

Problems and Countermeasures of Green Finance Development under the Goal of "Double Carbon" in China

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Abstract: As a responsible country, China actively participates in Global Climate Governance and proposes the "double carbon" goal. From the perspective of finance, this paper first analyzes the international and domestic situation, research significance, opportunities and challenges faced by the "double carbon" goal. Then, it analyzes the connotation, development status and existing problems of green finance. Finally, the paper expounds the countermeasures and measures of green finance in the process of the development and achievement of the "double carbon" goal.

Keywords: Green finance; Low carbon economy; Carbon peak; Carbon neutralization.

1. Introduction

In the summer of 2022, the temperature in Beibei, Chongqing, China reached 45°C. In the Arctic, people can wear short sleeves. The glaciers that have been melting for thousands of years are baking the whole world. Nowadays, the problem of climate change is becoming increasingly serious and urgent, and has become a topic of common concern to all mankind. In addition to anti epidemic cooperation, there is no global issue on which consensus can be reached more easily than how to deal with climate change. In response to climate change, China has actively demonstrated its responsibility as a major country and announced that "we will achieve carbon peak by 2030 and achieve carbon neutrality by 2060". The time interval between China's realization of the "double carbon" goal is far shorter than that of developed countries, which means that we need to make arduous efforts in the process of achieving the "double carbon" goal. It is noteworthy that achieving the "double carbon" goal, practicing the "double carbon" responsibility, and issuing the "double carbon" report to support enterprise technological innovation and promote carbon reduction and emission reduction are becoming the consensus and conscious action of China's financial industry. Achieving the "double carbon" goal requires a large amount of funds to participate, and the financial industry, as the backbone force to achieve the "double carbon" goal, is duty bound [1].

2. Overview of the "Double Carbon" Goal

2.1. Background situation of determining the "double carbon" goal

Carbon neutralization and carbon peak is a commitment of China to the world. We will achieve carbon peak in 2030 and carbon neutral in 2060. This is a major decision made by the Party Central Committee and the State Council based on the situation and the national conditions. It is of great significance. The "double carbon" goal promised is not only the need of

China's green economic development, but also a solemn commitment to the world and the whole world [2]. According to a group of forecast figures of authoritative institutions, the investment scale of China's double carbon economy is expected to reach 487 trillion in the next 30 years. Another group of figures shows that China's green credit balance is only 14 trillion yuan. At the same time, the balance of China's green bonds is only 1 trillion yuan, which means that in the next 30 years, we will have 480 trillion yuan of "double carbon" economic development space. In other words, the "double carbon" economy will also become an important driving force for China's next economic development.

In the past two years, the financial system has made remarkable progress in promoting the "double carbon" goal, which is reflected in the accelerated development of green finance. Green finance includes not only support for the "pure green" real economy, but also support for the low-carbon transformation of traditional industries. The latter is also called transformation finance. In the past two years, the scale of green finance has grown rapidly, the number of products and tools has increased, and the policies have been focused. At the same time, great progress has been made in the green finance ecology, especially in the green finance infrastructure. It should be said that green finance has achieved good results in promoting low-carbon emission reduction and green development. With the in-depth promotion of China's "double carbon" work, carbon peaking and carbon neutralization have been included in the overall layout of ecological civilization construction and become the key to achieve green and high-quality development. At the same time, in the face of the rapid development of the "carbon barrier" policy and mechanism in international trade in recent years, China should adhere to the system concept, adhere to risk prevention, and make a good response in advance.

2.2. The role of promoting the "double carbon" goal

The "double carbon" goal has a huge demand for finance and will promote the transformation of the financial industry. As an important tool for allocating resources, finance plays a

very important role in promoting and realizing the "double carbon" goal.

In the process of promoting the "double carbon" goal, there is a huge demand for financial services, including a large demand for capital, a long time period for capital investment, and high requirements for improving financial services. The demand for the "double carbon" goal cannot be met by the traditional financial services in the past, so there are new requirements for the financial system to provide more effective financial instruments, products and services. The promotion of the "double carbon" goal of financial services is also of great significance to the financial system. This is an important historical mission of the financial industry and a concrete embodiment of the deepening of financial functions. The "double carbon" also plays a very important role in promoting the transformation of the financial industry.

On February 15, 2022, the National Standardization Management Committee issued the key points of national standardization work in 2022, proposing to "promote the development of basic general standards for carbon management system". At present, promoting "double carbon" can create a lot of development and business opportunities, promote the development of emerging industries on a large scale, and carry out large-scale renovation of old equipment. These are business and development opportunities. The promotion of the "double carbon" work can effectively improve the living environment of all parts of the country, including rural and urban areas, so as to improve the quality of life and the quality of life of the majority of urban and rural residents. Through the promotion of "double carbon", we can leave green mountains and clear waters for future generations, that is, the golden mountains and silver mountains in the future. Promoting the implementation of "double carbon" can reflect our image as a responsible country. Realizing the "double carbon" goal is a broad and profound social and economic change. Therefore, not only enterprises, all walks of life, all localities, but also urban and rural residents need to participate in it, which will bring about great changes to our production and lifestyle [3]. The risks brought by climate change will have a systematic impact on the financial system and the whole society. We need accurate and continuous data to assess and manage climate risks.

2.3. Opportunities and challenges of recommending the "double carbon" goals

Compared with the major economies in the world, China's double carbon target is the most demanding and time-consuming. Due to the different levels of economic development, the European Union reached the carbon peak in the 1980s, Japan reached the carbon peak in 2008 and the United States reached the carbon peak in 2007. However, the carbon neutralization targets of these major economies are set at 2050. Compared with China, they have a longer time and a higher level of economic development. At present, in China's energy structure, non-fossil energy accounts for only 15.9%, clean energy (including hydropower) power generation accounts for 36%, and coal accounts for 52%, which is far higher than the world average level. This is related to the abundant coal resources in China. Compared with some developed economies, China's energy structure reform has a long way to go.

3. Development Status of Green Finance in China

On August 31, 2016, seven ministries and commissions including the People's Bank of China and the Ministry of Finance jointly issued the guiding opinions on building a green financial system (hereinafter referred to as the Guiding Opinions). Put forward the definition of green finance. Green finance refers to economic activities that support environmental improvement, coping with climate change and resource conservation and efficient utilization, that is, financial services provided for project investment and financing, project operation and risk management in the fields of environmental protection, energy conservation, clean energy, green transportation and green buildings [4]. Since 2016, China's green bond market has developed rapidly and has become the largest green bond market in the world. With the issuance of the guiding opinions, China will become the first economy in the world to establish a relatively complete green financial policy system.

Since the 19th National Congress of the Communist Party of China, China has strengthened its efforts in the development of ecological civilization, environmental protection, green development, green finance and other aspects, so that public benefits such as environmental improvement and resource conservation are reflected through green development. Putting forward the concept of green finance is to bridge the gap between public interests and private interests and promote green development through financial instruments. When the world realizes the importance of environmental protection, it will formulate some laws and policies related to environmental protection, and more and more countries will become the main force to guide the development of environmental protection.

The scale of the green financial market continues to expand, and product innovation continues to emerge. At present, China has become one of the largest green financial markets in the world. The scale of green credit ranks first in the world, and the scale of green bonds ranks second in the world. In addition, green funds, green insurance, green trust and other products have been constantly emerging, and carbon neutral bonds and sustainable development linked bonds have been launched to strongly support the green development of the real economy.

By the end of June 2022, the bank's financial products have supported the real economy by investing in bonds, non-standard creditor's rights, unlisted enterprise's equity and other assets, with a capital scale of about 25 trillion yuan, and realized the connection between financial funds and the financing needs of the real economy through multiple channels. In the first half of 2022, the financial market issued 56 financial products with social responsibility themes such as rural revitalization and public welfare and charity, raising more than 16 billion yuan to help achieve the goal of common prosperity; 43 ESG themed financial products were issued, raising a total of more than 20 billion yuan, helping to achieve the goal of "double carbon". By the end of June 2022, the scale of financial management funds invested in green bonds exceeded 250 billion yuan, the scale of special bonds invested in epidemic prevention and control, rural revitalization, poverty alleviation and other special bonds exceeded 150 billion yuan, and the financial support provided for the development of small, medium and micro enterprises exceeded 3 trillion yuan [5].

In the first half of 2022, the overall scale of China's green financial market has exceeded 20 trillion yuan, and the industry scale is growing rapidly. In the context of rapid development, a large number of financial institutions are pouring in, and the business competition is gradually fierce.

4. Main Problems in the Development of Green Finance in China under the Goal of "Double Carbon"

At present, in the process of carbon compliance and carbon neutralization, the demand and supply of green finance have been significantly improved, and green finance is facing an unprecedented period of opportunity and development. The environmental benefits and emission reduction benefits of green finance are also gradually highlighted. At the same time, there are still obstacles to green finance in China, mainly reflected in the following five aspects.

(1) The efficiency of green finance policy is low, and the contradiction between multi subjects and multi objectives is prominent. It needs to be further considered and implemented systematically with the overall thinking. There are problems in the coordinated development of green finance and national strategies such as consolidating rural revitalization, achieving common prosperity, and comprehensively building a unified national market. The coordination and cooperation of various departments are not smooth. The degree of convergence between green finance and financial support needs to be improved, and the leverage and guiding function of financial funds are limited. The synergy between the central green financial policy and local economic development is not high, resulting in unnecessary waste of resources and inefficient investment. There is a mismatch between the development objectives of green finance and the assessment indicators of financial institutions, and it is difficult for financial institutions to truly mobilize their internal kinetic energy; Green finance, Inclusive Finance and even financial science and technology in the financial system are not integrated well. The incentive and restriction of green financial policy to enterprises are difficult to achieve the same with the development goals of enterprises, and there are financing constraints in the transformation of enterprises. The green finance policy failed to achieve effective guidance in promoting green consumption.

(2) There are few green financial products and lack of innovation, which cannot meet the needs of the main body of the financial market. At present, the green financial products of China's financial institutions are mainly green credit and green bonds, while the green funds, green insurance and carbon financial products still lag far behind the developed countries, and there is also a mismatch between them and China's actual social needs. At the level of financial institutions, investment and financing failed to fully investigate and cooperate with financial risks and environmental benefits, and more importantly, it was for the purpose of fulfilling the performance assessment requirements of the regulatory authorities for green finance. At the enterprise level, it is difficult for green financial products to meet the financing needs of some enterprises, and financial institutions have strict definitions of green low-carbon projects. At the consumer level, there are problems such as insufficient promotion of green financial products for individuals and asymmetric information between financial institutions and potential green investors.

(3) The pilot assessment system is the same, and the regulatory policy does not pay enough attention to regional differences. China's financial management departments have the same standard for the assessment and evaluation system of the green financial reform pilot areas in six provinces and nine regions, ignoring the different foundations of regional economic and financial development. Rigid assessment may lead to the problems of movement, short-term and indicator based green financial development, and the national policy support level fails to reflect regional fair distribution.

(4) International cooperation needs to be deepened, and green investment in the the Belt and Road needs to be strengthened in an orderly manner. The gradual convergence and unification of the standards of green industry in China and international standards needs a process, and the green financial standards in the transition period need to be further clarified. In addition, the development of green finance in China has not yet produced some effective spillover effects from experience, especially failed to play some demonstration and leading role in the countries along the Belt and Road and some regions.

(5) The publicity for the society is not extensive enough and there is a lack of relevant professionals. The whole society's understanding of the concepts of green development, green finance, carbon finance, carbon peaking and carbon neutralization is only superficial, and the general education of the public on green consumption and green low carbon is not enough. The relevant training of grass-roots financial institutions, small and medium-sized private enterprises and social organizations is insufficient, and the professional training system has not been established. At present, talents in carbon accounting, evaluation of ecological product value, information platform construction, green finance legislation, green financial product innovation, and evaluation management of the whole process of green projects are scarce in China.

5. Countermeasures to Promote the Development of Green Finance in China

China's green finance will usher in the best development period. Financial institutions should seize the opportunity, continue to promote product innovation, constantly strengthen risk management, and inject strong financial power into green development. The following countermeasures and measures are proposed.

(1) We will optimize the governance structure, strengthen capacity building, and promote the improvement of the functions of the green financial market. The bank needs to establish and optimize the green financial governance structure according to the requirements of the guidelines, specify responsibilities to departments and individuals, strengthen business collaboration, and be more conducive to the promotion of work. In addition, we should continue to strengthen the capacity building related to green finance and lay a foundation for the sustainable and high-quality development of green finance. These include: first, strengthen the research capacity of green financial industry policies, relevant standards, technologies, financial products and service schemes. Second, strengthen the differentiated management ability of projects and customers, and improve the pricing ability of green projects.

(2) Improve the innovation ability of green financial

products and services, reform and innovate green finance, and improve the overall supply capacity and level of green finance. The promotion of the double carbon goal will put forward new demands on the mode of financial services, the supply of products and the management of the financial system. In order to better serve the double carbon goal, the financial system must "adapt to changes" and constantly reform and innovate. First, banks should actively respond to policies and cooperate with government agencies; Secondly, we should innovate green financial products and services according to the investment and financing needs of green industry development; Thirdly, promote product innovation in the field of green finance, such as participating in the carbon emission trading market and exploring new carbon finance businesses such as carbon futures. Finally, explore the "green + inclusive" product innovation, realize the common promotion of the two, and help solve the problems of expensive and difficult financing in the green transformation of small and micro enterprises. We will increase investment in green finance. Under the goal of "carbon peaking and carbon neutralization", at present, all domestic banks have increased their investment in the field of green finance, and they should continue to increase their investment in the future.

First, it is necessary to increase the support of credit for green industries and help the development and transformation of green industries. Second, we should strengthen the investment in green bonds, and the funds raised will be used to support the financing of green industry projects. Finally, strengthen the systematic research on financial services related to carbon emission rights, and comprehensively improve green financial services from the perspectives of policy formulation, product design, marketing and service plans.

(3) Guided by the improvement of green financial infrastructure, we will lay a solid foundation for the development of green finance. Infrastructure construction includes not only the improvement of green finance related systems, standards, rules and management systems, but also the development of infrastructure institutions and platforms, as well as the improvement of accounting, taxation and other supporting systems. In the process of promoting the double carbon goal of financial services, we should not only give play to the role of market players, but also need government departments, regulatory departments and industry management departments to make better efforts in system supply and form good coordination. Third, improve the comprehensive risk management capability of green finance. In view of the fact that the guidelines have for the first time defined the concept of comprehensive environmental, social and governance risks, banks should focus on improving their green financial risk management capabilities. First, the risk management of green finance should be included in the development strategic planning, the potential impact of risks should be assessed, and specific risk management objectives should be set; Second, we should design various ESG risk management tools according to our own development, and integrate the corresponding tools into the whole process of risk management. Third, establish a green financial risk management mechanism, incorporate green financial risks into the comprehensive risk management system, implement differentiated control over customer access, monitoring and early warning, and improve the whole process risk management before, during and after loans; Finally, explore appropriate risk stress tests and scenario analysis, analyze and

evaluate the possible risks of risk exposure under various scenarios, and enhance the bank's ability to cope with risks.

(4) Establish and improve the green financial information disclosure system. As a new concept, new rights and responsibilities created by law, green finance needs the protection and escort of high-level legislation (legislation of the National People's Congress). It is urgent to establish a legal responsibility system for formulating green finance policies, adhere to the principles of nondiscrimination and consistency, and prevent and combat "fake green" and "drifting green". At the same time, energy conservation and emission reduction and sustainable development cannot be separated from the support of finance. Green finance provides capital supply, time and space exchange of risks and benefits, guides the allocation of market elements, and provides liquidity for energy conservation and emission reduction, including green credit, green bonds, green insurance, green funds, green leasing, green trust, Green Futures and derivatives, and carbon finance based on the carbon trading market. Carbon assets, carbon finance, green finance or sustainable finance are all similar to the concepts created by laws such as legal persons and intellectual property rights. Their development needs legal systems as the supporting foundation, including legal systems such as laws, policies, legislation, supervision and justice.

(5) We will promote international cooperation in the development of green finance under the guidance of institutional openness. Sustainable development is a global consensus. The construction and development of the green financial system also needs to be open, and more attention should be paid to international cooperation. In this regard, our country has some practice, including the integration of green financial products and tools with the international community, the introduction of foreign financial institutions, and the "going out" of Chinese financial institutions to participate in the formulation of international green financial standards. On the one hand, international cooperation is to promote the circulation and sharing of resources; on the other hand, in dealing with climate and ecological change, China's green financial system needs to interact more with the international community in terms of institutional construction, so as to provide institutional guarantee for the resource cooperation of green finance.

(6) We will intensify social publicity and continue to train and introduce green finance professionals. Through scientific performance appraisal system and incentive and restraint measures, the performance appraisal of departments and personnel should be linked with business performance. Financial decision-making departments should strengthen the training of green finance and establish professional disciplines and training systems. By carrying out popular science training, think tank building, talent training and curriculum resources related to the low-carbon development of green finance, integrating the advantages of all parties, strengthening the international exchange and cooperation mode of green finance integrating industry, University and research, urging financial institutions to formulate green finance training programs, improving the ability of relevant personnel in credit approval project evaluation and risk management, supporting universities to apply for master's degree in green finance, We will improve the quantity and quality of the training of compound talents, encourage scholars and experts to carry out the construction of green finance, carbon neutral economics, green finance and other

related courses and the compilation of teaching materials, promote the cross discipline of green finance, and realize its innovative disciplinary function. Through popular science lectures, voice visits, green exhibition halls and other forms, and through media publicity, an atmosphere of popularizing green finance will be formed in the whole society, so that the basic concepts of green finance, carbon peaking, and neutralization will be deeply rooted in the hearts of the people. In combination with personal carbon footprint calculation, green credit cards and other tools, green consumption and low-carbon methods will be promoted.

6. Conclusions

As the core of modern economy, the importance of China's financial industry in helping to achieve the goal of "double carbon" is obvious. In recent years, green finance has achieved remarkable results in helping the development of "double carbon" goals. Facing the urgent need of economic green transformation, China's finance gives full play to its advantages in improving efficiency and allocating resources, creates a new financial hub, and realizes green economy through market methods and financial means. There is a huge development space. And it will continue to play a positive role and release the green driving force for low-carbon economic development through innovation. With the steady progress of

the "double carbon" target strategy, green finance is gradually becoming an important guarantee for promoting green and low-carbon economic development.

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