The Evolution Logic, Opportunities and Challenges of China's "Double Carbon" Policy under the US-China Trade War

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Abstract. The outbreak of the U.S.-China trade war has had a profound effect on China's domestic energy market. It has caused drastic fluctuations in energy prices, such as coal and natural gas, and has profoundly affected China's goal of "double carbon." Through the collection of relevant literature and data analysis, this paper summarizes the evolution logic of China's "double carbon" policy from a macro to micro perspective, including its status, objectives, layout, and implementation. It reveals the opportunities presented by China's "double carbon" policy, such as reducing energy dependence, forcing enterprises to transform and upgrade their foreign trade structure under the background of the U.S.-China trade war. However, China's "double carbon" policy is also facing the challenge of "carbon tariffs." Since the goal of "double carbon" is related to the Community of Shared Future for Mankind, global climate control, and China's green development plan, the author hopes to clearly demonstrate the promotion process and future trends of China's "double carbon" policy through this article.

Keywords: Trade war, Double carbon, Status, Objectives, Layout.

1. Introduction

In order to effectively reduce carbon pollution and mitigate the global warming trend and encourage the development of a community of life between human beings and nature, President Xi Jinping declared the goal of achieving carbon neutrality by 2060 and a carbon peak by 2030 during the 75th session of the UN General Assembly in September 2020. Since then, China has issued a series of "double carbon" policies.

However, the world economic situation is changing rapidly. In July 2018, the U.S. imposed a 25% tariff on $34 billion worth of Chinese goods, sparking the US-China trade war. China subsequently also imposed excessive tariffs on U.S. coal, crude oil, natural gas, and other related products, including a 25 percent tariff on coal. According to the China Energy Development Report, China is expected to consume 5.24 billion tons of coal in 2021, up 5.2% from last year, with coal accounting for 56% of total energy consumption, down 0.9 percentage points from last year [1]. China's foreign dependence on crude oil reaches 72%, and natural gas reaches 46%. The United States is the main importer of traditional energy sources into China, and the US-China trade war has caused drastic fluctuations in the prices of coal, natural gas, and other energy sources, profoundly affecting China's promotion of the "double carbon" goal.

Therefore, China's "double carbon" policy needs to keep pace with the times and prescribe the right measures. In terms of policy status, China's "double carbon" policy is increasingly complete, comprehensive, and accurate, and its strategic significance has been elevated to a national level, becoming a key factor in building a community of human destiny [2]. In terms of policy objectives, China's carbon reduction target is shifting from carbon intensity control to dual control of carbon intensity and total carbon by actively improving energy use efficiency, promoting low-carbon technological innovation, and doing a good job of economic structural transformation [3]. In terms of policy layout, China's "double carbon" policy has continued to correct its bias, and gradual slowdown has become the new normal for carbon market expansion and the release of carbon reduction support tools, avoiding overheating and haste and emphasizing steady and orderly development [4]. In terms of policy implementation, China's "dual carbon" policy mostly adopts

administrative order means, while market-based means have gradually begun to play an important role [5].

The aim of this document is to summarize the evolutionary logic of China's "double carbon" policy under the influence of the US-China trade war through four aspects: status, target, layout, and implementation. Based on relevant data analysis and literature review, it has been found that China has gained good opportunities to reduce energy dependence, force enterprises to transform, and upgrade foreign trade structures, but also faces the challenges of the "carbon tariff" policy. Since the goal of "double carbon" is related to the Community of Shared Future for Mankind, global climate control, and China's green development plan, it has become an important proposition to deeply understand the promotion process and future direction of China's "double carbon" policy.

2. The Evolution Logic

The "double carbon target" is a major national strategy for China's green development, which aims to take the initiative to assume the responsibility of a large country and actively build a community of human destiny. As the US-China trade war continues to evolve, China's carbon reduction target has also changed, with carbon intensity and total carbon control as the core objectives. At the same time, the "double carbon" policy has been continuously revised, emphasizing steady progress and orderly growth, and has been implemented through a combination of administrative orders and market instruments, gradually paving the way for a distinctive, robust, and efficient carbon reduction path. This paper chooses to analyze the status, objectives, layout, and implementation of the "double carbon" policy from an abstract to a concrete perspective.

2.1. Status

China's promotion of achieving carbon peaking and carbon neutrality demonstrates the mission and responsibility of a responsible country, which has great significance and far-reaching impact. Firstly, the policy is conducive to mitigating the adverse effects of global climate change. As shown in Figure 1, China is the world's largest carbon emitter and a key player in global climate governance. In 2022, China accounted for 27% of global CO2 emissions, with a total of 11.6 billion tons, of which 10.1 billion tons of CO2 were emitted from energy activities, accounting for about 30% of global energy emissions [6]. The implementation of the "double carbon" policy has led to a rapid decrease in total carbon emissions in China in recent years, which means that potential risks associated with future climate change can be reduced. Secondly, the "double carbon" policy is conducive to promoting high-quality economic development. Promoting the "double carbon" policy can help China form a green economic development model and accelerate the transformation and upgrading of the economic structure. Thirdly, the "double carbon" policy is conducive to maintaining energy transition and security. China is currently adjusting its energy structure, allowing renewable energy to gradually replace fossil energy. Fourthly, the policy is conducive to deepening the construction of ecological civilization. Achieving carbon peaking and carbon neutrality can make more contributions to building a beautiful China. Fifthly, the policy will also be conducive to building a community of human destiny. China, as an internationally responsible country, has embodied its determination to face the difficulties of climate governance together with the international community by implementing the "double carbon" policy, providing Chinese wisdom to improve the global ecological environment, and contributing Chinese power to build a community of human destiny.

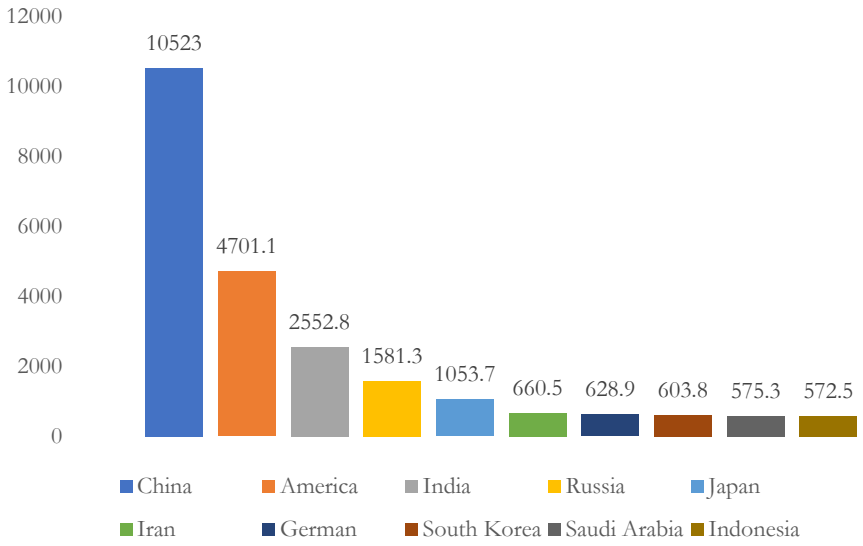

Figure 1. Top ten countries in global carbon dioxide emissions in 2021
Data source: https://www.sohu.com/a/578797859_120950203
Photo credit: Original

2.2. Objectives

China's carbon reduction targets have undergone a process of continuous enrichment and expansion, from single to multi-dimensional, gradually forming a carbon reduction target system that includes reducing carbon intensity, increasing the proportion of non-fossil energy, and controlling total energy consumption. With the continuous expansion of carbon reduction policies, a relatively complete carbon reduction policy system has been formed with carbon intensity control as the core target. China's efforts to reduce carbon emissions were highlighted in the white paper "China's Policies and Actions to Address Climate Change." In 2020, the country managed to surpass the binding target of the '13th Five-Year Plan' by reducing carbon emission intensity by 18.8% compared to 2015. Moreover, China exceeded its international commitment to decrease emissions by 40% by reducing emissions by 48.4% compared to 2005[7]. In 2021, China's energy consumption intensity and level of carbon emissions decreased by 2.7% and 3.8%, respectively, compared to those in 2020. It is clear that China's policy of reducing carbon emissions is starting to bear fruit.

During the 75th session of the UN General Assembly in September 2020, President Xi Jinping declared the goal of achieving carbon neutrality by 2060 and a carbon peak by 2030. In October 2021, "Opinions on Complete and Accurate Implementation of the New Development Concept to Achieve a Carbon Peak by 2030 and Carbon Neutrality by 2060" was published by the Party Central Committee, which clearly indicates that total carbon control will also be the core carbon reduction target in China, together with carbon intensity control [8]. By continuously improving and adjusting the "double carbon" policy, China actively promotes the achievement of total carbon control and carbon intensity control by improving energy use efficiency, low-carbon technology innovation, and transforming and upgrading the economic structure.

2.3. Layout

In the US-China trade war, China imposed excessive tariffs on US natural gas, coal, and oil-related products, which directly affected supply and demand in the carbon and traditional energy markets, and impacted financial market sentiment. To appease market sentiment, stabilize domestic energy prices, and avoid dramatic shocks in the carbon market, China's "dual carbon" policy continues to correct its bias, with carbon emission reduction support tools and carbon market expansion slowing down, emphasizing steady and orderly development.

To ensure steady economic development, the 2022 Government Work Report fully reflects the Chinese government's emphasis on "the orderly promotion of carbon neutral work and the implementation of the carbon peak action plan" [10]. In the plenary session of the Leading Group on Carbon Neutralization, it was emphasized that "we should coordinate development and security, adhere to the principle of seeking progress in a stable manner, establish first and then break, plan comprehensively, grasp the pace of work scientifically, and ensure energy security, supply chain security, food security, and the normal life of the public while reducing carbon" [11] and ensure the normal life of the masses" [12]. From a comprehensive perspective, a gradual slowdown has become the new normal for China's "dual carbon" policy, adhering to the principles of orderly, safe, steady growth, and ensuring the normal life of the masses.

Carbon market expansion has temporarily slowed down. According to the Notice on Key Work Related to Enterprise Greenhouse Gas Emissions Reporting Management in 2022 published by the State Department of Ecology and Environment, work related to enterprise greenhouse gas emissions reporting management in the power generation industry will be organized, and the power generation industry will be included in the annual key emission units list of the national carbon emission trading market [13]. The work arrangement related to GHG emission report management of enterprises in petrochemical, chemical, building materials, iron and steel, non-ferrous, paper, civil aviation, and other industries will be notified. It can be seen that the process of incorporating these seven industries into the carbon trading market is temporarily stopped, which means that the expansion of the carbon market is suspended.

Carbon emission reduction support tools have steadily progressed with a lower-than-expected scale. According to the Central Bank's Monetary Policy Implementation Report for the third quarter of 2022, the Central Bank issued funds of RMB 64.2 billion and RMB 22.2 billion, or a total of RMB 86.4 billion, to relevant financial institutions through the Carbon Emission Reduction Support Instrument and the Special Refinancing to Support Clean and Efficient Utilization of Coal, respectively. Since the implementation of the two instruments, the central bank has disbursed funds of 246.9 billion yuan and 57.8 billion yuan, respectively, for a total of 304.7 billion yuan [14]. However, there is a considerable gap with the market expectation of reaching more than trillions of dollars in 2022. Since the two tools have been implemented since 2021, their social effects have begun to emerge with significant results.

2.4. Implementation

In the implementation of the "dual carbon" policy, China has mainly adopted administrative orders to restrain the total amount and intensity of carbon emissions through the issuance of documents and regulations. In December 2020, the Ministry of Ecology and Environment (MOE) announced the "Measures for the Administration of Carbon Emission Trading (Trial)" and the "Implementation Plan for Setting and Allocating the Total Amount of Carbon Emission Quotas for 2019-2020 (Power Generation Sector)" and released the quota allocation plan and the first list of key emission units [15, 16]. After years of practice, the pilot carbon market has achieved remarkable results in emission reduction, and the total amount and intensity of carbon emissions within the pilot area have maintained an obvious double-decreasing trend.

Although China attaches great importance to the role of market mechanisms, it still faces a very serious challenge. With an average annual GDP growth rate of 5% during the 14th Five-Year Plan period, China has set a binding target of a 13.5% reduction in energy consumption per unit of GDP. This is still a huge challenge to achieve the carbon peak target while controlling carbon emissions and ensuring economic growth. As a field with strong externality, how to enhance the motivation of non-public sector participation and maximize the participation of market players directly determines the speed of achieving carbon peak and carbon-neutral goals. Promoting the supervision and management of carbon emission reduction through the market mechanism and enabling key emission units, institutions, or individuals to trade carbon emission allowances freely and for a fee through the domestic carbon emission trading scheme can make the hidden costs of carbon emission visible and

internalize the external costs. At the same time, as the market demand for low-carbon emission reduction continues to expand, it can also greatly promote technological innovation, thus forming a virtuous cycle.

3. Opportunities

3.1. Reducing Energy Dependence

Currently, China is highly dependent on imported fossil energy sources such as oil and natural gas. In 2018, China became the world's top oil importer. By 2022, China's natural gas imports are expected to reach 152.07 billion cubic meters, with an external dependence of 40.2% on natural gas. Oil imports are expected to be 508 million tons, with an external dependence of 71.2% [17]. The main way to achieve carbon neutrality is to replace large amounts of fossil fuel use with non-carbon energy sources. This will help China gain an advantage in the international energy transition competition, reduce its energy dependence on overseas suppliers, especially the United States, and maintain national energy independence.

3.2. Forcing Companies to Transform

To encourage high-polluting and high-emitting foreign trade manufacturing enterprises to upgrade their industries, develop green innovative technologies, and internalize the environmental costs of export commodities, environmental regulations can be implemented to impose higher pollution control costs. Targeted subsidies can support enterprises in purchasing environmentally friendly production equipment, encourage them to reduce energy consumption and pollution emissions in the production process, and achieve green transformation and upgrading of relevant export enterprises.

3.3. Promoting the Upgrading of Foreign Trade Structure

The low-carbon transformation of the foreign trade industry can bring new growth points and employment opportunities and is a key support to achieving China's future exports, preserving quality and optimizing efficiency. According to the report "Study on China's Long-Term Low-Carbon Development Strategy and Transformation Path," about 100 trillion yuan of new investment is needed in the energy system from 2020 to 2050, and its annual new investment represents around 3.1 percent of China's annual GDP [18]. As a large amount of investment is put into green industry development, it will create many jobs, and it is expected that about 2 million new jobs will be created. Carbon neutrality will force the transformation and upgrading of China's manufacturing industry, prompting China's high-carbon industries to improve production technology, increase productivity, and introduce low-carbon technology and low-carbon equipment. At the same time, carbon neutrality will also accelerate the competitiveness of tertiary industry exports, bypassing various trade barriers and shifting from "manufacturing and processing trade" to "knowledge service trade." The proportion of the total import and export of services reached 44.7%. Among them, intellectual property royalties, telecommunications, computer, and information services have the fastest growth rate of 26.1% and 21.5% [19]. The competitive advantage of China's knowledge-based service trade is gradually increasing, and there is still more room for future export growth. Carbon neutrality will promote the mode of change and structural upgrading of China's export trade.

4. The Challenges

Carbon tariffs are additional tariffs on imports and exports that involve carbon dioxide emissions. In June 2009, the US passed the Clean Energy Security Act, which stipulated that starting in 2020, the US government would impose carbon tariffs on imports from other countries, except for some countries that are exempt from carbon tariffs [20]. The US government aims to use the "green energy industry" as a new growth point and encourage the development of this industry by rewarding and limiting it. Companies can take advantage of their significant advantages in clean energy technology

to expand their market share worldwide and eventually introduce the carbon tariff policy under the banner of environmental protection to protect the development of the new industry. The implementation of the carbon tariff policy will pose challenges and have an impact on China's export competitiveness and the cost of introducing advanced technologies.

4.1. Reducing the share of exports such as steel and metal products

The implementation of carbon tariffs will increase the prices of the taxed goods, giving foreign competitors a price advantage and putting China's exports at a disadvantage in international competition. According to a scenario model by the National Development Institute of Peking University, the tariff on steel and steel products exported to the EU will increase by 3.3 percentage points, and the export of steel and steel products to the EU will decrease by 14.0%. The tariff on non-metallic minerals will increase by 5.7 percentage points, and the export will decrease by 25.0%. This will inevitably weaken the competitiveness of Chinese exports. The "carbon tariff" will have a significant impact on export industries such as metal products and non-metallic mineral products.

4.2. Enhancing the cost of introducing advanced low-carbon technology in China

After the implementation of carbon tariffs, exporting countries will have to introduce advanced low-carbon technologies, low-carbon equipment, and production technologies that meet the import standards. Exporting producers will have to meet the international market access standards, which will result in a significant increase in production costs for exporters. This, in turn, will result in lower revenues and compressed profit margins for foreign trade enterprises. For example, due to the adverse effects of the US-China trade war, the US has raised carbon emission intensity requirements and implemented more stringent carbon emission standards, leading to some of China's electronic products being unable to meet US carbon emission standards and drawing from the US market. If these electronic products have the possibility of being exported to the US, advanced low-carbon technology and low-carbon equipment from developed countries must be introduced, which will increase the production costs of enterprises.

5. Conclusion

As the U.S.-China trade war continues to evolve, China's "dual carbon" policy has been actively adjusted to keep pace with the times. Its strategic importance has been highly elevated, becoming a key factor in building a community of human destiny. The goal of carbon reduction has been flexibly transformed, with carbon intensity and total carbon control as the core. The policy layout has been continuously refined, emphasizing steady progress. The implementation methods have become more diverse, combining administrative orders and market instruments, gradually forming a distinctive, robust, and efficient policy system.

The trade war between China and the United States also presents China with the opportunity to reduce energy dependence, force enterprise transformation, and promote the upgrading of foreign trade structures. However, opportunities often come with challenges, and China is also facing huge challenges posed by carbon tariffs. The outbreak of the US-China trade war has caused huge economic losses to both countries and created continuous shocks in the international market, which is not conducive to the development of economic globalization and is inconsistent with the concept of building a community of human destiny. Therefore, China and the United States should actively communicate, reduce their differences, increase mutual trust, and work together to build a blueprint for win-win cooperation, making greater contributions to global positive development and climate governance.

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