



Impact of Low-Carbon Economy on the Exports from China Under WTO Mechanism

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Abstract. In the current international society where the idea of economic globalization and green environmental protection is increasingly worshiped and enshrined, promotion of low-carbon economy has become a new trend of and necessary demand for developing international economy. Based on a comprehensive analysis of relevant literatures which is also the major method of study, this article specifically sheds light on the impact of low-carbon economy on the exports from China from the perspectives of the rise of low-carbon economy, the status quo of the export trade in China, relevant provisions under WTO mechanism in relation to low-carbon economy and etc., so as to achieve an all-rounded demonstration on how those impacts are reflected in the WTO mechanism, especially in WTO rules and regulations, and advice on corresponding strategies of both theoretical and practical value with regard to the development of exports from China against the prosperity of low-carbon economy.

Keywords: WTO mechanism · low-carbon economy · exports · economic globalization · environmental protection

1 Introduction

The concept of low-carbon economy was first proposed in 2003 but did not receive much attention at the outset. After entering into the 21st century, research data of various kinds has shown the increasingly frequent emergence of ecological issues around the world brought by the deteriorating natural environment, which has aroused global concerns on the development of low-carbon economy. Cradled in emerging industries or industrial clusters, low-carbon economy compared to traditional development patterns features low-carbon, energy-saving and emission-reducing, innovative, piloting and green-driven, thus being considered the major pattern of economic development in the future. The essence of low-carbon economy lies in effective utilization and development of energy, the key to which is technological innovation, mechanism innovation and industrial structure optimization, and that has a significant impact on people's idea about survival [1].

In 2010 China officially carried out experimental work in developing low-carbon industries, evidencing the major trends of developing low-carbon economy in the global scale. WTO rules and regulations related to the development of low-carbon economy

have also touched upon international trading activities, showing that more and more attention has been drawn to issues like global warming, carbon emissions and “carbon tariffs”. As exports from China will surely be impacted in some way, the prosperity of low-carbon economy will inevitably stimulate the transformation of and adjustment to China’s economic structure, especially the traditional mode of economic development. Hence, how to respond to and live with the uncertainties is a question requiring further deliberation.

2 Current Domestic and Foreign Study on Low-Carbon Economy

Systematical discussion of low-carbon development can be traced back to the United Nations Framework Convention on Climate Change in 1992 and the Kyoto Protocol in 1997. The idea of low-carbon economy was first put forward in London energy white paper *The Future of Civilized Energy: Creation of Low-Carbon Economy* published in 2003 by the former British Prime Minister Blair’s government.

Overseas academists including Yu Kaiyi published *A Gravity Model Analysis of China’s Trade in Renewable Energy Goods with ASEAN Countries as Well as Japan and South Korea*. In their study of solar photovoltaic technology and wind energy technology, the penal data-based gravitational model was employed to empirically examine the determinants for the bilateral trades in renewable energy goods among ASEAN countries and China, Japan and Korea from 2012 to 2019, and to identify the export efficiency and export potential of China. In recent years, Chinese scholars have also conducted considerable research on low-carbon economic development. Cui Moe Yuan in his *Analysis of China’s Foreign Trade Export Dilemma in the Context of Low-Carbon Economy* expounded the dilemma of exports from China in the long run and advised specific solutions for governments and enterprises, which contributed a new way of thinking as per the sustainable development of China’s export trade and economy.

3 Status Quo of the Exports from China

3.1 External Environment

In the 21th century, the trend of globalization has appeared increasingly obvious, and China as a developing country has achieved significant improvement in processing and trading primary products and industrial products in the course of participating in international labor division and international market distribution. In the context of economic globalization, export trade as a major component to the economy section of China has experienced a rapid development [2]. In recent years, China’s export trade has encountered challenges from multi aspects related to product and international competition, intensified trade war with the U.S. and the spread of Covid-19. As a result, China’s high-tech products has been subject to relatively great restrictions, while the U.S. making containment on core technologies is blurring the prospects of China’s export trades.

3.2 Internal Environment

In these days of foreign trade development and upgrading, China's export trade pattern featuring extensive and labor-intensive can no longer meet the current international trade demands, which is reducing the competitiveness of Chinese enterprises. In 2013, China took the lead and proposed the theory of foreign trade transformation, showing the transformation of the pattern of China's export trade growth from extensive-orientated to refined-oriented. The new norm of economy stimulated an obvious fluctuation of the current macro-economy of China, and the rise of low-carbon economy is also driving the healthy and sustainable development of the export trade of China.

4 The Impact of Low-Carbon Economy on Export Trade Under WTO Mechanism

WTO is the housekeeper for the current global economy and trade order, and is the major mechanism and legal framework of international economy management. The following will elaborate on the influence of low-carbon economy under the WTO mechanism on export trade based on the case study of China and the problems of WTO mechanism. For the economy of China which is undergoing transformation and upgrading, especially China's export trade economy, the emergence of low-carbon economy is both an opportunity and a challenge.

4.1 Positive Impact

Proposal of the concept of low-carbon economy has provided a new choice to China for further development. As the progress of industrialization of China accelerating, the development of the economy and export trade of China has sped up, enlarging constantly the demands for fossil energy. The growing investment in fossil fuels and other production elements has imposed great energy and environmental pressure on China and intensified China's dependence on external energies [3]. Given that China is experiencing the transit from extensive development to refined development, the development and construction of low-carbon economy could improve the current situation of China export trade and thereby promote the transformation of China's economic structure. By means of technique innovation and technology advancement, China could in a real sense turn into an import and export trade country that effectively reduces carbon emissions, and finally a strong import and export trade country.

4.2 Negative Impact

China is a large foreign trade country and largely engages in extensive exports, which has put China in a disadvantaged position in promoting low-carbon economy. As a result, many countries are taking that as an excuse for setting up technical barriers to trade and have significantly hurdled China export trade and the development of China as a country. In addition, most products exported from China are high energy consuming and high polluting commodities, which is in breach of the principle of environmental protection

and has resulted in “domestic pollution and consumption in other countries”. Finally, as the prevailing pattern of export trade in the worldwide is developed on the basis of promoting low-carbon economy, the economic structure and pattern of China export trade has been severely affected, which has undermined China’s export trade capacity and reduced the international competitiveness of exports from China.

For now, many countries around the world have carried out corresponding policies and regulations to stimulate green development. In China, however, due to a severe lack of relevant laws and regulations lots of enterprises are still acting improperly, damaging the environment and exhausting natural resources in the course of conducting business to reach the goal of “low emission”, which has not only caused environmental pollution and energy waste, but also hindered the effective implementation of Chinese government’s strategy of sustainable economic development. Meanwhile, as the carbon trading market of China requires further perfection, certain western countries are still playing dominant roles in carbon trades. Delay in obtaining relevant information has thus prevented China from exercising pricing power in carbon trades.

5 Problems of Export Trade Under WTO Mechanism

Within the TWO framework, green barriers to trade mainly refer to compulsory employment of clean production techniques in producing export commodities, thereby increasing the costs of production in certain nations or regions. In China, the common use of sub-carbonized and non-environmentally friendly techniques and equipment among enterprises has led to a series of problems.

5.1 Problems Derived from the Negative Impact

References being made to the said negative impacts of low-carbon economy on China export trade, most commodities exported from China are relatively low in added value but are usually heavily low-carbon tariffed by western countries, which has hindered the exports and development of low-carbon industries of China.

5.2 Limitations of the Provisions

Despite clauses (b) and (g) of GATT Article 20 (“General Exceptions”) are environmental protection clauses under WTO mechanism, their application to cases is more on achieving judicial balance due to their relatively ambiguous wording, and has brought about uncertainties to the outcome.

In the context of developing low-carbon economy, WTO has been holding on to its conflicting principles of environmental protection and international free trade. As highlighted in WTO tenet, while realization of free trade among contracting parties is taken as the ultimate goal, achievement of “sustainable development” also serves as one of the fundamental objectives for now. When all the countries around the world are regarding free trade and environmental protection as their major strategic goals, WTO may possibly encounter dilemma and appear under-powered in diminishing international trade frictions related to environmental protection.

5.3 Impact of External Environment on the Policies of Developed Countries – Case Study of EU and U.S. Claims Against Exports of Nine Raw Materials from China

From the legislative perspective, EU and U.S. claims against exports of nine raw materials from China has made it clear that use of raw materials, which are basic materials related to low carbon economy development, is far from enough to overturn the ruling by EU and American experts that the restrictions on China export trade do not fall within the exception under GATT Article 20(g). The ruling was made for the reasons that: (i) China could not prove that the restrictions on raw material exports are for the purpose of protecting natural resources; and (ii) the restrictions were not implemented concurrently with those on domestic production and consumption.

WTO rules may have hurdled the low-carbon economy, which is reflected in the traditional standards of defining same products, the non-discriminatory requirements under Articles 1, 3 and 20, and the allowances forbidden or restricted by WTO. It is even more obvious that WTO rules are encouraging and stimulating low-carbon economy by implementing PPMs environmental protection standards for same products and GATT Article 20 (Environmental Exception), and granting environmental allowances, and its highlights on environment, human rights and other important values [4].

Advanced European and American countries have launched a series of countermeasures to the trading rules of emerging industries on the basis of low-carbon economy promotion. The number of countermeasures taken by the U.S. and EU against China's trading rules each year is a direct reflection of western governments' interests in expanding the economical business of emerging industries based on low-carbon economy mode and their inclination of decision-making, which is another significant influential factor for the development of the emerging low-carbon industries of China.

6 Corresponding Countermeasures of China Export Trade in the Context of Low-Carbon Economy Prosperity

As the progress of economic globalization forwarding and public awareness of green environmental protection enhancing, development of low-carbon economy has become a new trend of and a must for international economic development. On the one hand, prosperity of low-carbon economy is of significant value for Chinese enterprises in adjusting industrial structure and promoting technical innovation, thus could benefit in the long run the ecological environmental protection and sustainable economic development of China. Meanwhile, coming with the opportunities are various challenges. Only by fully understanding the dilemma encountered by China export trade in the context of low-carbon economy prosperity can we fundamentally promote the long-term development of China foreign trade [5].

The development of low-carbon economy is the current trend of development for regional economic trade in the world scale, which requires China to promote the modernization of exports from multi aspects. Firstly, it is of top necessity to accelerate the transformation of the development mode of China foreign trade and enhance the international competitiveness of commodities exported from China. Besides, the absence

of corresponding and effective policies and regulations on low-carbon economy development in China has caused various problems, showing that China has to build up an all-rounded low-carbon economy and trade system, integrate with global market economy, get pricing power in low-carbon trades and gradually mitigate the impact of carbon tariff. In addition, positive involvement in environmental and climate diplomacy and establishing bilateral, multilateral or regional trade organizations could also stimulate trade cooperation between regions and enhance China's foreign trade and drive the exports of high-end and high economic value-added products from China.

7 Conclusion

As economic globalization progressing, global topics on greening, environmental protection, low-carbon, emission reduction and many other issues have been increasingly reflected on various aspects of the world. Especially, climate change and ecological environmental protection are still under hot and continuous discussion and have become a global diplomatic issue. Development of green economy and construction low-carbon economic society is not only the new focus of trade competition among countries, but also a new starting point for China to seek, maintain and consolidate its strategic position. The rise of low-carbon economic society in the world scale will surely exert a profound impact on global policies and global economic development patterns. Therefore, China while experiencing economic transformation shall adapt to such background and participate actively in international competitions, which will enable China to grasp the power of speech in foreign trades and promote a benign and continuous development of economic society.

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