

The Influence of the Internationalization of China Carbon Market on Select Nations Participating in the Belt and Road Initiative

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Abstract

The Belt and Road Initiative is a transnational economic cooperation zone led by China, in which China has a strong influence. Due to the backward economic construction of countries along the route, the development of carbon markets varies. In order to increase the international leadership of China's carbon market and influence the global green and low-carbon construction, China needs to accelerate the international development of the carbon market and enhance the international influence of China's carbon market. Based on the theoretical view that the construction of the Belt and Road Initiative builds a bridge for the exchange of emission reduction experience among countries along the route and the construction of imperfect carbon emission trading systems in countries along the route. This paper uses the research methods of literature review and data analysis to illustrate the importance of strengthening the internationalization of China's carbon market through the Belt and Road Initiative policy. In order to increase the international leadership of China's carbon market and influence the global green and low-carbon construction, China needs to accelerate the international development of the carbon market and enhance the international influence of China's carbon market. Actively carrying out carbon trading cooperation with countries along the Belt and Road Initiative will help China build a more internationally influential carbon market and enhance the global influence of China's carbon trading market. Share China's carbon market development and construction experience, accelerate the construction of carbon markets in countries along the Belt and Road Initiative, help countries along the route transform into low-carbon, and promote the establishment of a global carbon trading market and global climate governance system with broad participation, co-construction by all parties, pragmatism and effectiveness, and win-win cooperation.

Keywords

Carbon trading, Carbon market, Carbon market globalization, The Belt and Road Initiative, Climate action

Introduction

In September 2013, Chinese President Xi Jinping proposed the cooperation initiative of building the Belt and Road. Relying on the existing bilateral and multilateral mechanisms between China and relevant countries, with the help of effective regional cooperation platforms, holding high the banner of peaceful development, actively developing economic cooperation relations with partners, and jointly building a community of interests, a community of destiny

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and a community of responsibility with political mutual trust, economic integration and cultural inclusiveness. As of June 2023, China has signed more than 200 cooperation documents on jointly building the Belt and Road with 152 countries and 32 international organizations. (B&R,2023)

Most of the countries participating in the construction of the "Belt and Road" are developing countries, which are potential regions for rapid economic growth in the world, and are also potential regions for global energy consumption and carbon emissions growth. According to statistics from the U.S. Energy Information Administration (EIA), the total carbon dioxide emissions of countries participating in the "Belt and Road" initiative in 2021 accounted for about 60% of the global total emissions. (U.S. Energy Information Administration, 2023)

In terms of gross domestic product, the GDP of the countries participating in the Belt and Road Initiative accounted for about 42% of the global total in 2021. If China is not included, it accounts for about 25% of the global total. (The World Bank, 2023) According to the classification of world economies in the World Investment Report 2020, 80 of the 153 participating countries are developing economies, and 35 are least developed countries. (UNCTAD, 2020)

Moreover, from the perspective of total energy consumption, the countries participating in the Belt and Road Initiative consume half of the world's energy, and the total primary energy consumption accounts for about 30% of the world's total energy consumption. The energy consumed is mainly non-renewable fossil energy such as oil, natural gas, and coal. Only East Asia, Central and Eastern Europe, Russia, and the Commonwealth of Independent States in Europe mainly use clean energy such as nuclear energy. Oceania, Latin America, and the remaining European countries participating in the Belt and Road Initiative after excluding Central and Eastern Europe, Russia, and the Commonwealth of Independent States have a high proportion of renewable energy consumption. (Bank World, 2021) It can be seen that the types of energy consumption in the countries participating in the Belt and Road Initiative vary greatly, and they are mainly based on fossil energy, which also means that huge carbon emissions will be generated.

China is one of the world's major powers and the largest developing country. It needs to assume its due social responsibilities and obligations. While completing its own low-carbon transformation, it also needs to use its influence as a major country to drive surrounding high-emission countries to effectively complete low-carbon transformation. Therefore, it is very necessary to promote the green and low-carbon development of countries along the Belt and Road through the "Belt and Road" cooperation initiative. The low-carbon transformation path and climate cooperation strategy of the countries along the Belt and Road are of great practical significance for promoting the green and sustainable development of the Belt and Road and the global response to climate change. At the same time, it can also promote the internationalization of China's carbon trading market, accelerate the global carbon trading market's recognition of China's carbon trading market through the "Belt and Road", and accelerate the globalization process of China's carbon trading market.

Methodology

Literature Review

China and more than 150 partners from over 40 countries have established the Belt and Road International Alliance for Green Development, which has built a broad platform for communication and cooperation and provided a bridge for the Belt and Road countries to learn from each other's experience in carbon emission reduction. (Weng et al., 2023)

Many scholars have conducted relevant research on promoting green development

through the Belt and Road Initiative. Promote the sharing of carbon neutrality technology between my country and the countries participating in the Belt and Road Initiative, and make my country's carbon neutrality technology an influential public product in the second decade of the Belt and Road Initiative, supporting and leading the high-quality development of the Green Silk Road. (Liu and Li, 2023) Under advanced technology, under the framework of the Belt and Road Initiative, soft law political agreements can be used to promote carbon market cooperation with neighboring countries, gradually improve the level of cooperation, select more mature docking markets, and conclude international treaties to lay a legal foundation for carbon market docking cooperation with countries along the route. (Pan, 2020)

In the process of promoting and guiding the global climate change cooperation among the Belt and Road countries, China needs to examine the current status and shortcomings of China's response to climate change. It is necessary to establish a new mechanism for market-based emission reduction to respond to climate change, promote the new mechanism to the Belt and Road countries through the Belt and Road cooperation mechanism, and drive the Belt and Road countries to jointly respond to global climate change. (Long, 2019)

Difficulties in internationalizing the carbon market

Most of the countries participating in the Belt and Road Initiative are developing countries. Their relatively weak economic strength limits their ability and motivation to transform into a low-carbon economy, which requires a large amount of capital investment. The emission quota limit, the lack of trading system and related laws, the imperfection of the carbon emission monitoring-reporting-verification (MRV) system, and the carbon emission trading system (ETS) have also hindered the international development of the carbon emission trading system in the countries participating in the Belt and Road Initiative. (Zhu et al., 2023)

International carbon trading faces real contradictions and problems, such as unclear ownership of carbon emission rights, soft legitimacy of carbon trading rules, inconsistent carbon certification standards, and unequal rights and obligations in carbon trading agreement templates. (Shen, 2021)

Research Methods

This paper adopts the research methods of literature review and data analysis. It adopts and integrates the views put forward by previous scholars, the methods of promoting sustainable development through the "Belt and Road" initiative, and the possibility of implementing common green development through the "Belt and Road". And the difficulties of the internationalization of China's carbon trading market. It further puts forward the views of this paper, the impact of the internationalization of China's carbon trading market on the countries along the "Belt and Road", and explains the necessity of the internationalization of China's carbon trading market.

Analysis and Discussion

Since the implementation of the carbon trading market system involves preparations in many aspects such as technology and legal systems, and most of the countries participating in the Belt and Road Initiative lack a monitoring-reporting-verification (MRV) system for carbon emissions, only a small number of countries participating in the Belt and Road Initiative have implemented or are preparing to implement the carbon emissions trading system (ETS). Table 1 shows the development status of the existing monitoring-reporting-verification (MRV) system and related laws in some countries participating in the Belt and Road Initiative.

Table 1. Current Status of Emission Trading Systems (ETS) in Some Countries Along the Belt and Road

Country	Monitoring-Reporting-Verification (MRV) System	Legal System
Russia	NO	Amendments to relevant laws are being drafted
Mongolia	NO	None
Vietnam	YES	None
Indonesia	YES	Government Regulation on Environmental Economic Instruments
Thailand	YES	Laws in the making
Malaysia	NO	Carbon pricing through carbon tax
Singapore	NO	Carbon pricing through carbon tax
Myanmar	NO	NO
Laos	NO	NO
Pakistan	NO	Based on the Pakistan Climate Change Act
Bangladesh	NO	Laws in the making
Nepal	NO	Laws in the making
Turkey	YES	Climate Change Law is under revision
Egypt	NO	Environmental Law
EU countries	YES	Perfect EU ETS system

(Source: Collected from World Bank and official information from BRI countries)

Most countries lack comprehensive carbon emission systems and related laws. Only Turkey and the European Union countries have well-developed legal frameworks and Monitoring-Reporting-Verification (MRV) systems. Low awareness of carbon emissions is a significant issue.

Now the concept of low-carbon transformation and green and low-carbon development has been recognized and supported by countries around the world. Countries around the world are also introducing different systems and using different methods to achieve the goal of reducing carbon emissions under the condition of sustained economic development. The vast majority of countries participating in the Belt and Road Initiative have formulated or updated their national voluntary contribution targets and implemented emission reduction targets through specific policies. In addition to industry-based low-carbon transformation plans, some countries participating in the Belt and Road Initiative also adopt carbon pricing mechanisms to promote low-carbon transformation. The carbon pricing mechanisms adopted are mainly carbon taxes and carbon trading. However, due to the constraints of the level of economic and social development, it is rare for countries participating in the Belt and Road Initiative to adopt carbon pricing to promote carbon emission reduction.

And it is not just the imperfect monitoring system that is a problem. Low willingness is also a very serious problem. First of all, most of the countries participating in the Belt and Road Initiative are developing countries, and the people's wealth level is low. Some countries even have food and clothing problems. Therefore, it is unrealistic to implement green development under such circumstances. Some countries do not have a high degree of recognition of the carbon trading market proposed by Europe and the United States. Because some countries believe that Europe and the United States have completed economic development and no longer

need too much carbon emissions. However, developing countries now need to develop their economy and need a lot of carbon emissions. However, the introduction of the carbon trading market means that these countries need to invest more in economic development, which increases the cost of development. Therefore, they have a very low willingness to build a carbon trading market.

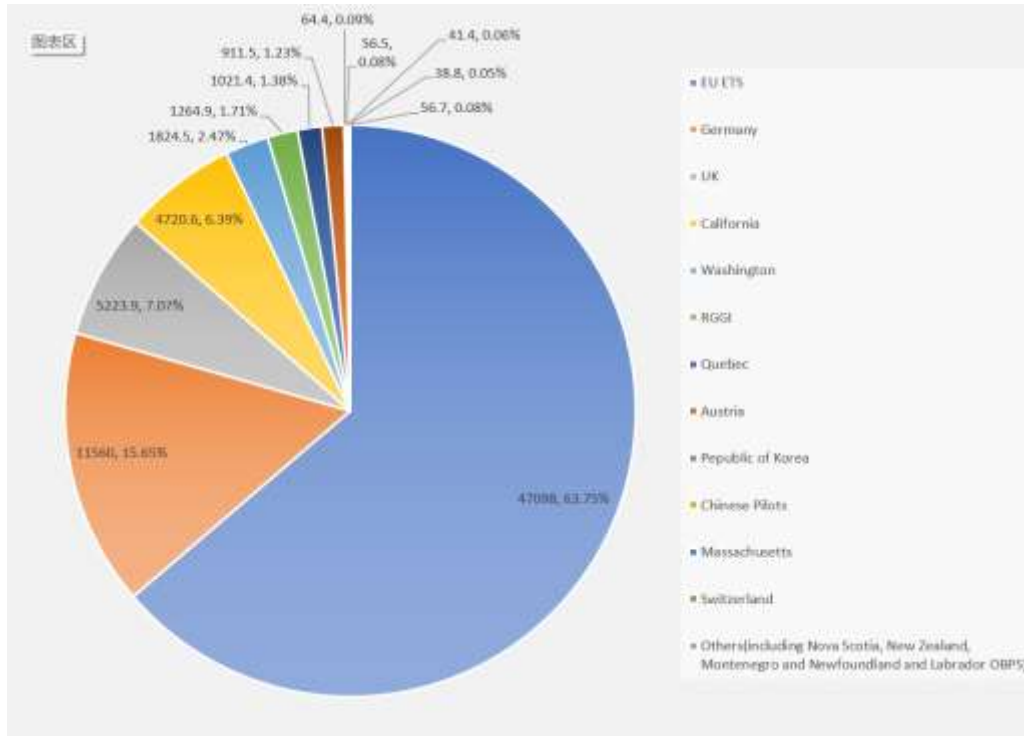


Figure 1. 2023 Global carbon trading market revenue (USD/MILLION)
(Source: ICAP, Emissions Trading Worldwide Status Report 2024)

Figure 1 shows the annual transaction volume of global carbon trading markets in 2023. It can be seen that the main focus of global carbon trading is still in the European carbon trading market, and the annual transaction volume of the Chinese carbon market is very small. There is almost no transaction volume in the countries along the "Belt and Road".

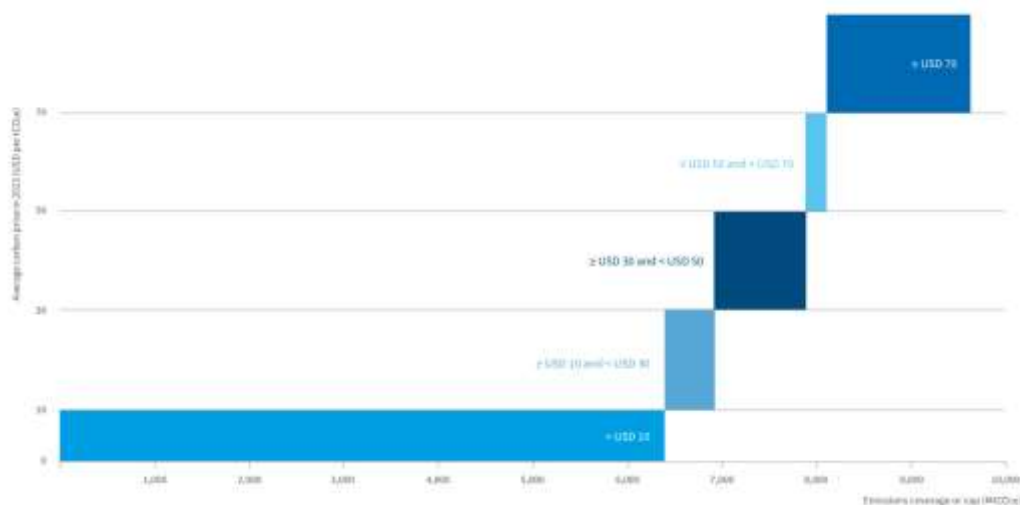


Figure 2. 2023 ETSs range of carbon prices
(Source: ICAP, Emissions Trading Worldwide Status Report 2024)

Figure 2 shows the range of carbon prices in the current ETS in 2023, and the emissions covered by systems with those price levels. Around two-thirds of ETS-covered emissions are in systems where prices averaged below USD 10 in 2023. About one-sixth of ETS-covered emissions were in systems where average prices in 2022 were between USD 10 and USD 70, whereas around another sixth were in systems with an average allowance price above USD 70 (the EU ETS and Switzerland).

The emissions covered by high prices are mainly concentrated in the European market and Switzerland. The carbon trading markets in these regions have been developed for a long time and have established a complete trading system and price system. However, most of the co-construction countries of the "Belt and Road" are developing countries, and some regions have not even established carbon emission markets. This will result in a low carbon emission coverage in the region. As shown in Figure 2, there is a direct relationship between the coverage and the unit price of carbon. Then the carbon prices in these developing co-construction countries will be relatively low. Compared with the higher-priced European region, the huge price difference will also make participants or investors in the carbon market lose confidence. However, this will cause participants or investors to reduce their investment in the carbon market in the region, and the development of the carbon market will stagnate or even regress. This will further reduce the coverage of carbon emissions, and ultimately result in a vicious cycle. This will also have an impact on global environmental changes.



Figure 3. Pyramid Flowchart: Promoting Green Development

Just like the pyramid diagram in Figure 3. Achieving global climate action is the ultimate goal. As one of the countries with the largest carbon emissions, China should fulfill its responsibilities as a major country. Therefore, the top priority is to build China's own carbon trading market, improve its own carbon trading process and related regulations, and ensure the safety of its own carbon trading. When the fourth and third layers are the basis of global climate action, when the goals are achieved, it means that China's carbon market has been improved. In order to drive subsequent global actions, it is necessary to gradually increase the influence of China's carbon market.

Take advantage of the convenience of the "Belt and Road" initiative to promote low-carbon transformation and climate cooperation in countries along the "Belt and Road". The "Belt and Road" initiative has a huge network of infrastructure projects and economic corridors across continents, providing a unique opportunity to integrate climate-resilient and low-carbon development principles into the planning and implementation of these initiatives. Promote the development of green and low-carbon technologies in countries along the "Belt and Road" by promoting green investment and sharing sustainable technologies.

However, although China's carbon trading market has not been developed for a long time, it has benefited from China's special social system and firm goals. Therefore, China was able

to complete the construction of the domestic carbon market in a relatively short period of time and improve the relevant legal supervision and trading mechanism of the carbon market. Then, while completing China's low-carbon transformation, it will share the transformation experience with the countries participating in the Belt and Road Initiative and help those developing countries complete their low-carbon transformation. With this opportunity, China can also invite the countries participating in the Belt and Road Initiative to join and build an international carbon trading market, complete the sustainable development of BRI, and complete the construction of the international carbon market in the Belt and Road Initiative region. Ultimately, relying on the influence of the international carbon market in the Belt and Road Initiative region, it will eventually have an impact on the global environment and complete global sustainable development and low-carbon green development.

Only after accumulating sufficient influence can China's carbon trading market strengthen its connection with the global carbon trading market, influencing and driving the development of the global carbon trading market and low-carbon environmental protection cause.

Similarly, the proposal of a large international carbon trading market will also face huge challenges. The most important of these are institutional differences and regional limitations. The "Belt and Road" economic zone spans Asia and Europe. The geographical scope is huge, so the social system and laws are bound to be different. Europe, as the earliest region to propose the concept of carbon trading, has a very mature carbon sink calculation method. China's carbon market has just developed, and the carbon sink measurement methods used are also different. Precisely because of these differences, the international carbon market built on the "Belt and Road" may require a long development cycle and it is difficult to quickly reach the ideal state. And although the "Belt and Road" initiative can indeed achieve the globalization of the carbon trading market, it may only be achieved in specific regions and cannot effectively affect the global market in the short term.

Conclusion

Only after accumulating sufficient influence can China's carbon trading market strengthen its connection with the global carbon trading market, influencing and driving the development of the global carbon trading market and low-carbon environmental protection cause.

Promoting green and low-carbon development in countries along the Belt and Road is crucial. It has important practical significance for promoting the green and sustainable development of the Belt and Road Initiative and for global efforts to address climate change. Simultaneously, it can promote the internationalisation of China's carbon trading market, accelerating global recognition of China's carbon trading market through the Belt and Road Initiative, and speeding up the globalisation process of China's carbon trading market.

To achieve a green, low-carbon economy, we need to establish basic awareness and infrastructure in BRI countries, foster partnerships and shared systems among neighboring countries, and gradually integrate regional systems into a global carbon trading network. While challenges exist, the Belt and Road Initiative presents a unique opportunity to promote green development and carbon trading on a global scale. By addressing these challenges step by step and leveraging the strengths of each participating country, we can work towards a more sustainable and environmentally friendly future.

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