

Research on the Development Strategies of Green Finance in the Hainan Free Trade Port under the Dual Carbon Goals

Chengyin Gao*

Hainan Vocational University of Science and Technology, Haikou 571126, China

*Corresponding author: Chengyin Gao, gcy20211125@163.com

Copyright: © 2024 Author(s). This is an open-access article distributed under the terms of the Creative Commons Attribution License (CC BY 4.0), permitting distribution and reproduction in any medium, provided the original work is cited.

Abstract: As global climate change issues become increasingly severe, the Chinese government has set forth the strategic goals of “carbon peak” and “carbon neutrality” (dual carbon goals). As part of the national strategy, the development of green finance plays a crucial role in the realization of these goals within the Hainan Free Trade Port. This study systematically analyzes the implications of the dual carbon goals and their implementation paths, the concept and characteristics of green finance, the role of green finance in the construction of the free trade port, and the experiences of green finance development domestically and internationally. Based on this analysis, the study delves into the current state and challenges of green finance development in the Hainan Free Trade Port and proposes strategies for improving the policy system, enhancing innovation in financial products and services, strengthening market mechanisms, promoting multi-party cooperation, and reinforcing risk management and assessment, aiming to provide theoretical support and practical guidance for the sustainable development of green finance in Hainan Free Trade Port.

Keywords: Dual carbon goals; Green finance; Hainan Free Trade Port; Policy system; Financial innovation; Market mechanism

Online publication: July 26, 2024

1. Introduction

Against the backdrop of increasingly severe global climate change and environmental issues, the low-carbon economy and green development have become a global consensus. The “carbon peak” and “carbon neutrality” goals proposed by the Chinese government are not only significant measures to combat climate change but also crucial paths towards sustainable development. As an important part of the national strategy, the development of green finance in the Hainan Free Trade Port plays a vital role in achieving these dual carbon goals. By directing funds towards the green industry, green finance facilitates economic structural transformation and sustainable development, becoming an essential tool for promoting a low-carbon economy. Therefore, researching strategic measures for the development

of green finance in the Hainan Free Trade Port holds significant practical importance and urgency for achieving the dual carbon goals.

2. Dual carbon goals and green finance overview

2.1. The essence and implementation paths of dual carbon goals

The dual carbon goals (“carbon peak” and “carbon neutrality”) represent China’s critical strategic objectives in addressing global climate change and promoting sustainable development. “Carbon peak” refers to achieving the maximum carbon dioxide emissions within a specific time frame, followed by a gradual reduction, whereas “carbon neutrality” involves reducing emissions and increasing absorption to net zero emissions. Achieving these goals requires comprehensive governance and reform across energy structure, industrial structure, technological innovation, and policy mechanisms to ensure the concurrent advancement of economic development and environmental protection.

The pathways to achieving the dual carbon goals primarily include: adjusting the energy structure to gradually reduce reliance on fossil fuels and increase the proportion of renewable energy usage; advancing the upgrading of industrial structures to accelerate the transformation of high-energy consumption and high-emission industries and developing green, low-carbon industries; enhancing energy efficiency through technological innovation and promoting low-carbon technologies and processes; and strengthening policy guidance and legal constraints, establishing a robust carbon trading market and carbon tax system to encourage corporate and societal participation in carbon reduction actions. Additionally, strengthening international cooperation to learn and adopt global best practices is essential for collectively addressing climate challenges.

In the implementation process, the government should play a leading role by setting clear policy goals and implementation plans, while also enhancing public awareness and participation in environmental protection through public education and corporate engagement ^[1]. Local governments and enterprises should develop scientifically sound emission reduction measures and implementation paths tailored to their specific circumstances to ensure the smooth realization of the dual carbon goals.

2.2. Concept and characteristics of green finance

Green finance refers to financial activities that guide and support the development of green industries to drive economic transformation and sustainable development through financial tools and means. Its core involves integrating environmental protection, resource conservation, and climate change mitigation into financial decisions to foster capital flow into low-carbon, environmentally friendly, and sustainable sectors. The main tools of green finance include green bonds, green credits, green funds, carbon trading, and environmental liability insurance.

Green finance is characterized by its environmental orientation — funding must meet green standards such as energy conservation, emission reduction, pollution control, and ecological protection. It also features a specific risk assessment due to the usually long investment return cycles and high uncertainty of green finance projects, necessitating professional risk assessment and management capabilities. Additionally, policy support is crucial for the development of green finance, such as tax incentives, subsidies, and credit support.

Globally, green finance has become an important tool for promoting a low-carbon economy and addressing climate change. Governments and financial institutions worldwide actively promote green finance innovation, establish green finance standards and frameworks, and facilitate capital

flow into sustainable development areas, significantly contributing to global climate governance and environmental protection.

2.3. Role of green finance in free trade port construction

Green finance plays an essential role in the construction of the Hainan Free Trade Port. By employing green finance tools, capital can be effectively directed towards environmental industries, fostering the formation and development of green industrial chains within the free trade port. Financial products such as green bonds and green credits provide ample funding for energy conservation projects and green technology innovations, accelerating the green transformation of the free trade port economy.

Green finance helps optimize resource allocation and enhance resource use efficiency within the free trade port. By implementing green finance policies, companies are encouraged to adopt green technologies and processes in project investments and operations, improving energy efficiency, reducing resource consumption, and mitigating environmental pollution. The free trade port can leverage green finance tools to promote the development of low-carbon industries, achieving both economic and environmental benefits.

Moreover, green finance can enhance the international competitiveness and attractiveness of the free trade port. As a significant global trade node, the free trade port's innovations and practices in the green finance sector can attract international capital and advanced technologies, promoting international cooperation and exchange. By establishing and improving the green finance system, the free trade port can set a benchmark for green development, contributing Chinese wisdom and solutions to global green finance development.

2.4. Learning from domestic and international green finance development experiences

In terms of green finance development, the international community has amassed numerous successful experiences worth emulating. For instance, the European Union has promoted the development of green finance through stringent environmental regulations and policies. The EU has established green bond standards to foster the healthy development of the green bond market, providing stable financing channels for green projects. Additionally, the EU has introduced new green policies, guided by policy directives and financial support, to promote economic green transformation.

Domestically, green finance has achieved remarkable results in China. The People's Bank of China and related financial institutions have issued green finance policies and guidelines to promote the development of green credit and green bonds. For example, green finance bonds issued by the National Development Bank have provided funding for multiple green projects, facilitating the implementation of energy conservation, environmental protection, and clean energy projects. China's green finance reform pilot zones have also provided valuable experiences for green finance innovation, forming a series of replicable and promotable green finance models.

The Hainan Free Trade Port can draw on both international and domestic successful experiences, tailored to its specific circumstances, to explore innovative green finance models. By strengthening policy support, innovating financial products, and perfecting market mechanisms, the free trade port can promote the sustainable development of green finance. Additionally, it is crucial to focus on risk management and assessment to ensure the robust operation of green finance projects, providing a solid financial guarantee for achieving the dual carbon goals^[2].

3. Analysis of the current status and issues in the development of green finance in the Hainan Free Trade Port

3.1. Basic situation and development status of the Hainan Free Trade Port

The Hainan Free Trade Port serves as a significant initiative in China's reform and opening-up, aiming to establish a high-level free trade port with international influence. Encompassing the entire island of Hainan, the Free Trade Port is committed to creating a new high ground for an open economy through the implementation of highly liberalized policies and systems. The construction of the Free Trade Port involves multiple domains, including finance, trade, investment, shipping, and tourism, with the objectives of achieving trade liberalization, investment facilitation, free cross-border capital flows, and free movement of people.

Since its establishment, Hainan has made notable progress in economic development and institutional innovation. Particularly in optimizing the business environment, attracting foreign investment, and promoting industrial upgrading, the Hainan Free Trade Port has achieved positive results through the implementation of various reform measures. For example, Hainan has introduced a negative list system, significantly loosening market access restrictions and attracting a large influx of foreign investment. Simultaneously, the free trade port is actively developing modern service industries, high-tech industries, and the green economy, laying a solid foundation for high-quality economic development.

3.2. Current status of green finance development in the Hainan Free Trade Port

The Hainan Free Trade Port has made certain progress in promoting the development of green finance. Firstly, the Hainan Provincial Government places high importance on the development of green finance, having introduced a series of policies and measures to support the innovation of green financial products and services. Financial instruments such as green credit, green bonds, and green funds are gradually being promoted in the Free Trade Port, providing significant funding for green projects. For example, Hainan Province has launched special green bonds to support environmental infrastructure construction and clean energy projects.

Moreover, the Hainan Free Trade Port actively promotes the construction of a green finance market, attracting numerous financial institutions and investors. Banks, securities companies, and fund management companies within the Free Trade Port have established green finance departments and are developing and promoting green financial products. At the same time, the Hainan Free Trade Port has also strengthened cooperation with international financial institutions, learning from advanced international experiences to enhance the level of green finance services^[3]. Through these efforts, the Hainan Free Trade Port has initially formed a relatively comprehensive green finance system, playing an active role in promoting the development of the green economy.

3.3. Issues in the development of green finance in the Hainan Free Trade Port

Despite some achievements in green finance development, the Hainan Free Trade Port still faces several problems and challenges. The first issue is the incomplete policy system. Although the Hainan Provincial Government has introduced some policies to support green finance development, the overall policy system is not yet robust, lacking specific implementation rules and supporting measures, which leads to suboptimal enforcement of green finance policies.

The second issue is the lack of innovation in green financial products and services. Currently, the green financial products in the Hainan Free Trade Port are relatively limited, primarily consisting

of green bonds and green credit, with few other innovative green financial products and services. Financial institutions face challenges such as technical barriers and information asymmetry when developing green financial products, making it difficult to meet diverse market demands. Additionally, the risk assessment and management mechanisms for green financial products are not yet well-established, affecting the enthusiasm of financial institutions and investors.

3.4. Key factors affecting the development of green finance

The key factors influencing the development of green finance in the Hainan Free Trade Port include the policy environment, market demand, and financial technology. Firstly, the policy environment is a crucial safeguard for the development of green finance. The government should further improve the green finance policy system, establish clear green finance standards and implementation rules, and provide incentives such as tax incentives, subsidies, and low-interest loans to encourage financial institutions and businesses to actively participate in green finance activities.

Market demand is a significant driver of green finance development. As environmental awareness increases and the green economy develops, the market demand for green financial products and services continues to grow. Financial institutions should enhance market research to develop diverse green financial products that meet the needs of different types of customers. Additionally, they should strengthen support for green projects to promote the formation and development of green industry chains.

Innovation in financial technology is a vital support for the development of green finance. Financial institutions should leverage advanced technologies such as big data, blockchain, and artificial intelligence to improve risk assessment and management capabilities of green financial products, enhancing the efficiency and quality of financial services ^[4]. Furthermore, there should be an emphasis on training green finance professionals to improve the expertise and capabilities of practitioners, providing a solid talent foundation for the development of green finance. Through these efforts, the Hainan Free Trade Port can achieve sustainable development of green finance, making a positive contribution to the achievement of the dual carbon goals.

4. Strategies for developing green finance in the Hainan Free Trade Port

4.1. Improving the policy system

A robust policy framework is fundamental for advancing the development of green finance in the Hainan Free Trade Port. Firstly, the government should introduce more specific and actionable green finance policies, clearly defining green finance and establishing standards and implementation details. Standards and norms for green financial products, including green bonds, green credit, and green insurance, should be formulated to ensure that funds are genuinely directed towards green projects. Additionally, the government should provide corresponding policy incentives such as tax breaks, financial subsidies, and low-interest loans to encourage financial institutions and enterprises to actively engage in green finance activities.

Secondly, the government should establish a comprehensive regulatory system for green finance, enhancing supervision and management of green finance activities. Setting up a dedicated green finance regulatory body responsible for implementing and overseeing green finance policies ensures that all measures are effectively executed. Also, a green finance disclosure system should be established, requiring financial institutions and enterprises to regularly report on the use of funds and

environmental benefits of green finance projects, enhancing transparency and public trust. Through a well-structured policy and regulatory system, a solid foundation for the sustainable development of green finance in the Hainan Free Trade Port is provided.

4.2. Strengthening innovation in financial products and services

Innovation in financial products and services is a key driver for the development of green finance. Firstly, financial institutions should actively develop a variety of green financial products to meet diverse market needs. For instance, creating innovative financial products like green funds, green leasing, and green Asset-Backed Securities (ABS) can provide more financing options for green projects. Financial institutions could also integrate technologies such as blockchain and big data to launch products like green letters of credit and green supply chain finance, enhancing the efficiency and quality of green finance services.

Moreover, financial institutions should enhance their support for green projects by providing customized financial services. By establishing professional green finance service teams, they can offer enterprises comprehensive services including financing, consulting, and project evaluation, assisting them in resolving challenges related to capital and technology ^[5]. Financial institutions should also collaborate with research institutions and environmental organizations to jointly develop green projects, providing technical support and solutions to promote the growth of green industries. Through innovation in financial products and services, the coverage and impact of green finance are continuously enhanced.

4.3. Perfecting market mechanisms

A sound market mechanism is crucial for the sustainable development of green finance. Firstly, a comprehensive green finance market system should be established to promote the standardization and regulation of green financial products. By setting unified green finance standards and certification systems to classify and rate green projects, the transparency and credibility of green finance products are ensured. The government could promote the establishment of green finance trading platforms that provide services such as issuance, trading, and disclosure of green finance products, fostering a healthy development of the green finance market.

Secondly, the pricing mechanism of green finance should be perfected to accurately reflect environmental costs and market risks. The government should promote the construction of carbon trading markets, using market mechanisms to regulate carbon emissions, encouraging enterprises to reduce carbon emissions and promote green development. Additionally, a risk pricing mechanism for green finance should be established, reasonably determining financing costs and returns based on the environmental benefits and risk levels of projects, motivating enterprises and financial institutions to engage actively in green finance activities. Through a robust market mechanism, effective resource allocation and the sustainable development of green finance are promoted.

4.4. Promoting multi-party cooperation

Multi-party cooperation is an essential path to achieving the sustainable development of green finance. Firstly, the government, financial institutions, and enterprises should strengthen cooperation to collectively advance the development of green finance. The government should play a leading role, setting clear development targets and implementation plans, and providing policy support

and guidance. Financial institutions should leverage their financial advantages to actively develop green finance products and services, offering financial support for green projects ^[6]. Enterprises should enhance their environmental awareness, actively initiate green projects, and drive industrial transformation and upgrading.

Secondly, international cooperation should be strengthened to learn from and introduce advanced international green finance experiences and technologies. The Hainan Free Trade Port should actively participate in international green finance organizations and cooperative projects, establishing relationships with international financial institutions and multinational corporations, and learning from advanced green finance concepts and practices. Through international exchanges and cooperation, advanced green finance products and technologies are introduced, enhancing the development level of green finance in the Hainan Free Trade Port. Additionally, cooperation with other domestic regions should be strengthened to form a regional alliance, jointly promoting the development of green finance.

4.5. Enhancing risk management and assessment

Risk management and assessment are crucial for ensuring the robust operation of green finance projects. Firstly, a scientific and rational green finance risk assessment system should be established to comprehensively evaluate the environmental benefits and financial risks of green projects. Financial institutions should set up professional risk assessment teams, establish strict risk assessment standards and procedures, and conduct multi-dimensional risk assessments of green projects to ensure fund security and project sustainability. Additionally, ongoing tracking and management of green finance projects should be strengthened to timely identify and address risks within the projects.

Secondly, a comprehensive green finance risk mitigation mechanism should be established to diversify and transfer financial risks. The government could set up a green finance risk fund to provide risk guarantees and compensation for green projects, reducing the risk burden on financial institutions. Financial institutions should enhance cooperation with insurance and guarantee companies to develop green insurance and guarantee products, providing risk protection for green projects. Through multi-level and multi-faceted risk management and assessment, the safety and sustainable development of green finance projects are ensured, boosting the confidence of financial institutions and investors.

5. Conclusion

Through a systematic analysis of dual carbon goals and green finance, this paper proposes multiple strategies for the development of green finance in the Hainan Free Trade Port, including improving the policy system, strengthening financial product and service innovation, perfecting market mechanisms, promoting multi-party cooperation, and enhancing risk management and assessment. The implementation of these strategies will effectively promote the development of green finance in the Hainan Free Trade Port, aiding in achieving dual carbon goals and sustainable development. Future research should further focus on the execution effects of green finance policies, the development and application of innovative financial tools, and the mechanisms for cross-sectoral and cross-industry collaborative cooperation. Additionally, ongoing monitoring of risk management and assessment methods in the practical operation of green finance is needed, continuously refining and optimizing related strategies to provide more scientific and systematic support for the development of green

finance in the Hainan Free Trade Port and nationwide.

Funding

Hainan Province Philosophy and Social Science Planning Project of 2023, Project Number: HNSK(ZC)23-136.

Disclosure statement

The author declares no conflict of interest.

References

- [1] Ge ZX, 2024, Exploring the Path to High-Quality Development of Green Finance in Hainan Free Trade Port from the Perspective of the Dual Carbon Strategy. *China Circulation Economy*, 2024(06): 149–152.
- [2] Wang S, 2024, Promoting the Development of Green Finance in Hainan Free Trade Port with a More Open Attitude. *Magazine introduction*, 2024(01): 25–27.
- [3] Fu TY, 2023, Discussion on the Development Strategy of Green Finance in Hainan Free Trade Port under the Dual Carbon Goals. *China Computerized Accounting*, 26(18): 178–180.
- [4] Sun XW, 2022, Research on the Development Strategies of Green Finance in Hainan Free Trade Port under the Dual Carbon Goals. *Finance and Accounting for International Commerce*, 2022(17): 81–86.
- [5] Zeng XW, 2024, The Development Logic and Path Choices of Financial Gardens in the Free Trade Port. *Hainan Finance*, 2024(02): 31–40.
- [6] Xue J, 2023, Practice of Green Finance in Hainan Free Trade Port. *China Forex*, 2023(20): 51–52.

Publisher's note

Bio-Byword Scientific Publishing remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.