

Green finance boosts energy transition - Shaanxi Province as an example

Zhao Jing

He Qikui^[2]

School of Marxism
Xi'an University of Science and Technology
Xi'an, 710054, Shaanxi, China

Abstract

Green finance is a powerful lever to leverage the low-carbon transformation of energy, and the development of green finance has become an important means to achieve low-carbon transformation in China's energy sector. On the basis of sorting out the inner mechanism of green finance and energy transition, this paper analyzes the current situation and problems of the development of green finance to promote energy transition in Shaanxi Province, and further proposes strategies to improve green finance policies and regulations, establish a sound supporting incentive mechanism and government credit enhancement mechanism, and develop diversified energy transition-type financial derivatives to help Shaanxi Province's energy transition.

Keywords: Green Finance, Energy Transition ,Low Carbon, Incentives ,Financial Derivatives

The Chinese government is committed to promoting a shift from "double control" of energy consumption to "double control" of total carbon emissions and intensity, improving incentive and constraint policies to reduce pollution and carbon emissions, developing green finance, and accelerating the formation of a green and low-carbon production and lifestyle. The development of green finance has become an important means to achieve low-carbon transformation in China's energy sector. In order to achieve the "double carbon" target and low carbon sustainable development in the energy sector, green finance needs to be mobilised to provide financial guarantee for the transformation of the energy sector.

1. The Mechanics of Green Finance and the Energy Transition

Green finance refers to the use of a range of policy instruments such as credit, bonds and insurance from financial institutions to support environmental protection and sustainable development. The energy transition refers to the expansion of the number of new energy sources consumed and the rise of their share in the consumption structure, but does not exclude the continued use of the replaced energy sources (old energy sources), which can be used more economically, cleaner and more efficiently under the conditions of technological progress.

[1] Funding Resources: Shaanxi Provincial Philosophy and Social Science Major Theoretical and Practical Issues Key Think Tank Research Project (2021ZD1000); Prosperity and Development Plan Project of Philosophy and Social Sciences in Xi'an University of Science and Technology (2021SZ02)

[2] Author: Zhao Jing, Professor, School of Marxism, Xi'an University of Science and Technology, Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era, Socialist Economic Theory and Practice; He Qiqui, Master's student, Xi'an University of Science and Technology, Marxist Chinese Studies.

Green finance has become a powerful tool to support the energy transition as a result of the country's accelerated energy transition, which has created a large demand for investment. To this end, green finance can help achieve the energy transition through green bonds, green investments and green insurance.

1.1 Leading energy transition investment and financing

Green bonds, also known as climate bonds, are used to change the climate problem caused by greenhouse gas emissions. Compared to traditional bonds, green bonds have "green" characteristics and the funds raised are mainly used for energy saving, emission reduction and the development and use of new energy sources. It can be adjusted to increase or decrease the number of bonds in line with international standards. Green bonds can, on the one hand, increase the market value of the issuing company and bring a good reputation and potential income to the company. On the other hand, green bonds have lower interest rates and lower financing costs compared to traditional bonds, which can guide the energy transition investment and financing.

1.2 Forcing the energy transition

Green investment is the investment driver for a 'zero-carbon' society, forcing China to change its traditional energy landscape to create a new energy, technology and economic system. In particular, power, transport and buildings are the key areas for future green investment. Green energy is a catalyst for carbon neutrality, while green electricity is an important way to carry green energy and influence energy upgrading and transformation. In terms of market trends, zero-carbon electrification is the foundation of the green transition and the most mature way to achieve the goal of carbon neutrality. Green investment can bring attention to wind and photovoltaic power through a push-back mechanism.

1.3 Preventing and mitigating transition risks in the energy sector

Green insurance provides risk diversification and risk prevention for the sustainable development of the energy sector. Insurance has long been a market-based tool to increase risk resilience, but traditional insurance has not played a sufficient role for the transformational development of the energy sector. Green insurance, as a new market-based tool, can provide full-cycle, multi-type and multi-level risk management for the transformation of the energy industry. On the one hand, green insurance can introduce green credit value. On the other hand, green insurance can also introduce environmental and climate risk factors to control the adverse impact of new types of risk and reduce the debilitating impact of various types of risk on industry profits. In addition, green insurance can also continuously improve the protection of energy saving and emission reduction technologies, reduce the expected development risk of the corresponding technologies for energy saving and emission reduction, significantly shorten the cycle of transformation and development of the energy industry, and provide support for energy transformation from the aspect of time dimension.

2. The current situation of green finance in Shaanxi Province to promote the development of energy transformation

Shaanxi Province, as a major energy province, has an energy structure dominated by fossil energy. According to Shaanxi Statistical Yearbook data, from the energy production side, Shaanxi Province, as a petrochemical energy-rich area, the total energy production in 2021 was 582,592,300 tons of standard coal, with nearly 496,881,900 tons of raw coal mined, accounting for 17.1% of the total national production; crude oil production was 36,468,700 tons, accounting for 12.8% of the total national production. From the energy consumption side, Shaanxi Province's energy consumption in 2021 is 145,152,300 tons of standard coal, power generation and other high energy-consuming enterprises accounted for 87% of the energy consumption. 2021 compared with 2020, Shaanxi Province's energy production and consumption structure have improved, green finance to promote energy transformation has made certain achievements, but there are still some problems.

2.1 Shaanxi Province's achievements in green finance to drive energy transition

Shaanxi Province has made some achievements in guiding green finance towards energy transformation, supporting energy transformation investment and financing, and preventing transformation risks in the energy sector.

2.1.1 Documents related to green finance to facilitate the energy transition were issued

On 15 October 2021, the People's Bank of China Xi'an Branch, together with the Shaanxi Provincial Banking and Insurance Regulatory Bureau, the Provincial Development and Reform Commission, the Provincial Securities Regulatory Bureau, the Provincial Finance Bureau, the Provincial Local Financial Supervision Bureau and the Provincial Department of Ecology and Environment, jointly issued the "Guidance on Financial Support for Green Development in Shaanxi Province to Help Achieve the Goal of Carbon Neutrality". In the guiding opinions, it is proposed that green loans should achieve three "no less than", the growth rate of green bond issuance should be higher than the growth rate of bonds in the same period, and green insurance coverage should be deeper and more stable. A green financial service system should be established to guide and support the low-carbon transformation of green industries and high-carbon enterprises, especially the low-carbon transformation of key areas, and the Xi'an branch of the People's Bank of China should provide good policy protection.

2.1.2 Large expansion in the scope and scale of green finance in the energy transition

Shaanxi Province has achieved a series of results in guiding investment and financing for energy transformation. Green credit has expanded rapidly over the years, and in 2018 Shaanxi issued relevant documents to assess the green credit business of banks and other financial institutions, providing support for new energy vehicles, photovoltaic power generation and energy-saving industries, and providing strong support for Shaanxi's high-quality development and the achievement of the "double carbon" goal. By the end of 2020, the balance of green credit in Shaanxi Province reached 275.954 billion, of which 1.308 billion was provided by Bank of Xi'an, 3.588 billion by Qinong Bank and 4.983 billion by Chang'an Bank. Most importantly, the amount of green credit has been steadily increasing every year, with an increase of 60.359 billion in 2020 compared to the previous year, with a growth rate of 28%, providing strong financial support for the low-carbon development of green energy in Shaanxi Province. ^[3]Green bonds are bonds issued specifically for a green and low-carbon economy, and enterprises in Shaanxi Province have gradually started to issue green bonds in recent years, with the 4.5 billion green bonds of Xi'an Rail Transit Group approved by the National Development and Reform Commission in 2021. Green insurance is an insurance business for companies with environmental pollution liabilities. Shaanxi Province launched its green insurance work in 2013, with over 600 participating companies in the first pilot phase, covering chemical companies, energy extraction companies and sewage treatment companies. Green insurance has been developed over the years, with coverage gradually expanding, depth gradually increasing and strength increasing year by year.

2.1.3 First explorations of green finance efforts in energy sector transformation

Some explorations have been made to prevent and mitigate transformation risks in the energy sector. The "green credit veto" system of ICBC Shaanxi Branch. As a leading state-owned bank, ICBC Shaanxi Branch has made advance judgments and intervened in advance in the credit granting and approval process. All projects and enterprises are classified as green, divided into 4 categories and 12 levels, 4 friendly, 2 observation, 2 qualified and 4 rectification categories, and equipped with different ecological policies, with different risk management requirements for those that support green and those that restrict green. Shaanxi Province environmental pollution liability insurance is called "green insurance", which is conducive to the dispersion of business risks, so that victims receive timely financial compensation, changing the previous pollution accident occurred after the "enterprise pollution, the public damage, the government to pay" situation. The implementation of "green insurance" will force enterprises to raise awareness of environmental protection, reduce the risk of pollution, but also reduce the cost of government management, is a good remedy for environmental problems.

2.2 Green finance in Shaanxi Province to support energy transition

Although green finance in Shaanxi Province has made great improvements and achievements in promoting energy transformation, there are still certain problems and shortcomings in terms of effectiveness, product innovation and risk prevention and control.

^[3] Xie Jin. Reflections on the transformation and upgrading of Shaanxi's industry with green finance under the opportunity of carbon peaking [J]. New West, 2021, No. 546(11): 58-59+63.

2.2.1 Lack of effectiveness of green finance investment and financing structures to support the energy transition

The banking industry in Shaanxi Province is gradually adjusting its investment and financing structure to fit the direction of green and low-carbon transformation of the energy industry. However, there are certain problems in controlling the direction and pace of adjustment in the energy sector, and the effectiveness of investment and financing structure adjustment is insufficient. For example, some banks have implemented measures such as "selective support for new credit for coal power projects and optimisation of the credit structure of the stock"; some banks have taken measures to control the addition of new coal power projects by delegating approval authority from provincial banks to the head office, enforcing quota management and total control, and making punitive provisions for over-limit investment; some banks have in principle stopped. Some banks require credit policies to prioritise support for coal-fired power projects of state-owned background.

2.2.2 Insufficient innovation in green financial products to support the energy transition

The total number of green financial products supporting energy transition in Shaanxi Province is insufficient and the structure is single. The banking industry in Shaanxi Province strongly supports the development of clean energy, and financial support for high energy-consuming industries is mainly reflected in energy-saving and carbon-reducing technologies, with green credit and green bonds generally dominating, and special financial service tools for energy transformation are lacking. Innovative services such as carbon trading rights, energy use rights, emission rights and other green equity pledge-type businesses, energy efficiency loans, subsidy confirmation loans, green supply chains, market-based debt-to-equity swaps and carbon finance are all being explored and have yet to take shape. Due to the shortcomings of carbon accounting and environmental information disclosure systems, banks lack products and services for the technological transformation, energy saving and emission reduction projects of coal and coal power companies.

2.2.3 Carbon valuation systems and green financial instruments to support the energy transition need to be increased

Shaanxi banks have yet to consider environmental factors as important parameters in investment decisions, credit approval, interest rate pricing and post-loan management, and lack evaluation systems and tools to effectively assess climate risk and carbon emission reduction governance. In contrast, financial institutions in EU countries and regions have adopted the Environmental, Social and Corporate Governance (ESG) assessment model, which can reduce the risk impact of emission reduction factors on banks by establishing a clear classification and certification system for green credit and green financial products, forming a unified standard and comprehensively reviewing and assessing customers and credit projects, while effectively preventing projects from "drifting green". This can reduce the risk impact of emission reduction factors on banks and effectively prevent projects from "greenwashing".

3. Causes of the problem

Compared with domestic and international comparisons, Shaanxi Province is still lagging behind in promoting energy transition with green finance, for the following reasons:

3.1 Inadequate policy system for green finance to support energy transition in Shaanxi Province

Although the Shaanxi provincial government has issued a series of green finance policies, most of the documents only remain at the institutional level and have not yet formed a top-down legal and regulatory system. The lack of a unified assessment standard has led to poor communication and coordination between financial institutions and environmental protection departments. The lack of a sound policy system has hindered the establishment of a green finance market, affecting the development of green finance and thus the energy transition process.

3.2 Inadequate incentive and regulatory mechanisms for green finance support for energy transition in Shaanxi Province

In terms of incentive mechanisms, the Shaanxi provincial treasury does not provide subsidised interest support to financial institutions for their energy transition business, but more often disburses funds directly to enterprises in the relevant fields; as banks need to bear the risks of energy transition projects, they are not highly motivated to target such projects in the absence of sufficient subsidies. In terms of regulatory mechanism, as the information disclosure and sharing mechanism of energy transition in Shaanxi Province is not sound, the regulation is lax and lacks effective supervision, relying mainly on the self-consciousness of the implementation body.

3.3 Shortcomings in disclosure of information on green finance support for energy transition in Shaanxi Province

Due to the shortcomings of the energy transition information disclosure system, banks lack green financial products and services for the technological transformation, energy saving and emission reduction projects of coal, coal power and other "two high" enterprises. Listed banks in Shaanxi Province have a low level of energy transition information disclosure, mainly in two aspects. On the one hand, most disclosure reports have a strong propaganda function and do not highlight the external judgment and quantitative analysis of energy transition enterprises. On the other hand, the reference standards for disclosure reports are not uniform and their feasibility is relatively low.

4. Policy recommendations

4.1 Improve green finance policies and regulations

Make institutional arrangements at the level of the Shaanxi provincial government to stimulate the behavioural capacity of subjects and, drawing on the experience of green finance development at home and abroad, write green protection into relevant laws and regulations to ensure that green finance is realised in accordance with the law and that energy transformation is ensured by the compulsory force of the law. Clarify the responsibilities of financial institutions and divide responsibilities between the industrial sector to implement a green insurance system, listed companies to establish an information disclosure system, and market intermediaries and individual subjects to lay the foundation for energy transformation and ensure the implementation and operation of green finance in the energy sector.

4.2 Establishing a sound supporting incentive mechanism and government credit enhancement mechanism

First, to establish a green credit financial discount mechanism. A certain percentage of financial subsidies will be given to green credit for key industries and projects to reduce the cost of green credit financing. Second, to establish a green financial risk compensation mechanism. A certain percentage of risk compensation will be given to non-performing loans formed by green credit, and the leverage of risk compensation funds will be used to leverage more bank funds into green industries and support the development of green industrial projects such as energy conservation and emission reduction strategies, low-carbon economy and ecological environmental protection. Third, the establishment of specialised guarantee funds and credit enhancement funds to provide credit enhancement for green credit and green bonds to solve the problem of high risk financing for some green projects.

4.3 Development of diversified energy transition financial derivatives

Shaanxi provincial government should continue to improve on the existing green financial system and develop diversified green financial derivatives in the form of stocks, insurance and funds, carry out pilot projects, then carry out gradual improvement and eventually push them to the market, so as to guide green industries to invest in the capital market, direct more capital to green products and accelerate the popularisation and development of green finance. The development of emission rights and their derivatives should also be stepped up in conjunction with the current emissions trading and carbon market trading mechanisms, so as to lay the foundation for innovation in diversified financing varieties. More financial institutions should be encouraged to participate in carbon emission reduction and carbon trading to promote clean energy and green transformation.

References

1. Wang Ruoxi. Play a supportive role for energy green transformation with financial instruments [N]. China Electricity News, 2022-05-19(002)
2. Xu Zheng, Jiang Xiaopeng. Green finance support for carbon neutrality: status, mechanism and path[J]. Academic Exchange,2021(10):78-87.
3. Zheng Zhenyang. International experience and inspiration of green finance in supporting energy transition[J]. New Finance, 2022(10):54-61.
4. Chen Shiyi, Qi Yu. A study on medium- and long-term fiscal policies to cope with climate change under the "double carbon" target constraint[J]. China Industrial Economy, 2022(05):5-23.
5. Mo Yang Ziyang. Research on green finance and the transformation and development of resource-based cities[J]. Qinghai Finance, 2020(10):4-12.
6. Wang, Chen, Zhao, Chang. Research on the construction of regional green financial system under the "Belt and Road" initiative[J]. Journal of Changchun University of Technology (Social Science Edition),2019,32(05):124-128.
7. Xie Jin. Consideration of green finance to help Shaanxi's industrial transformation and upgrading under the opportunity of carbon peaking[J]. New West,2021(11):58-59+63.
8. Zhang Yizhi. Exploring the development of green finance in Shaanxi [J]. Modern Marketing (Information Edition),2019(09):23.
9. Li Zhiyuan, Xu Zhengsong. Green financial practices in developed countries and their inspiration for China[J]. Journal of Poyang Lake,2016(01):78-87+127.
10. Pan Xiquan. Green finance in China:realistic dilemmas and countermeasures[J]. Contemporary Economic Management,2017,39(03):86-89.