

# Suggestions on the Way Government Policy Tools Play a Role in China's Low-Carbon Economy

## —A Discussion on Taking the Enterprise as the Adjustment Object

Zili Huang\*

Law School, Central China Normal University, Wuhan, Hubei Province, China, 430079

\*Corresponding author. Email: [huangzil@mails.ccn.edu.cn](mailto:huangzil@mails.ccn.edu.cn)

### ABSTRACT

In the context of vigorously developing a low-carbon economy and facing the realistic situation of "double carbon goals", the government, as the leader of a country's economic development, should play a leading role in policy. However, at present, the relevant policy tools of our government still have many deficiencies. By studying the analysis of Chinese and foreign scholars on the current low-carbon economic measures of various countries in the world, this paper puts forward constructive suggestions on three aspects: property right policy tools, tax policy tools and legal policy tools. First, the government should promote the further improvement of the carbon emissions trading market, so as to improve China's carbon tax system. At the same time, with tax incentives as the main means, it is hoped that the government will implement legislation on carbon emissions trading through legislation. It is hoped that the government can follow the basic laws of the low-carbon economy, so that the above policy recommendations can be adopted and applied to the future development of the low-carbon economy, so as to achieve the goal of the low-carbon economy.

**Keywords:** Low-carbon economy, Government, Policy tools, Enterprises

## 1. INTRODUCTION

Since the world climate conference held in Copenhagen in 2009, energy conservation and emission reduction have become the consensus of all countries in the world. The signing of the Paris Agreement in 2016 shows that countries all over the world attach importance to environmental problems caused by industrialization. However, at present, China's economic energy consumption is still large, the development ideas of the domestic enterprises have not been completely changed, and the goal of the low-carbon economy has not been achieved yet. As one of the parties to the treaty, China should also shoulder its responsibilities in economic development and devote itself to developing green economy. What's more, as the leader in the process of national economic development, the government should actively perform its duties and make full use of policy tools to help the development of low-carbon economy. The current policy tools of our government still have some problems, such as incomplete policy coverage, lack of system, poor policy implementation effect and so on. Therefore, this paper mainly discusses the improvement of our current administrative tools from the aspects of the

improvement of carbon emission trading right system, the formulation of carbon tax policies, the improvement of fiscal policy tools and the promulgation of the basic law in the field of low carbon emissions. The research provides a reference for the Chinese government to play the corresponding policy tools more efficiently in the development of low-carbon economy, thereby promoting the realization of my country's low-carbon economy goals.

## 2. DEVELOPMENT DILEMMA OF EXISTING POLICIES

### 2.1 Definition of low-carbon economy

Low carbon economy refers to an ecological economic model based on low energy consumption, low pollution and low emission, focusing on the consumption of low-carbon fuels and pursuing the minimum emission of greenhouse gases, especially carbon dioxide, under the background that global warming poses a severe challenge to human survival and development [1]. The essence of low-carbon economy is the efficient utilization of energy, the development of clean energy and the pursuit of green

GDP. The core is the innovation of energy technology and emission reduction technology, the innovation of industrial structure and system, and the fundamental transformation of the concept of human survival and development.

## 2.2 Current deficiencies

Since the convening of the two climate change conferences and the putting forward of the concept of green development at the Fifth Plenary Session of the 18th CPC Central Committee, China has been working hard to achieve the goal of a green economy, and achieving the goal of a low-carbon economy is the primary goal. The policies implemented by the government should also be highly targeted and efficient for industrial enterprises which is the main source of carbon dioxide emissions and the backbone of green economic development.

At present, the existing policies for enterprises still have many deficiencies. From the perspective of carbon tax policy, China has not yet imposed a carbon tax, while many western countries have imposed a carbon tax since the 1990s. It can be seen that China lags far behind in carbon tax collection. As the world's largest carbon emission country, China's carbon tax can force enterprises to introduce environmental protection equipment and reduce carbon emissions to a certain extent. In addition, China's current carbon emission trading market system needs to be improved. The existing carbon trading system is not perfect, the supporting laws and regulations are not perfect, the quota distribution system is not scientific, and the management system is not complete. Moreover, the existing fiscal policy has a limited incentive effect on enterprises to adjust the energy structure and reduce carbon emissions. Many enterprises still wait for the opportunity to discharge and avoid the supervision of relevant departments when the state explicitly prohibits excessive carbon dioxide emissions, which are the deficiencies of government policy regulation in China's low-carbon economy at this stage. Therefore, in the future development process of a low-carbon economy, our government should effectively improve relevant systems and policies for enterprises, so as to implement the policies and ensure their implementation effect.

## 3. SUGGESTIONS ON THE IMPROVEMENT OF RELEVANT POLICIES FOR ENTERPRISE BY CHINESE GOVERNMENT IN THE FUTURE

### 3.1 Promote the further improvement of carbon emission trading market

In 2011, the National Development and Reform Commission of China issued the "Notice on Carrying out the Pilot Work of Carbon Emission Trading", and approved seven provinces and cities to carry out the pilot work of carbon emission trading [3]. After ten years of development, China's carbon emission trading market is still insufficient. In view of the fact that China's carbon emission trading has not yet formed a unified market, the Chinese government should further improve the industry entry standards, clarify the trading rules, unify and improve the management system, and strive to build a trading platform with comprehensive information along with openness and transparency [12]. Referring to the regulatory system of China's securities market, the government can set up relevant regulatory departments to review the entry qualification of enterprises and supervise the whole process of carbon emission trading, so as to ensure that the trading is in accordance with the law and avoid false carbon emission trading. Improve the quota allocation verification method to ensure that the quota methods among different industries allow differences on the premise of ensuring fairness [2].

In the context of economic globalization, we can promote the domestic carbon emission trading markets to be in line with international standards, cooperate with the carbon emission trading market of other countries in the world, attract foreign investment to China, force enterprises to improve their enthusiasm to join the carbon emission trading market, expand the market coverage, and gradually establish a national unified carbon emission trading market.

### 3.2 Improve and perfect China's carbon tax collection system

#### 3.2.1 Clarify the scope of China's carbon tax collection and formulate the corresponding tax system

China's current carbon tax system is seriously absent, and low-carbon taxes are not comprehensive [4] and the regulation of relevant taxes on low-carbon economy is weak. The scope of consumption tax is narrow, and many consumer goods with high pollution and high energy consumption are not included in the scope of taxation.

Many western countries have already begun to levy carbon tax. For instance, as early as the early 20th century,

Sweden, Norway, the Netherlands, Denmark, Finland and Italy implemented carbon taxes. And during the same period, Austria and Germany have already introduced energy taxes to their economy system. We can learn from the successful practical experience of other countries and transform it in combination with China's national conditions. First of all, we should formulate the specific standards, objects and scope of carbon tax collection, and formulate a complete carbon tax collection system. Based on the urgency of realizing the dual carbon goal, we can adopt the integration to design the carbon tax collection mode, and put carbon dioxide into the air pollutant tax category of environmental protection tax [ which is feasible and reasonable, and can avoid a series of complex legislative and system design problems caused by the establishment of taxes alone.

In terms of tax scope and tax basis, theoretically, the carbon dioxide emitted by enterprises, individuals and families should be included in the scope of carbon tax collection. However, considering the practical operability, the carbon tax should be levied mainly on enterprises and institutions or other types of producers and operators. As the main emission of fossil fuel, carbon dioxide has become one of the main gases that cause greenhouse effects in the world. Therefore, we need to focus on levying carbon tax on industries or social production and life fields that use fossil energy such as oil[13]. Since the oil consumption of road traffic is the main component of global oil consumption, the carbon tax in China should include the carbon dioxide emissions of production or business vehicles with oil as the main power source of the units mentioned above in the scope of taxation. In addition, since private cars also account for most of the share of road traffic, the carbon dioxide emitted by them should also be included in the scope of taxation. In addition, the tax can be collected by the seller on behalf of the automobile oil sales, which can improve people's awareness of environmental protection from the source and make the impact of the carbon tax go deep into ordinary families in order to achieve the goal of low-carbon travel.

### *3.2.2 Change the thinking of fiscal policy and take subsidy incentive and tax preferences as the necessary means*

The Chinese government should change the negative image of Taxation in people's minds, and should vigorously publicize tax incentives, and appropriately reward enterprises with good completion and quality of energy conservation and emission reduction measures, such as tax preference, policy preference and so on.

At present, foreign countries have comprehensively used a variety of preferential methods for low-carbon economies to play the incentive role of tax, such as pre-tax deduction, deferred tax payment and so on. As a country with high carbon dioxide emissions, Finland has

long explored fiscal policy frameworks such as tax subsidies and fiscal incentives, and has already implemented a green subsidy allocation system. It can be seen from the available data that Finland spends 27% of its funds on green subsidies in sectors such as renewable energy and energy efficiency, and 36% on income tax relief for taxpayers such as enterprises and individuals [15]. On the basis of Finland's tax subsidy policy, China can launch a more perfect and unified tax preferential policy, and explore the financial policy of building green subsidies with Chinese characteristics. For example, we can unify the tax preferential policies scattered among various taxes to form a complete and unified tax preferential policy system, which can superimpose various preferential policies and attract enterprises to carry out technology research and development, product upgrading and purchase energy-saving equipment.

### *3.3 Organize the formulation of the basic law in the field of low-carbon economy*

Consolidating the achievements of ecological and environmental protection and ensuring the smooth development of a low-carbon economy are inseparable from the escort of laws and regulations. China's relevant legislative bodies should actively promote the construction of a unified legal system for the low-carbon economy and formulate a basic law for the low-carbon economy. Moreover, at present, the level of all relevant legislation is low and the actual execution of the law is low, which makes it difficult to regulate and promote the benign development of low-carbon economy [16]. From the existing legislative practice of major developed countries in the world, it is very necessary to formulate the basic law of low-carbon economy, such as " The Basic Law of Energy Policy" issued by Japan and "The Circular Economy and Waste Law" issued by Germany [6].

In the basic law of low-carbon economy, the subject of carbon emission trading should be clearly stipulated and the trading contract should be placed under legal supervision. In addition, the contents related to carbon tax, such as punishment standards, should also be clearly stipulated, so that the relevant law enforcement departments can effectively punish taxpayers who do not pay taxes according to law, implement the legal and policy tools, and improve the operability of the application of laws and regulations. It should also stipulate the guiding catalogue and technical standards for the development of various industries, such as improving the existing production technology standards and the standards of the producing product along with green energy and high efficiency. On the basis of integrating and revising existing laws, a more complete basic law of low-carbon economy should be promulgated[6], which can unify the low-carbon standards of the whole industry and the whole society, so

that all industries have the consistent standards and laws to follow on the way to achieve their own energy conservation and emission reduction.

#### 4. CONCLUSION

This paper puts forward corresponding suggestions on the problems of China's current policy tools in promoting the development of a low-carbon economy from three aspects: property rights policy tools, tax policy tools and legal policy tools. It is hoped that the government will pay attention to the issue of clarifying property rights, improve the carbon emission trading system, levy carbon tax to force enterprises to save energy and reduce emissions, and use preferential tax policies to attract more enterprises to become the main source of carbon tax collection. Finally, it is proposed to formulate the basic law of the low-carbon economy and use laws to restrict state behavior, enterprise behavior, and personal behavior under the low-carbon economy. This paper believes that if the government adopts the above suggestions and puts them into practice, the construction of a low-carbon economy will go to a higher level. At present, the paper only stays in the theoretical discussion. What can do further is that collecting relevant data such as environmental quality data and economic development index after carbon tax levied by China and other countries in the world in the last twenty years. We can specifically study the role of carbon tax and carbon emission trading right markets in environmental protection and whether they have promoted economic development or limited economic development to a certain extent.

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#### REFERENCES

- [1] Qin Shusheng, The dilemma of developing low carbon economy in China and the government's countermeasures, *Science and Technology Management Research*, 2012, (15), 56-59.
- [2] Song Liying, Li Yadong, On the perfection of China's carbon emission trading market, *Academic exchange*, 2015, (04), 134-138.
- [3] Guo Lei, Xiao Youzhi, Research on the innovation incentive effect of carbon emission trading pilot, *Macroeconomic Research*, 2020, (11), 147-161. doi:10.16304/j.cnki. 11-3952/f.2020.11.013.
- [4] Li Shaoping, Hao Jianfang, Wang Jiashan, Foreign low carbon economy tax policy experience and Its Enlightenment to China, *Ecological economy*, 2015, (08), 102-108.
- [5] Li Jianjun, Liu Zitong, Design of China's carbon tax system: collection basis, foreign reference and overall conception, *Research on local finance* 2021, 07:29-34
- [6] Bai Yang, The problems and Countermeasures of low - carbon economy laws and regulations in China *Enterprise economics*, 2012, (08), 19-24. doi:10.13529/j.cnki. Enterprise economy. 2012.08.008.
- [7] Shi Feng, Research on the development and policy of low carbon economy in China, *Macroeconomic management*, 2016, (02), 70-73+78. doi:10.19709/j.cnki. 11-3199/f.2016.02.019.
- [8] Zhang Li, Yang Deping, Zhang Hong, Research on the construction of China's low carbon economic policy system, *Ecological economy*, 2016, (07), 50-55.
- [9] Zhang Suwei, Wang Renpeng, Guo Wenfei, Zheng Heng, Government responsibility in the development of low carbon economy and its realization path, *Anhui Agricultural Science*, 2010, (29), 16613-16614+16617. doi:10.13989/j.cnki. 0517-6611.2010.29.182.
- [10] Chen Xiangyang Mechanism, comparison and institutional choice of carbon emission trading and carbon tax [J] *Fujian Forum (HUMANITIES AND SOCIAL SCIENCES EDITION)*, 2022 (01): 75-86
- [11] Gao Pengfei, Chen Wenying Carbon tax and carbon emission [J] *Journal of Tsinghua University (NATURAL SCIENCE EDITION)*, 2002 (10): 1335-1338 DOI:10.16511/j.cnki. qhdxxb. 2002.10.015.
- [12] Patrick Criqui, Mark Jaccard, Thomas Sterner, Carbon Taxation: A Tale of Three Countries, *Sustainability*, 2019(22). doi:10.3390/su11226280.
- [13] Liu, W., Li, Y., Liu, T., Liu, M., Wei, H., How to Promote Low-Carbon Economic Development? A Comprehensive Assessment of Carbon Tax Policy

in China. *International journal of environmental research and public health*, 2012, 18(20), 10699.

- [14] Maosheng Duan, Tao Pang, Xiliang Zhang, Review of Carbon Emissions Trading Pilots in China, *Energy & Environment*, 2014, (3-4). doi:10.1260/0958-305X.25.3-4.527.
- [15] Štreimikienė, Dalia, Samusevych, Yaryna, Bilan, Yuriy, Vysochyna, Alina, Sergi, Bruno S., Multiplexing efficiency of environmental taxes in ensuring environmental, energy, and economic security, *Environmental Science and Pollution Research*(prepublish), 2021. doi:10.1007/S11356-021-16239-6.
- [16] ZHANG Fuqiang, LUO Wenyuan, Thinking on the Perfection of Low-Carbon Economy Law and Policy.. (eds.) *Environment, low carbon and enterprise strategy -- Proceedings of 2011 International Conference on Strategic Management* (pp.21-25), Sichuan University Press, 2011.
- [17] Manping Weng, Xiaofang Wang, Dongdong Weng, Analysis and Countermeasures of Financial Management of Chinese Enterprises Based on Low Carbon Economy, *Proceedings of 2019 International Conference on Modern Education and Economic Management* (pp.215-219). Francis Academic Press, UK, 2019.
- [18] Katharine Ricke, Laurent Drouet, Ken Caldeira, Massimo Tavoni, Author Correction: Country-level social cost of carbon, *Nature Climate Change*, 2019, (7). doi:10.1038/s41558-019-0455-3.
- [19] Burke Marshall, Davis W Matthew, Diffenbaugh Noah S, Large potential reduction in economic damages under UN mitigation targets, *Nature*, 2018, 7706. doi:10.1038/s41586-018-0071-9.