



ISBN: 978-1-948012-15-7

Asia-SAME Transactions on Engineering Sciences, ISSN: 2377-8970

<https://doi.org/10.7508/aste.01.2020.136.142>

Building Financial Services Systems to Support Green Technology Innovation

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From 2020 International Conference on Engineering Research, Beijing, China. 12-14 April 2020, Organized by University of Science and Technology Beijing and International Association of Management Science and Engineering Technology (IAMSET).

Abstract: The construction of financial service system to support green technology innovation in the report of the nineteenth national congress as a key goal to promote the direction of green development pointed out that the expansion of energy conservation and environmental protection industry, green energy industry, green production industry. In the meeting, we put forward the financial service system to support green technology innovation, recommend the development and construction of ecological civilization, promote the harmonious development of society, and improve the quality of green technology innovation. Based on the guidance report and opinions put forward in the 19th cpc national congress report, this paper analyzes how to effectively construct the financial service system to support green technology innovation, combining with domestic and foreign experience.

Keywords: Green technology innovation, financial services system, green technology.

Green fund is key to supporting green technology innovation

Building a financial system to support green technology innovation is an important task in green development. Green technology refers to following the laws of green ecology and green economy to reduce environmental pollution and ecological destruction. Therefore, the construction of a financial service system with green technology innovation needs to reduce public hazards and achieve pollution-free technology, taking social economy and ecological environment as the direction of green development, and then realizing the goal of harmonious development between man and nature. Among them, green financial services refer to a series of economic activities, such as green finance supporting and improving the environment, saving resources and efficient utilization, and green financial development. Generally speaking, green financial services mainly for green projects, such as green transportation, green buildings, ecological environmental protection and energy conservation projects to invest in the provision of green financial services. Therefore, building a financial system to support green technology innovation can be an important driving force for society and the country to

bring sustainable development.

Foreign experience in green technology innovation

As the most experienced country in social responsibility investment, Britain in Europe has many unique experiences in sustainable financial development. Since its development, the UK Green Investment Bank has attracted about 5.8 billion private investments into the green economy with 2 billion pounds of investment, which has greatly helped the country's green financial development, reducing greenhouse gas emissions, reducing environmental pollution, increasing the use of resources (Figure 1), and promoting environmental sustainable development.



Figure 1. Green technology innovation

The United States of America, as the most perfect country in the world social responsibility investment market, also has rich experience in green finance development. Other U.S. financial institutions followed as early as the 1970s when funds were invested in green finance [1]. For the social responsibility investment market brought a large amount of money to the economic ecology of the United States brought good benefits to promote the rapid development of the United States economy.

Global energy efficiency for sustainable green financial services systems

As the gains from green finance investment become more visible, the European Commission created the Global Sustainable Renewable Energy Fund in 2008 to achieve sustainable development of green finance innovation. On the one hand, the purpose of the fund is to develop green financial investment, on the other hand, it can maximize the leverage law of public funds, so that it can supply a lot of funds for renewable energy, green construction projects, green construction projects and so on in green financial market.

Strategic investment

National efforts alone to promote the development of green finance in the world are obviously slow, so it is necessary to use strategic fund investment to integrate green finance in many countries to promote the development of green finance in the world. As a project to integrate multi-country green finance, strategic investment funds can not only support the operation of domestic capital markets, but also promote the development of emerging markets. In addition, the United States, the United Kingdom, Africa and other green funds operating set up a system of assessment indicators and information disclosure system [2]. To facilitate the governance of the fund, to a certain extent reduce the risk of funds, the sustainable development of the Green Fund has brought great help.

Countries' green finance fiscal policies

Different countries have different fiscal and taxation policies for green finance (Figure 1, Figure 2), which makes the development progress of green financial service system in each country different. For example, the United States gives preferential treatment to enterprises applying for the Green Development Fund, and grants after a simple performance appraisal of enterprises applying for the Green Development Fund. Africa, on the other hand, has more stringent and no subsidies for enterprises applying for green development funds. In the UK, taxes on investors have been reduced from 1.3% to 1.2% to boost the development of green funds, equivalent to a significant return on investors. South Korea only gives preferential policies to more than 70% of enterprises in green industry, exempting some taxes.



Figure 2. Green technology innovation

Green bonds for financial services

Green bonds can effectively promote the development of financial markets, especially in emerging markets and the rapid growth of financial investment demand is particularly important [3]. From the international experience, green money mainly comes from government investment, financial institution investment and small group enterprise investment. Green bonds are mainly divided into green municipal bonds, green financial bonds and other different green bonds. On the one hand, green bonds can provide their own source for green investment with polar financial costs, reduce investment risk and expand income. On the other hand, the development of green bond market needs the strong support of the government and the joint efforts of the market main body to ensure that green bond promotes the development of financial service system.

The issuance of green bonds effectively solves the financing problem of local government green investment, promotes the green financial development of local governments, promotes the construction of green projects of local governments, gradually popularizes the financial service system of green technology innovation from small places, and gradually expands the financial service system that affects the big situation. Thus promoting the whole country, the whole world green financial service system development.

Green banking for financial services development

Internationally, many countries are using green banking to promote green financial services systems. In particular, the United States, Britain, Italy, Russia and other countries are committed to using green funds to vigorously develop green banks and promote the construction of national green financial services system. For example, green banks in several countries, such as Europe, mainly invest in renewable energy projects, promote the development of green technology, reduce the destruction of ecological environment, and realize the harmonious coexistence of man and nature. In other countries, the use of green bank public funds, combined with leverage, with a large amount of investment in green clean energy projects, promote the development of clean energy projects, the benefits of clean energy have brought great help.

Challenges and policy suggestions building a financial services system for green technology innovation

With the development of the green financial system in recent years, China has gradually joined the green financial system by drawing on the extensive development experience of other countries in the world (Figure 1-3)[4]so that the domestic green financial system has been developed rapidly, even in the green financial services system policy system, more perfect than other countries.



Figure 3. Green technology innovation

Challenges in building a green technology innovation financial services system

Although China's green financial system is developing rapidly and relatively perfect, it has not played a full role in the construction of green technology innovation financial system, mainly because it faces several challenges: the first point is that the evaluation criteria of green technology are still to be determined. There are more government agencies involved in green development, green environment and other fields in China, and the coordination between departments and the handling of things need to be strengthened. The second point is that there are more small and medium-sized enterprises in green technology innovation enterprises, lack of strong capital guarantee in property and other aspects, the problems of financing difficulty, financing expensive and so on, which greatly increase the viability of their financial markets. The third point is that the investment scale of green technology is relatively small, and the investment incentive mechanism is still lacking [5]. The fourth point is that the mechanism of transformation and protection of scientific research achievements in green technology is not perfect. On the one hand, the scientific research achievements in green technology can't meet the current development of green finance, on the other hand, the phenomenon of plagiarism and piracy of scientific research achievements is more serious, and the protection of scientific research achievements is lacking. The fifth point is the lack of market vitality, many enterprises do not know enough about green technology innovation finance, participation is not high, in a wait-and-see state.

Policy recommendations for green technology innovation

The main policy suggestions for constructing the financial service system of green technology innovation are as follows: first, actively promote the implementation of green technology innovation policy. The investment mode

of green fund in green financial system can't be limited to green industry fund, environmental protection fund and so on, so it is necessary to expand the investment field of green fund and promote green technology innovation. For example, green funds can be used in areas such as haze control, pollution cleaning, green building, recycling, greening and resource reuse. At present, in Shenzhen, Beijing, Shanghai and other places have gradually established green development funds and environmental protection funds. Second, the establishment of a green fund to support green technology innovation policy framework can effectively promote the green development of small and medium-sized enterprises. To encourage the Green Development Fund, guide small and medium-sized enterprises to participate in the green financial market, promote the transformation of scientific research results, and ensure scientific research results, and establish relevant incentive mechanisms to inject fresh blood into the green financial market. Third, perfect the framework system and incentive mechanism of green fund. On the one hand, it is necessary to continuously improve the construction of green fund system, accelerate the development of green fund, clarify the investment direction of the fund, and promote the benign development of green fund. On the other hand, improve the incentive mechanism of the Green Development Fund. Through the way of incentives to promote internal management, industry development, so that it can better bring benefits to enterprises and financial institutions. Fourth, give play to the role of green financial system in the market financial greening innovation system.

Conclusion

To sum up, promoting the development of green finance has become a common goal of global development, and international green investment and environmental social responsibility have become a hot topic of concern. To build a financial service system that supports green technology innovation effectively can't be separated from the strong support of policies, but also needs the joint efforts of enterprises, governments, financial institutions and other parties to cooperate and win-win, in order to promote the development of green financial system.

Acknowledgements

2019 Young innovative talents project of general colleges and universities in Guangdong Province Research on the optimization strategy of movable property financing of innovative small and medium-sized enterprises in Guangdong Province(2019GWQNCX007).

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