Research on the Impact of Energy Conservation and Environmental Protection Industry Policies on Enterprise Technological Innovation

Zhuang Cui[1], Xiaoru Li[2]

[1] Zheshang Development Group Co., Ltd. Hangzhou 310000, Zhejiang, China
[2] Hulunbuir Vocational Technical College, Hulun Buir 021000, Inner Mongolia, China

Abstract: Energy conservation and environmental protection industry policies are a major strategy for the development of China's national economy, and have gradually become the main driving force for promoting scientific and technological progress and optimizing industrial structure in China. Against the backdrop of increasing awareness of environmental protection in China, the energy and environmental protection industries have gradually embarked on the path of technological innovation. The research results show that China's relevant industrial development strategies encourage enterprises to implement green technology innovation on the one hand, and are also important factors in promoting industrial development on the other hand. On this basis, through the study of the mutual influence between policy environment, enterprise demand, and technological innovation, it is concluded that China's energy-saving and environmental policies have created strong innovation momentum for enterprises from the aspects of taxation, taxation, technology, and market.

***Keywords*:** energy conservation and environmental protection, industrial policies, enterprise development, technological innovation

1. Introduction

As countries around the world vigorously promote major strategic goals such as "green development" and "addressing climate change", they have all formulated corresponding support measures. China is the world's largest energy consuming country and also a major emitter of CO2, so there is an increasing demand for environmental protection work. To this end, the country vigorously promotes policy changes in the energy conservation and protection industry, which requires enterprises to minimize their impact on the environment in product manufacturing; We also hope to enhance the market competitiveness of enterprises through technological innovation.

2. The Current Status of Energy Conservation and Environmental Protection Industry Policies

In recent years, due to the increasing emphasis on environmental protection and changes in economic growth models, energy conservation and environmental protection have been incorporated into the development strategy of the national economy. In order to accelerate the rapid development of energy conservation and environmental protection, the country has taken a series of measures. At present, the development status of China's energy and environmental protection industry can be summarized from different perspectives.

Firstly, the government has provided significant assistance politically. In recent years, the country has successively issued a series of relevant policies and measures such as the "Thirteenth Five Year Plan for the Development of Energy Conservation and Environmental Protection Industry" and the "Five Year Action Plan for Green Development", which have formulated new development strategies and put forward new ideas for the country. Our country's various policies aim to organically integrate energy conservation and environmental protection, and promote green, low-carbon, and circular development. On this basis, the government has increased its support for the environmental protection industry, encouraging capital to enter the industry and promoting technological progress and product quality improvement. Secondly, the policies for energy conservation and environmental protection in China have a wide range. Among them, financial support, tax incentives, green finance support, and other aspects have provided multiple guarantees for enterprises in terms of funding, technology, and market. For example, in order to encourage enterprises to carry out technological research and industrialization, the country has established dedicated funds to provide subsidies and rewards for the construction of energy, environment and other fields. Implementing measures such as tax reduction and refund for enterprises that meet environmental protection requirements can greatly reduce their operating costs[1]. Once again, the government plays a positive role in promoting green technology innovation in enterprises. The country has established high environmental protection standards, formulated

strict energy conservation and emission reduction policies, and required enterprises to increase their investment in energy and environmental protection. At the same time, the government is vigorously promoting new production methods such as green production and circular economy, thereby promoting the continuous innovation and promotion of energy conservation and environmental protection technologies in China. In areas such as new energy, environmental protection equipment, and pollution control, the country has continuously introduced new technological innovation measures, promoting research and development as well as industrialization of related technologies. Finally, under the trend of globalization. The national policy for the energy and environmental protection industries should focus on both domestic development and extensive cooperation and competition worldwide. The state advocates enterprises to "go abroad" and promote domestic environmental protection technology to go abroad on the basis of global cooperation such as the "the Belt and Road".

3. The impact of energy-saving and environmental protection industry policies on enterprise technological innovation

3.1 Policy incentives promote enterprises to increase investment in technology research and development

One of the primary functions of energy-saving and environmental protection industry policies is to encourage enterprises to increase their investment in technology research and development. The government encourages enterprises to innovate in the field of energy conservation and environmental protection through a series of policies such as tax incentives, fiscal subsidies, and innovation funds. Firstly, the introduction of tax incentives enables enterprises to convert the tax benefits obtained during the research and development, production, and promotion of energy-saving and environmentally friendly products into actual financial support, thereby providing more funds for technology research and development. Secondly, the fiscal subsidy policy provides necessary financial support for enterprises in the initial research and development stage, reducing the risk of technological innovation. Especially for small and medium-sized enterprises, government funding support is an important source of their technological innovation. For example, the government has provided special funding support for the research and development of new energy and energy-saving technologies, promoting the rapid development of technologies such as photovoltaics, wind energy, and smart grids. At the same time, the government has also introduced supportive policies for the market promotion of energy-saving and environmentally friendly products, such as product certification subsidies, purchase subsidies, etc. These policies effectively promote the enthusiasm of enterprises in technological innovation. It can be said that policy incentives provide external technological innovation impetus for enterprises, enabling them to invest more resources in research and development, and promoting continuous technological progress[2].

3.2 Policy guidance accelerates the technological upgrading of enterprises

Energy conservation and environmental protection industry policies promote the upgrading of enterprise technology through the formulation of standards, implementation of environmental regulations, and introduction of green certifications. With the continuous improvement of environmental protection awareness, the government has introduced increasingly strict environmental standards and regulations, which puts higher technical requirements on enterprises. In order to meet these requirements, companies have to improve their existing products and processes through technological innovation to adapt to the requirements of new standards and regulations. The guiding role of policies encourages enterprises to engage in independent innovation in technology to enhance the environmental performance and energy efficiency of their products. For example, the government's strict requirements for corporate emission standards have prompted environmental protection equipment manufacturing companies to innovate in areas such as exhaust gas treatment and sewage treatment. In order to meet the energy-saving and emission reduction targets proposed in the 13th Five Year Plan, enterprises have continuously innovated in technology and promoted the widespread application of high-efficiency energy-saving equipment and environmental protection facilities. Policy guidance has accelerated the upgrading of technology, improved the technological level and market competitiveness of energy-saving and environmentally friendly products. In addition, policy guidance has also promoted technological cooperation and exchange among enterprises. With the support of national policies, many enterprises have collaborated to build technology research and development platforms, carried out joint research and development, and promoted cross industry innovation in technology. Enterprises can not only improve their technological level through their own research and development, but also leverage the power of external technology partners to accelerate the pace of technological upgrading[3].

3.3 Policies promote the international development of enterprises in the field of environmental protection technology

Due to the increasing emphasis on energy and environmental protection by the country, many countries have turned their attention to foreign countries. The Chinese government vigorously promotes the construction of the "the Belt and Road", actively participates in global strategies such as global warming, and brings more opportunities for Chinese enterprises to expand overseas markets. Through government support, enterprises can pay more attention to international standards and requirements, promoting their technological progress. In terms of environmental protection, many companies have taken corresponding measures and increased technical exchanges and cooperation with foreign enterprises. With the continuous promotion of the "going global" strategy by the country, it has promoted international cooperation in the domestic energy and environmental fields, and promoted the development of domestic energy and environmental protection fields, especially in the areas of new energy and environmental protection equipment. It has a large number of patents and has been widely used worldwide. In the process of globalization, enterprises have not only improved their technology, but also greatly increased their market share, thereby promoting technological innovation. For example, in the field of new energy technology, my company has introduced advanced solar and wind energy technologies from our country to various parts of the world and participated in some cross-border cooperation programs. This not only enhances the international status of the country in the field of energy and environment, but also promotes the development and innovation of related fields.

4. Policies promote green manufacturing and sustainable development in enterprises

In recent years, the country has introduced a series of "green production" strategies to promote the "green" development of enterprises. Its main function is to promote enterprises to adopt more environmentally friendly and energy-saving production processes and technologies, thereby achieving the goal of sustainable development. In order to promote enterprises to adopt more environmentally friendly and energy-saving process methods, reduce resource use, and minimize environmental impact, policies such as energy-saving and emission reduction, green product certification, and green procurement are implemented. On this basis, an industry development strategy guided by environmental protection was proposed. Through the above measures, it is possible to reduce the manufacturing cost of the product and improve its competitiveness in the market. For example, the "green procurement" launched by the government encourages enterprises and institutions to prioritize the purchase of environmentally friendly products, meeting the market demand for green product research and development by enterprises. At the same time, with the continuous introduction of environmental protection technology, it has promoted the promotion and dissemination of environmental protection technology. Under the strong promotion of the country, the concept of green manufacturing has permeated the entire production process of enterprises, from environmental protection of products to the greening of the entire production chain. Through technological innovation, enterprises have achieved the goal of resource recycling and zero waste emissions, promoting sustainable development of energy and the environment.

5. Conclusion

In short, China's energy-saving and environmental protection industry policies have various supportive effects on enterprises' technological innovation, which can promote the research, development, and application of green technology, as well as enhance the independent innovation and market competitiveness of enterprises. In the future development process, Chinese enterprises will increasingly attach importance to the organic combination of green and low-carbon, resource conservation, and environmental protection when carrying out technological innovation.

References

[1] Cheng Fei, Jing Xiaodong, Tian Ze. Research on the Impact of Energy Conservation and Environmental Protection Industry Policies on Enterprise Technological Innovation [J]. Research Management, 2024, 45 (10): 102-111.

[2] Dong Yang. Research on the Impact of Energy Conservation and Environmental Protection Industry Policies on the Investment Efficiency of Green Enterprises [D]. Hebei University, 2023.

[3] Zhang Mengwei. Research on the Impact of China's Tax Preferential Policies on Technological Innovation in Energy Conservation and Environmental Protection Industry [D]. Jilin University of Finance and Economics, 2023.

Author Bio

Zhuang Cui (1995.01-), male, Han Nationality, native of Hulunbuir, Inner Mongolia Autonomous Region, Education: Masters degree, Research Direction: Masters Research direction: investment direction, position title: Risk Control Specialist.

Xiaoru Li (1969.11-), female, Han, from Hulunbuir, Inner Mongolia Autonomous Region, Education: Masters degree, Research direction: Masters Research direction: computer teaching, position title: Dean of computer Department / full professor.