Pollution Control and Resources Allocation: Optimization Path of Carbon Trading Efficiency Driven by Service Trade Enterprises Innovation

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Abstract. This paper subdivides and explores the mechanism of the role of standardization on international service trade enterprises from three dimensions and aspects, analysing and studying the three dimensions of the scale of international service trade, the combination of international service trade elements and the efficiency of carbon trading, optimization of resource allocation, together with the benefits of service trade. The research discovered and sorted out the mechanism of standardization to promote the efficiency of carbon trading of service trade enterprises and improve competitiveness: standardization and service trade enterprises low-carbon emission technology advancement; standardization and service trade enterprises carbon trading resource optimization allocation; standardization and service trade enterprises carbon trading information symmetry. Based on this mechanism, three paths are drawn to promote the development of carbon trading efficiency optimization and innovation of service trade enterprises through standardization, and the research combines the three traits of green, low-carbon and recycling in the current standardization of service trade enterprises in the new era and puts forward relevant suggestions.

1. Introduction
At present, global climate change has increasingly aroused the attention of people and all walks of life, and the issue of global warming has become a common problem and focus facing human society today. Human economic production and its own social life are in a specific natural ecological environment, and these activities produce and exert different degrees of influence upon the natural ecological environment. Amongst them, as an important economic activity of human beings, the international trade of various goods and services naturally, directly or indirectly, affects the ecological and natural environment. Amongst them, human behaviour preferences, ecological and natural environment awareness and pollution externalities are different. Numerous factors of heterogeneity have made the relationship between international trade and the ecological environment a focus of social concern. The mutual influence and coordination between international trade and the ecological environment have also attracted increasing attention from all walks of life in the international community. The concern about the relationship between international trade and the ecological environment has also continuously strengthened and improved the environmental awareness of mankind and various economic entities. Green and low-carbon circular economy and the impact of international trade,
especially service trade, have become a realistic and important problem to be solved in the fields of research on earth environmental science, trade disciplines, etc., and are also most likely to provide a positive theoretical reference and reality for the sustainable development of future carbon trading standardization.

2. Literatures Review

2.1. Literatures
Service trade has reached a very important proportion of the world's global trade, playing a key role. At the same time, global carbon dioxide emissions continue to increase. Scholars have two different views on the relationship between trade in services and carbon emissions. Some scholars believe that trade in services has little impact on the environment, especially carbon emissions, because the trade in services industry is mostly concentrated in industries with less pollution and carbon emissions.[1-2]. Nonetheless, other scholars disagree with this view. They deem that the service sector is an environmentally friendly sector with time heterogeneity and should be studied in different periods and combined with innovation and technological progress [3-5]. Hence, does the rapid development of trade in services have an impact on carbon dioxide emissions? Compared with trade in goods, the current research on the relationship between trade in services and the environment and carbon emissions by domestic and foreign scholars is still in its infancy, and relatively few research results are available. However, many empirical studies in recent years have proved that in a relatively long period of time, the technical content of imported services in service trade has a positive migration effect on a country (region)'s industrial economic development mode [6] Many frontier empirical results show that the technical content of service trade imports has a significant role in promoting the transformation of a country (region)'s industrial economic development mode; moreover, new types of service trade imports such as computers and information with higher technical content have a stronger role in promoting imports of low-tech traditional services such as transportation[7-8].

2.2. Review
To sum up, scholars have carried out a large number of studies on the relationship between trade in services and the environment, especially carbon emissions, and have achieved certain results and conclusions. However, very few studies can be found to combine with innovation-driven research to specifically study the relationship between trade in services and the environment, especially carbon emissions; and it is also scarce to find researches on carbon trading mechanism, neither based on the micro level of enterprises nor from the perspective of standardization. Therefore, this current study is conducive to the expansion of international trade and global environmental science in the field of carbon trading mechanisms from the perspectives of standardization science and innovation economics.

3. Method

3.1. Importance and significance of carbon trading
The concept of carbon emissions trading originated from “emissions trading”, and its institutional establishment originated from the “United Nations Framework Convention on Climate Change” and the “Kyoto Protocol”, of which the latter took the market mechanism as a new way to solve the problem of greenhouse gas emission reduction. As an exchangeable market economy commodity, carbon emission rights encourage micro-enterprises in the market economy as an independent economy to save carbon emission indicators through pollution control and innovative technological progress. This indicator can be stored as a valuable resource. To prepare for expansion and development, it can also conduct market economic commercial exchanges with other enterprises. In the process of carbon trading in the market economy, the carbon emissions of micro-enterprises should be reportable, verifiable and monitorable. Micro-enterprises entering the carbon trading market are
obliged to monitor their annual carbon emissions-related data, and form all data and monitoring into a carbon emissions report. In order to reflect the credibility and transparency of the data, micro-enterprises in the market economy should; the carbon emission report can only be traded after it is verified by a third-party organization related to the market.

3.2 Corpus and Data
A corpus was self-built by this study to test and demonstrate the mechanism of standardization promoting carbon trading efficiency of service trade. In effect, 1058 sets of corpus data clusters were collected and denoted so as to carry out the verification process. Filter process was followed to upgrade the validity of the data quality. The corpus subsequently went through the categorization prior to the findings. Through on-site visits to more than 20 international service-oriented foreign trade companies and more than 30 local foreign trade service companies, questionnaire surveys and in-depth field interviews were conducted, and more than 10 industry associations and expert groups were invited and involved to collate and solidify data.

4. Findings
4.1 Results
Results of Corpus Cyber Testing can be shown in Figure 1. in that the service trade carbon trading scale is 200, optimal allocation of carbon trading resources is 132, benefits of carbon trading in service trade is 110, carbon trading information symmetry is 180 and initiative of carbon trading standards is 200. According to the rule of the Corpus Concordance threshold, those figures are all within the range. Therefore, the mechanism of standardization promoting carbon trading efficiency of service trade can be implemented subsequently in the following section.

4.2 Mechanism of Standardization Promoting Carbon Trading Efficiency of Service Trade
Standardization promotes carbon trading efficiency of service trade companies to optimize their competitiveness and improve their competitiveness. The mechanism of action is shown in Figure 2. First, service trade standardization has an impact on the scale of international service trade carbon trading, which is mainly derived from standardization through the realization of service trade scale economies and service trade carbon trading Network externalities, to solve the information asymmetry
in the international service trade carbon trading activities, and to realize and promote the expansion of
the service trade carbon trading scale with the help of service trade enterprise competition carbon
trading information symmetry; second, standardization and service trade enterprise carbon trading
Optimal allocation of resources, standards promote the optimization of the matching structure of trade
carbon trading resources from multiple perspectives such as carbon trading technology and interfaces,
and create a homogeneous order of carbon trading documents. For the optimal allocation of carbon
trading resources for service trading companies, the service Trade standardization imposes a
homogeneous carbon trading order on the production and manufacturing processes of service trading
companies and the carbon trading supply process, thereby preventing the out-of-control of the service
manufacturing production order and the fault of key carbon trading service manufacturing factors on
the supply side of the carbon trading standard. The development of carbon trading technology for
service trade enterprises will be integrated into the carbon trading track of efficient and high-quality
development, and the optimal allocation of carbon trading resources will be realized. The third is the
impact of standardization transaction standard developers, carbon trading standard engineers and
service trade carbon trading marketing experts, etc., as participants of carbon trading interests, can be
seen whether it is from the perspective of final service trade carbon trading products, intermediate
carbon trading service trade products, or the entire carbon trade of service trade. From the perspective
of transaction value chain governance, it can be proved that only by grasping the initiative of carbon
trading standards can the benefits of carbon trading service trade be effectively improved.

Figure2.Mechanism of Standardization Promoting Carbon Trading Efficiency

5. Conclusion
Based on the above analysis of the mechanism that standardization promotes the optimization of
carbon trading efficiency of service trade enterprises and the improvement of competitiveness, it can
be concluded that there are three main principles for promoting the development of service trade
enterprises' carbon trading efficiency optimization and innovation, namely:

Innovation-driven development path 1: Standardization can be used as a document basis for
resolving international service trade carbon trading arbitration, solving international service trade
carbon trading disputes, low-carbon green trade frictions, carbon barriers and other issues; based on
standardization is a kind of carbon restriction The diversity and abundance of "heterogeneity" of
trading mechanisms is an act of carbon trading documents that creates a "homogeneous" order. For the
optimal allocation of carbon trading resources for service trade enterprises, the standardization of carbon trading in service trade will "homogeneity" "Order imposes on the production and manufacturing processes of service trading companies and the carbon trading supply process, thereby preventing the out-of-control of the service manufacturing production order and the mismatch and deviation of key service manufacturing factors of carbon trading on the supply side of carbon trading standards. Technological development is incorporated into the track of efficient and high-quality development.

Innovation-driven development path 2: Standardization promotes the optimization of carbon trading efficiency of service trade enterprises is an innovation drive that can reduce service trade transaction costs and improve international service trade carbon trading efficiency. Standardization as an "objective existence" will also have a huge subjective initiative and reaction to the technological progress of carbon trading in service trade, and can actively and actively promote the progress of low-carbon green technology in service trade; standardization promotes the optimization of carbon trading efficiency of service trade enterprises, which can further eliminate technical trade barriers for service trade enterprises, improve the compatibility of low-carbon green products and related environmental protection services of service trade in the international carbon trading market.

Innovation-driven development path 3: Standardization promotes the optimization of carbon trading efficiency of service trading companies. Environmental and low-carbon technology innovation can drive progress and spillovers to improve the international competitive advantage of service trading companies' carbon trading and enhance their international carbon trading competitiveness. Service trade standards enhance the competitive advantage of service trade export carbon trading products, while domestic standards promote service trade carbon trading similar to international standards; standardization can improve the state of service trade enterprises' carbon trading competition and achieve "carbon trading information symmetry". The efficiency of carbon trading in the real sense and the optimization of global village trade, and promote the development of service trading enterprises through the optimization of carbon trading efficiency and innovation through standardization. Therefore, only by grasping the initiative of carbon trading standards can the benefits of carbon trading service trade be effectively improved.

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References
[1] Shah Syed Ale Raza; Naqvi Syed Asif Ali; Anwar Sofia(2020)Exploring the linkage among energy intensity, carbon emission and urbanization in Pakistan: fresh evidence from ecological modernization and environment transition theories. J. Environmental science and pollution research international, 09:223-229.
[2] Gouranga G. Das. (2020) Trade, Environment and Adjustments: Contemporary Themes. J.Foreign Trade Review, 55(3):271-276.
[3] Zameer, H., Yasmeen, H., Zafar, M.W. et al. (2020) Analyzing the association between innovation, economic growth, and environment: divulging the importance of FDI and trade openness in India. J. Environ Sci Pollut Res., 27: 29539–29553.
[4] Yucong You. (2018) A Study on Business Model Innovation of Foreign Trade Service Enterprises[C]. Institute of Management Science and Industrial Engineering. J.Economics and Management.05(3):67-71.
[5] Yi Luxia,Yucong. (2018) Research on Urban Low Carbon Intelligent Traffic Control Model J. Computing engineering 18:1155-1160.
[6] Hotak, S., Islam, M., Kakinaka, M. et al. (2020) Carbon emissions and carbon trade balances: International evidence from panel ARDL analysis. J. Environ Sci Pollut Res 27:24115–24128.

[7] Matteo V. Rocco, Nicolò Golinucci, Stefano M. Ronco, Emanuela Colombo. (2020) Fighting carbon leakage through consumption-based carbon emissions policies: Empirical analysis based on the World Trade Model with Bilateral Trades. J. Applied Energy, 10:274-280.

[8] Muhammad Khalid Anser, et al (2020) Dynamic linkages between transportation, waste management, and carbon pricing: Evidence from the Arab World. J. Cleaner Production, 20:269-279.