

Analysis on the Development Path of Green Logistics under the Background of "Double Carbon"

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Abstract: Under the background of the establishment of the goal of "double carbon", the awareness of low-carbon environment in the whole society has been obviously improved, and green and low-carbon development has become the main goal of various industries. Taking the logistics industry as an example, it is necessary to take green logistics as the main development content under the background of "double carbon" goal, promote the green transformation of the logistics industry by reducing energy consumption and carbon emissions, and finally realize the benign and sustainable development of the industry. As far as the current situation is concerned, although the development of green logistics in China has achieved phased results, it has encountered some bottlenecks in its further development, which makes the green transformation of the logistics industry unsustainable. In view of this, this paper starts from the related overview of "double carbon" goal and green logistics, focuses on the bottlenecks encountered in the development of green logistics in China under this background, and puts forward some development countermeasures and suggestions, hoping to provide effective reference for related.

Keywords: "Double Carbon"; Green Logistics; Development Bottleneck; Countermeasure and Suggestion.

1. Introduction

In order to achieve high-quality economic development and improve people's living environment, China clearly put forward the goal of "double carbon", that is, the goal of peak carbon dioxide emissions and carbon neutrality. As an industry with high energy consumption and high emissions, the logistics industry needs to change the traditional high-carbon operation mode and accelerate the green transformation, so as to realize the sustainable development of the industry and make due contributions to the goal of "double carbon". Therefore, it is of great practical significance to analyze the development path of green logistics under the background of "double carbon" goal.

2. The "Double Carbon" Goal and the Related Overview of Green Logistics

2.1. "Double Carbon" Goal

"Double carbon" refers to peak carbon dioxide emissions and carbon neutrality, and the specific content of the "double carbon" goal is that China needs to achieve the goal of peak carbon dioxide emissions by 2030 and achieve the goal of carbon neutrality by 2060. The meaning of peak carbon dioxide emissions is that the carbon dioxide emission in a certain year has reached the historical maximum, and then it will begin to enter the decline stage; Carbon neutrality means that the carbon dioxide produced every year can be offset by ocean absorption and afforestation, so as to realize "zero emission" of carbon dioxide. In this context, it is necessary for all walks of life to strive to achieve the goal of "double carbon" by improving energy efficiency, reducing carbon dioxide emissions and increasing the proportion of new energy.

2.2. Green Logistics

Green logistics refers to the optimization and adjustment of logistics warehousing, distribution and other aspects under the guidance of low-carbon environmental protection concept,

in order to reduce carbon emissions and energy consumption. On the significance of developing green logistics, first of all, it helps logistics enterprises to establish a green brand image, and helps enterprises to reduce the cost of production and operation, thus bringing more benefits to enterprises. Secondly, from the perspective of the development of the whole logistics industry, promoting the development of green logistics is the inevitable choice and trend of the future development of the logistics industry, especially in the context of the establishment of the "double carbon" goal. If the logistics industry still adheres to the high-carbon operation mode, it will be restricted by many aspects, such as policies and energy. On the contrary, if the green transformation can be accelerated, the logistics industry will enter a new stage of development in the future, which is more in line with the development demands of the country and society. Finally, in the context of the high-quality development of the national economy, the logistics industry, as an indispensable part, can only adapt to the development requirements of the new era by accelerating the green transformation, for example, by improving the utilization rate of packaging equipment and reducing environmental pollution and waste of resources, which can promote the development of circular economy, which will have a positive impact on the realization of high-quality economic development [1].

3. The Bottleneck of China's Green Logistics Development under the Background of "Double Carbon"

The goal of "double carbon" makes it necessary for China's logistics industry to accelerate the transformation and upgrading and actively develop green logistics. From the actual development situation, although some achievements have been made, there is still a big gap with the expected goal. At the same time, some bottlenecks have been encountered in the further development, such as unreasonable logistics energy consumption structure, unbalanced regional

development of green logistics, and lack of planning for transportation resource allocation.

3.1. Unbalanced Regional Development of Green Logistics

At present, there is a certain gap in the level of economic development in different regions of China, which also affects the development of green logistics in various regions to a great extent. From the reality, although the central and western regions are vast in land area and rich in natural resources, due to the influence of realistic factors and historical problems, the economic growth is relatively slow compared with the eastern coastal regions, and the development of green logistics is lagging behind because of the lack of technology and talents. The eastern region is different. In addition to having technology and talents, the infrastructure construction is relatively perfect and the logistics industry is concentrated, so the development of green logistics in the eastern coastal areas of China has achieved certain results. It can be seen that the problem of unbalanced regional development of green logistics in China is more prominent at this stage, which is a major problem that needs to be solved urgently in the future.

3.2. Unreasonable Structure of Logistics Energy Consumption

First of all, China's transportation structure needs to be optimized. In recent years, with the rapid development of China's railway industry, the proportion of railway freight volume has been increasing, but compared with road transportation, it is not flexible and convenient enough. Therefore, at present, China's transportation structure is still dominated by road transportation, while low-carbon freight modes such as railways and waterways are still not the mainstream, which leads to unreasonable logistics energy consumption structure and is not conducive to the realization of the goal of "double carbon". Secondly, the application of clean energy technology is insufficient, and the energy consumption of logistics industry is mainly fossil energy such as oil and coal, so it is difficult to effectively reduce carbon emissions, which hinders the development of green logistics.

3.3. The Allocation of Transportation Resources Lacks Planning.

Compared with before, the informatization construction level of logistics industry has been significantly improved, and the application of information technology can be seen in all links. However, from the logistics and transportation links, the informatization level still does not meet the requirements of green logistics development, which will affect the scientific planning and utilization of logistics and transportation resources. First of all, it is impossible to achieve unified dispatching and control of transport vehicles, which will lead to repeated transport, empty load or insufficient loading, resulting in high energy consumption. Secondly, there is a lack of effective cooperation between logistics enterprises in different regions and a more efficient management system, which makes the timeliness of transportation unsatisfactory. Finally, the resource allocation model is unreasonable. For example, some logistics enterprises have launched personalized delivery services such as next-day delivery and half-day delivery. Although these services can enhance customers' experience, they are not suitable for this service model in some cities. The reason is

that they occupy too many resources, increase carbon emissions and enterprise costs, which is not conducive to the development of green logistics [2].

3.4. The Digital Transformation of Logistics Enterprises Lags Behind.

Promoting the digital transformation of logistics enterprises has a profound impact on improving energy efficiency and greatly reducing carbon emissions, which is of great significance to promoting the development of green logistics. However, as far as the current actual situation is concerned, many logistics enterprises have problems in digital transformation. On the one hand, it takes a long time to see the return benefits of digital transformation, but it is basically impossible to see the return benefits in the short term. On the contrary, logistics enterprises need to invest a lot of money, manpower and material resources, which is difficult for logistics enterprises to make a choice, especially for small and medium-sized logistics enterprises, which can only guarantee the immediate interests in the face of cruel market competition. On the other hand, digital transformation involves many emerging technologies, such as artificial intelligence, Internet of Things, blockchain, etc. The transformation process is complicated, and the digital foundation of many logistics enterprises is relatively weak, so it is a very big challenge to fully realize digital transformation. In this case, the green development of logistics enterprises will be restricted, and correspondingly, the green development of the whole industry will also be affected.

3.5. Insufficient Motivation for Green Transformation of Logistics Enterprises

First of all, in the green transformation, logistics enterprises must first purchase related technologies and infrastructure, and these investments not only have a long return period, but also require a very large scale of funds, which makes many logistics enterprises lack strong willingness to green transformation. Secondly, in the process of green transformation, personnel training, scientific research and development and innovation of related technologies all require high costs. From the development status of China's logistics industry, few enterprises have this cost input ability, which hinders the development of green logistics. Thirdly, the development concept of green logistics has not been widely publicized, and the related policy guarantee is insufficient, which makes logistics enterprises dare not try it easily, thus affecting the green transformation of logistics enterprises. Finally, influenced by traditional concepts and thinking patterns, logistics enterprises pay more attention to the function and cost performance of products in their development, and lack the awareness of using green packaging materials and developing green products, thus hindering the green transformation and healthy development of logistics enterprises.

4. Countermeasures and Suggestions on the Development of Green Logistics in China under the Background of "Double Carbon" Goal

Developing green logistics is the main development trend of logistics industry under the background of "double carbon"

goal, and it is also an important way for logistics enterprises to transform and upgrade, but it is not easy to practice, so it is necessary for relevant practitioners to put forward feasible development countermeasures based on the analysis of the actual situation. Based on the current development status of green logistics in China, this paper puts forward some countermeasures and suggestions from the following aspects:

4.1. Accelerate the Balanced Regional Development of Green Logistics

Influenced and limited by many factors, there are great differences in the development of green logistics between the eastern coastal areas and the central and western regions of China. Even though the state has formulated relevant policies and introduced a series of measures in recent years, it still needs to combine the actual conditions of different regions to make policies, so as to promote the balanced development of green logistics in various regions.

First of all, we must continue to increase investment in the construction of public transport infrastructure and narrow the gap between the eastern and western regions in public services and infrastructure construction. Secondly, it is to speed up industrial upgrading and transformation, build a logistics industrial cluster base, especially in industrial technology upgrading, so as to lay a solid foundation for the development of green logistics. Thirdly, it is necessary to combine the economic development and logistics development level of different regions, formulate relevant safeguard policies and make development plans according to local conditions. For example, for the provinces and autonomous regions in southwest China, it is necessary to guide them to develop border trade and promote the green transformation of the region by exerting the emergency effect of international trade; For another example, the transformation of green logistics in western rural areas can start with stimulating domestic demand and deeply tap the consumption potential in this area, thus accelerating the development of green logistics. Finally, it is of great significance to strengthen the cooperation between regions and enterprises and realize the linkage between regions and enterprises by breaking the rigid shackles of administrative regions, which is of great significance to improve the efficiency of green logistics [3].

4.2. Scientifically Adjust the Energy Consumption Structure

In promoting the development of green logistics, it is very important to scientifically adjust the energy consumption structure. On the one hand, it is to strengthen the use of new energy equipment, such as increasing the use of new energy transport vehicles in major transport roads and logistics parks, so as to reduce this part of energy consumption and carbon emissions. Furthermore, related new energy technologies, such as energy-saving lighting technology, can be introduced in port construction and logistics park construction, so as to further optimize the energy consumption structure and lay a solid foundation for the green transformation of logistics industry. On the other hand, we should vigorously develop multimodal transport, that is, by speeding up "revolving water" and "revolving iron", deepening rail-sea transport and public-rail transport, and reducing the proportion of road transport, so that low-carbon logistics transport modes will gradually become the mainstream, so as to truly realize the green transformation of the energy consumption structure of

the logistics industry.

4.3. Reasonably Plan the Allocation of Logistics Resources

Modern logistics industry involves many links, such as warehousing, transportation, distribution and recycling, etc. It is a typical compound industry, and it needs the close cooperation of many departments and institutions to complete the work in actual operation. Therefore, in order to optimize resources, it is necessary to integrate the concept of "low carbon" in actual operation. Specifically, on the one hand, it is necessary to make scientific and reasonable planning, adjust transportation routes, and at the same time reduce energy consumption by increasing the proportion of new energy vehicles. On the other hand, it is necessary to build a green transportation ecosystem and form a green supply chain mechanism, so as to realize the integration of upstream and downstream enterprise resources, thereby reducing carbon emissions and improving actual efficiency.

4.4. Improve the Digital Level of Green Logistics

Digital transformation and technological innovation are important means for the logistics industry to achieve green development. Therefore, under the background of "double carbon" goal, relevant enterprises must attach importance to digital transformation and technological innovation, and can make scientific plans according to their own development and actual conditions. In practice, on the one hand, we should improve our own digital level, such as integrating advanced technologies such as artificial intelligence, Internet of Things, cloud computing and 5G into all aspects of work, so as to achieve a high degree of integration of the whole logistics operation process. Only in this way can we minimize carbon emissions and improve efficiency, and finally truly realize the digital transformation of logistics. On the other hand, it is necessary to strengthen technological innovation, so that logistics enterprises can actively research and develop related technologies and innovate business models according to their own development conditions, so as to give full play to the positive role of science and technology in the development of green logistics [4].

4.5. Improve the Enthusiasm of Green Transformation of Enterprises

First of all, it is necessary to strengthen the internal driving force of green transformation of enterprises. In order to let more logistics enterprises know the necessity of green transformation, we should increase the promotion of new materials, new energy and green logistics infrastructure equipment, so that logistics enterprises can see the application results of various advanced technologies in the logistics field, so as to enhance their enthusiasm for green transformation.

Secondly, the government should put forward corresponding safeguard policies for the development of green logistics and improve relevant laws and regulations. On the one hand, preferential policies can be introduced from the aspects of green equipment procurement and encouraging green logistics technology research and development, so as to reduce the cost required by enterprises during the green transformation period. On the other hand, it is necessary to improve the relevant standards from the legal point of view, such as vehicle emission standards, carbon emissions of logistics enterprises and transportation energy consumption

structure. At the same time, it is necessary to continuously promote the construction of standardized information sharing platforms in order to minimize the cost of green transformation of enterprises.

Thirdly, based on the guidance and intervention of the government, develop reverse recycling logistics. Specifically, it is necessary to build a reverse logistics network service platform and constantly explore effective modes to realize reverse logistics. Strictly control packaging materials and weight, improve packaging materials, and reduce carbon emissions from the source. At the same time, logistics enterprises that actively promote green transformation can be rewarded, while logistics enterprises that refuse to cooperate should be punished and warned accordingly.

Finally, it is necessary to increase the publicity of the concept of green environmental protection, so that logistics enterprises can realize the necessity and importance of green transformation and firmly establish the concept of green transformation and development. At the same time, the relevant government departments should also popularize the knowledge of green environmental protection to consumers, guide consumers to establish the concept of green environmental protection, and create a good social atmosphere for the green transformation of logistics enterprises [5].

5. Conclusion

Under the extensive development mode, there are problems of high energy consumption and high emissions in China's logistics industry, which are getting worse in the rapid

development of this industry. Nowadays, in order to achieve the goal of "double carbon" and promote the high-quality development of the national economy, the logistics industry must devote itself to developing green logistics, which requires in-depth analysis of the current situation of green development in China and practical development countermeasures and suggestions. Only in this way can the benign and sustainable development of green logistics be promoted.

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