which affects the precise docking of green finance products and funds. It can promote the gradual implementation of carbon emissions. Conduct accounting in the financial system, establish and improve carbon accounting methods, and accelerate the development of a unified database for financial institutions to study the green finance standard system and develop transitional financial standards.

Environmental information disclosure plays an important role in the field of green finance, but the quality of environmental information disclosure by financial institutions needs to be improved, which affects market transparency and risk management. People can explore the establishment of an environmental information disclosure system that covers different types of environmental information. Financial institutions are gradually formulating and improving guidelines for sustainable development, guiding listed companies to disclose sustainable development information. The development of green finance in China currently relies mainly on policy driven approaches, as well as The self-discipline and driving force of the market promote the improvement of laws and regulations, fully play the role of the rule of law in safeguarding, promote legislation in the field of green finance, enrich relevant monetary policy tools, fully utilize carbon emission reduction support tools, and incorporate climate related risks into the macro prudential policy framework. Similarly, the quality of carbon accounting information also needs to be improved, requiring third-party supervision and verification mechanisms to ensure the accuracy and reliability of accurate information.

Through these measures, people can effectively help green finance promote low-carbon development, further promote the maturity and improvement of the financial system for green development, and provide solid financial support for achieving low-carbon development goals.

5. Conclusion

China still needs to take many measures to promote the development of green finance. Firstly, issuing green finance policies, setting standards for green finance, and establishing a green finance review mechanism to regulate the green finance market, to enhance investor confidence. Secondly, the innovation of green financial products needs

to be continuously promoted, and the government can cooperate with financial institutions to accelerate the launch of green financial products that meet market demand. At the same time, the cultivation of talents should be continuously strengthened, and cooperation with various universities can be established to offer green finance elective courses and provide support for green finance projects. The implementation of these measures can make the development of green finance in China smoother and bring positive help to cope with the development of the low-carbon economy. The integration of financial technology and green finance not only promotes the development of green finance but also provides strong technical support and risk management tools for the sustainable transformation of the economy. With the continuous advancement of technology and the development of the market, the application of financial technology in the field of green finance will become more extensive and in-depth.

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