A Study on the Impact of Energy Right Trading Policy on Rural Energy Poverty

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Abstract: This paper focuses on the impact of energy trading policy on rural energy poverty in the context of the "double carbon" goal, and analyzes the effects of the policy implementation to reveal the paths and challenges of alleviating rural energy poverty. The study shows that energy rights trading can reduce the cost of rural clean energy access and improve energy accessibility and affordability by improving energy infrastructure, driving low-carbon investment and optimizing energy consumption structure. However, its effectiveness is still constrained by the slow promotion of policy pilots, imperfect legal system, and insufficient synergy with carbon trading. In this regard, it is recommended to accelerate the construction of the energy rights trading system, innovate green financial instruments, and strengthen the synergistic governance of rural energy policies.

***Keywords*:** energy rights trading, rural energy poverty, energy infrastructure, green investment, synergistic governance

1. Introduction

Since the beginning of the Industrial Revolution, human society has entered the process of industrialization, and large-scale, high-intensity consumption of fossil fuels has become the norm. This phenomenon has directly led to a sharp rise in the concentration of carbon dioxide in the atmosphere. China has successfully realized its first hundred-year goal and has built a moderately prosperous society in all aspects. However, relative poverty still exists to varying degrees in all regions, especially in specific areas such as energy, industry and culture, and energy poverty has now become an important constraint to rural development. China, as one of the largest developing countries and a major carbon emitter, has solemnly proposed a "dual-carbon" goal. As one of the important measures to realize the "dual-carbon" goal, the energy-use rights trading policy deserves more attention. Against this macro background, how to alleviate energy poverty by means of energy rights trading and other policy instruments has become an important topic that needs to be studied in depth.

2. Policy background and the concept of energy poverty

2.1 Policy background

The core logic of the energy trading policy is to commoditize energy emission rights, and use the market mechanism to constrain and incentivize enterprises to practice low-carbon and green behaviors. The Chinese government has always regarded the construction of the energy rights trading market as a key task, and in 2016, the National Development and Reform Commission (NDRC) made a clear plan and decided to select four provinces, namely Zhejiang, Fujian, Henan and Sichuan, to take the lead in launching the pilot work of the energy rights trading system in 2017.

2.2 The concept of energy poverty

The concept of energy poverty can be traced back to the fuel rights movement in the United Kingdom in the 1970s, which emphasized the difficulty of residents in purchasing energy services.[1] This paper defines energy poverty in the context of China's actual development as follows: energy poverty refers to the situation in which rural households, due to high energy prices or inadequate energy infrastructure, are unable to fully access reliable, safe and clean modern energy services, and can only rely on traditional energy sources such as fuel wood and coal to meet their basic needs such as cooking and heating, which leads to economic difficulties.

3. Factors affecting rural energy poverty in the energy rights trading policy

3.1 Improve the completeness of energy infrastructure

Energy poverty stems to a large extent from the inadequacy of the energy infrastructure in rural areas of the country. With the implementation of the energy rights trading policy, under the framework of energy rights trading, rising costs have

prompted enterprises to take various measures to improve their production processes and optimize their energy use. This means that energy companies must increase capital investment in their own energy infrastructure to enhance their ability to produce clean energy. In this context, the capacity of rural basic energy supply has been strengthened, and the type of energy supply has gradually shifted towards cleaner and lower-carbon sources.

3.2 Driving green and low-carbon investments

Under the framework of the energy-use rights trading policy, the energy-use rights of enterprises have become tradable commodities, which has prompted enterprises to take the initiative to increase their investment in green and low-carbon technology research and development and energy-efficient utilization projects in order to reduce costs. These investment behaviors not only promote the technological innovation of the energy industry, but also accelerate the transformation and upgrading of the whole industry in the direction of green and low-carbon. With the greening and upgrading of the energy industry, the stability of the energy supply has improved and rural areas have access to more reliable energy services, which has helped to reduce energy poverty caused by insufficient or unstable energy supply.

3.3 Optimizing energy consumption structure

At the enterprise level, energy-use rights trading incentivizes enterprises to take energy-saving measures through market-based means. The setting of quotas for energy use rights is more scientific, and enterprises can choose different energy sources according to their own needs and energy prices, which gives them a better chance to optimize the structure of energy consumption; from the regional level, energy use rights trading can promote the adjustment of regional economic structure. In the case of limited total energy use rights, high energy consumption and high pollution industries will be restricted, while low energy consumption and low pollution industries will usher in development opportunities and promote the optimization and upgrading of regional economic structure.

4. Existing Problems and Policy Implications

4.1 Existing problems in the implementation of energy use right trading policy

Since the concept of energy use right trading was first piloted, the energy use right trading policy has been continuously improved and developed, and has been gradually promoted from provincial pilots to the whole country. However, despite the clarity of the concept of energy use rights trading and the continuous improvement of implementation measures, there are still many problems. They are mainly reflected in the following aspects:

First, the process of building pilot regions and demonstrating and promoting them has been slow. Strictly speaking, energy-use rights trading is still at the pilot stage, and has not yet been implemented on a truly nationwide scale, and its various indicators of effectiveness are still being evaluated, which is fundamentally different from the carbon trading policy that has been implemented on a nationwide scale. This has led to insufficient implementation of the policy nationwide, and to a certain extent has resulted in regional differentiation.

Secondly, the policy system and related laws and regulations for collaborative governance need to be improved. As the energy trading policy is still in the initial stage, the relevant laws and regulations and supporting policies are not yet perfect, and the level of synergistic policy governance still needs to be enhanced.[2]

Third, the synergy between energy use right trading and carbon emission right trading is poor. Energy use right trading policy and carbon trading policy, both have their own focus, energy use right trading policy focuses on production front-end control, control enterprise energy use; and carbon trading policy focuses on the back-end of the production process governance, the two should form a complementary win-win pattern. However, at present, the implementation of carbon trading policies is stronger and broader than that of energy-use rights trading policies, failing to achieve the good effects of synergy between the two.

4.2 Policy Implications

First, it is necessary to accelerate the construction of a system for trading energy rights and to further expand the coverage of the system for trading energy rights. It is necessary to rapidly improve the legal and regulatory system of energy rights trading in line with the socialist market economic system, and to create an operational mechanism of energy rights trading with standardized processes and standardized operation. It should ensure that energy-use rights trading operates on a legal and compliant track, provide solid legal safeguards for all kinds of subjects involved, and carry out effective supervision.

Secondly, innovate financial instruments related to the right to use energy and related matching support measures. Efforts should be made to increase the enthusiasm of market participants: both green finance and incentive policies should be

emphasized. In order to promote the trading of energy use rights, it is necessary to vigorously innovate financial instruments, open up multiple financing channels and provide sufficient financial support, so as to meet the differentiated financing requirements of different trading entities. The government can introduce a set of incentives to fully mobilize the enthusiasm of the main body of the transaction.

Third, to strengthen the level of synergistic governance of energy trading and rural energy poverty. We should pay attention to the coordination and connection between the trading policy and the rural energy policy. When formulating and implementing policies related to energy trading, the objectives and demands of rural energy policies should be taken into account, so as to promote the formation of a mutually complementary and synergistic relationship between the two.

References

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