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Exploration of the Practical Path and Sustainable Development of Green Exhibitions

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Abstract: ***This paper starts with the development status of China's convention and exhibition industry, pointing out the necessity of conducting research on green conventions and exhibitions. By reviewing literature, the theoretical basis and research status of this article are clarified. The experience of green development in the foreign convention and exhibition industry is analyzed, and the current situation and problems of green development in China's convention and exhibition industry are summarized. Countermeasures and suggestions for the development of green conventions and exhibitions are proposed, and specific ways for China to build green conventions and exhibitions are pointed out. This has certain practical significance for promoting the green transformation of China's convention and exhibition industry, enhancing its sustainable development ability, facilitating the achievement of the "dual carbon" goal, and promoting the sustainable development of China's convention and exhibition industry.***

Keywords: Green Exhibition, Sustainable Development, Practical Path, Carbon Neutrality in Exhibitions.

1. Introduction

The carbon peak and carbon neutrality goals is an important guiding principle for countries around the world in addressing climate change and environmental issues. It aims to achieve a balance between carbon emissions and carbon absorption by reducing greenhouse gas emissions and improving carbon sequestration capacity, thereby promoting the green transformation of the global economy. Against this backdrop, the exhibition industry, as an important part of economic activities, also faces an urgent need to transform towards a green, low-carbon, and environmentally friendly direction. The exhibition industry is a key component of the modern service industry. While promoting economic exchange and industrial development, traditional exhibition methods have also placed tremendous pressure on the environment, such as resource consumption, waste generation, and carbon dioxide emissions. Green exhibitions are a new trend in the development of the exhibition industry and are also the only way for the exhibition industry to transform, upgrade, and achieve sustainable development. The main purpose of this paper is to systematically explore the implementation methods and theoretical system of green exhibitions and sustainable development, and to conduct theoretical analysis and summarize practical experience, in order to provide a certain reference and reference for the development of green exhibitions in China.

2. Analysis of Green Exhibitions Globally

Germany's exhibition industry's green development has set a significant global precedent. German exhibition venues widely utilize advanced green building technologies such as high-efficiency insulation materials, solar photovoltaic systems, and rainwater recycling systems. These technologies not only significantly improve energy efficiency but also effectively reduce carbon emissions, achieving energy conservation, consumption reduction, and water conservation goals. In terms of exhibition operations, Germany implements strict sorting and recycling of exhibits, ensuring a recycling rate exceeding 90%, significantly reducing waste generation and environmental impact. Furthermore, to further promote the green transformation of the exhibition industry, the German government and relevant agencies have established a "Green Exhibition" certification system. This system certifies and rewards exhibitions that meet green standards, incentivizing exhibition companies to actively implement environmental protection measures and driving the industry towards sustainable development. Through these measures, the German exhibition industry has not only achieved economic success but also set an industry benchmark in environmental protection and green development.

The UK's exhibition industry's green development strategy focuses on two key areas: technological innovation and management optimization, aiming to achieve efficient utilization of exhibition resources. In terms of technological innovation, British exhibition companies are actively adopting modular construction technology. This technology not only increases the reusability of booths and stands, but also significantly reduces the need for new materials, effectively reducing material waste. Regarding management optimization, UK exhibition centers have introduced a Smart Energy Management System (SEMS). This system automatically adjusts lighting and air conditioning based on the center's traffic density and actual demand, ensuring optimal energy efficiency and avoiding unnecessary energy consumption. In addition to technological innovation, the UK government is also providing policy support and incentives to encourage the exhibition industry to work closely with local communities and environmental organizations to promote the recycling and reuse of renewable resources. This collaboration not only helps reduce waste but also promotes sustainable development for both the exhibition industry and the community. Through these comprehensive measures, the UK exhibition industry is gradually achieving its green development goals, setting a model for sustainable development for the global exhibition industry.

France has cleverly integrated agricultural landscapes into the planning and implementation of exhibition activities, demonstrating its unique strength in green exhibition development. In the planning and design of exhibition venues, France fully utilizes natural resources such as green

vegetation and agricultural elements, not only beautifying the exhibition space but also effectively purifying the air and regulating the climate. This approach not only improves the environmental quality of exhibitions but also enhances attendees' experience of the natural beauty. Furthermore, France places particular emphasis on using locally produced organic food in its conferences and banquets. This practice not only reduces carbon emissions from food transportation and the environmental burden, but also effectively supports the development of local agriculture and promotes agricultural sustainability. In this way, France harmoniously integrates exhibitions with the natural environment, creating distinctive green and ecological exhibitions. This integration of agricultural landscapes into exhibitions not only enhances the quality of the events but also conveys a commitment to environmental protection and sustainable development. Through the meticulous design and implementation of these details, France has successfully transformed its exhibitions into green, ecological, and harmonious events, setting a good example for the global exhibition industry.

Research on green exhibitions in China began relatively late, but has made significant progress in recent years with the implementation of China's "dual carbon" strategy. Early research focused primarily on the introduction and theoretical discussion of the concept of green exhibitions, emphasizing their important role in environmental protection and resource conservation. As research deepened, scholars began to focus on practical approaches and policy recommendations for green exhibitions, attempting to provide specific guidance for the sustainable development of the exhibition industry. Regarding practical approaches, researchers have explored the implementation of green exhibitions from various perspectives. For example, some scholars have focused on the construction of green exhibition venues, exploring how to reduce energy consumption and emissions through the application of green building technologies. Other studies have focused on the operational management of green exhibitions, proposing strategies to optimize exhibition processes and improve resource efficiency. Furthermore, some studies have pointed out that collaborative cooperation within the green exhibition industry chain is crucial for achieving a green transformation in the exhibition industry. Regarding policy recommendations, scholars have put forward a series of suggestions, including the formulation of relevant policies and standards to guide and regulate the development of green exhibitions, and the promotion of green exhibition practices through support from the government and industry associations. However, despite some progress, research on green exhibitions in China still faces several challenges. For example, theoretical research lacks depth, empirical case studies lack comprehensiveness, and a systematic theoretical framework for sustainable development has yet to be established. These issues need to be addressed and addressed in future research to further advance the research and practice of green exhibitions in China.

International research and practice on green exhibitions began early, and the accumulated experience and achievements are relatively rich. Foreign scholars have not only focused on environmental benefits, but have also conducted in-depth research on the economic and social impacts of green exhibitions. They believe that green exhibitions not only help reduce negative environmental impacts but also enhance the overall value of exhibition activities and promote sustainable economic development. At a practical level, Germany has proposed the concept of "green exhibitions," emphasizing that environmental protection and resource conservation should be fully considered in the planning, organization, and implementation of exhibitions. The United Kingdom has proposed an evaluation system for the sustainable development of the exhibition industry and, based on this, has established a relatively comprehensive evaluation system to assess and guide green practices in exhibition activities. Furthermore, foreign research has also conducted in-depth studies on green exhibitions from three perspectives: technological innovation, optimized management models, and public participation mechanisms. Technological innovations include the use of renewable energy, waste reduction, and material recycling. Optimized management models involve the planning, execution, and monitoring of exhibition activities to ensure the achievement of environmental goals. Public participation mechanisms encourage exhibitors, visitors, and other stakeholders to actively participate in green exhibition activities, jointly promoting the sustainable development of the exhibition industry. These research and practices aim to provide theoretical basis and practical guidance for the development of green exhibitions worldwide, achieving harmonious coexistence between the exhibition industry and the environment.

3. Analysis on the Current Development Status of Green Exhibitions in China

The development of green exhibitions in China is characterized by a combination of initial exploration and practical challenges. The Shanghai World Expo, for example, achieved breakthroughs in low-carbon energy (such as solar and wind power), low-carbon transportation (promoting new energy vehicles and public transportation), and low-carbon exhibition halls (using green building technologies and modular design), demonstrating the practical potential of green exhibitions.

3.1 Current Status of China's Exhibition Development — Taking the Shanghai World Expo as an Example

The Shanghai World Expo actively explored low-carbon energy utilization models, with some venues incorporating advanced technologies such as low-carbon open flames. For example, optimizing combustion devices and fuel structures can improve energy efficiency and reduce greenhouse gases such as CO2. Furthermore, some facilities within the venues utilize renewable energy sources such as solar and wind power instead of traditional fossil fuels, reducing dependence on traditional energy sources. The Shanghai World Expo also implemented a series of low-carbon transportation measures aimed at reducing carbon emissions from transportation during the Expo. By increasing public transportation capacity, such as subways and buses, participants were encouraged to use public transportation and improve the public transportation system. Furthermore, the use of new energy vehicles for exhibition transportation was encouraged to reduce the use of fuel-powered vehicles. Furthermore, bicycle rental stations and pedestrian walkways were set up to facilitate green travel for participants.

The low-carbon concept was well reflected in the Shanghai World Expo pavilions. Many venues utilized green building technologies such as energy-saving walls and high-efficiency thermal glass to reduce energy consumption. Some pavilions utilized natural lighting and ventilation to reduce the use of artificial lighting and air conditioning. In addition, the design and construction of the exhibition hall also attach great importance to environmental protection, using a large amount of recycled materials and adopting a modular design to facilitate disassembly and reuse after the exhibition.

3.2 China's Green Exhibitions Have Shortcomings

Some Chinese convention and exhibition venues have yet to fully implement green building practices, and compared to internationally advanced standards, their energy efficiency remains low. Poor insulation results in high energy consumption for air conditioning and heating, while inadequate intelligent control of lighting systems leads to energy waste. Inadequate water recycling facilities within venues result in significant water waste. Furthermore, China currently lacks a unified, authoritative standard for green conventions and exhibitions, leaving convention and exhibition companies without clear guidance and standards for implementing green activities. Understandings and practices regarding green conventions and exhibitions vary across regions and companies, making it difficult to reach a consensus and implementing inconsistent actions. Furthermore, the lack of unified standards for the evaluation and certification of green conventions and exhibitions hinders their scientific evaluation and certification, impacting their promotion and development. Finally, Chinese convention and exhibition companies rarely use environmentally friendly materials in their exhibition construction and decoration. Some companies still rely heavily on disposable, non-biodegradable materials such as plastic sheets and foam to reduce production costs. The toxic and harmful gases released by these materials during use not only harm visitors' health, but also pose a significant threat to the waste left after the exhibition, making it difficult to dispose of and severely pollute the environment. Furthermore, some local governments, driven by political ambition, overemphasize the scale and impact of exhibitions while neglecting their environmental impact. Currently, China's exhibition industry suffers from resource waste and environmental issues in planning and organization, resulting in significant resource consumption and waste generation, which runs counter to the development philosophy of "green exhibitions." Finally, China's exhibition industry faces a severe talent shortage, particularly with regard to green exhibition concepts and technologies. Managers and employees of exhibition companies have a weak understanding of green exhibitions and lack the expertise and knowledge to implement them. Consequently, companies face technical and management challenges in implementing green exhibition strategies, making it difficult to effectively promote green development in the exhibition industry.

4. Suggestions on Improving the Development of Green Exhibitions in China

4.1 Government Level

When formulating policies and management measures for the exhibition industry, the government should fully recognize the significant significance of green exhibitions in promoting the sustainable development of the exhibition industry and achieving the "dual carbon" goals. Publicity and education on green exhibitions should be strengthened to raise awareness of their importance and foster a stronger sense of commitment among the government, businesses, and the public. The government should promote the development of green exhibitions through a series of preferential policies, including tax exemptions, financial subsidies, and land use policies. Policies and funding should be provided to venues and projects that adopt green building technologies, such as green construction, environmentally friendly materials, and resource recycling, to promote the green development of the exhibition industry. The government should accelerate the formulation and improvement of regulations for the exhibition industry, clarifying its management standards and development needs, and providing legal guarantees for its green development. Furthermore, unified and authoritative green exhibition standards should be developed covering venue construction, exhibition management, and the use of environmentally friendly materials to guide and regulate exhibition companies' green exhibition activities. Third-party environmental certification agencies should be introduced to conduct environmental assessments and certifications for exhibitions. Third-party green certification agencies should be independent and professional. They should objectively and impartially evaluate venues and projects according to the Green Exhibition Standards and award Green Exhibition Certificates to those that meet these standards. Third-party certification of green exhibitions enhances their credibility and visibility, promoting their healthy development.

4.2 Industry Level

Exhibition industry associations should play an active role in formulating industry standards for green development in the exhibition industry and guiding member companies to comply with these requirements. These standards should clarify the responsibilities and obligations of companies regarding resource conservation, environmental protection, and social responsibility, regulate corporate behavior, and promote industry self-regulation. Exhibition companies should be encouraged to innovate in technology and management, actively exploring new models and approaches for green exhibitions. Support should be provided for companies to research and apply green technologies such as green buildings, intelligent energy management, and green materials, to promote the green development of exhibitions. Companies should be encouraged to innovate their exhibition management models, optimize their business processes, and efficiently utilize exhibition resources. Strengthen exchanges and cooperation with the international exhibition industry, and organize exhibition industry professionals to learn from international practices to improve the green development of China's exhibition industry. By participating in international seminars on green exhibitions and visiting overseas green exhibition projects, we can broaden our international perspective on green exhibitions, introduce green exhibition concepts, technologies, and management models to China, and promote the development of the domestic exhibition industry towards green exhibitions. Exhibition industry

associations, exhibition companies, universities, and vocational colleges should strengthen collaboration to develop a model for exhibition talent cultivation that integrates industry, academia, and research. Universities and vocational colleges should establish majors and courses related to green exhibitions to cultivate interdisciplinary talents with both green exhibition awareness and practical skills. At the same time, we should actively attract green exhibition talent from both domestic and international sources to improve the overall quality of China's exhibition workforce.

To improve the energy efficiency and environmental performance of exhibition venues, green building practices must be fully implemented throughout their construction. Effective insulation materials, solar photovoltaic systems, and rainwater recycling systems can reduce energy consumption and water waste. At the same time, attention should be paid to the intelligent development of venues, meticulously managing them through intelligent energy and lighting management. Exhibition designers are encouraged to incorporate the concept of "green design" into their designs, making resource conservation and environmental protection a key component of exhibition design. Reusable modular shelving and booth designs can be used to reduce material waste; virtual displays can be implemented through digital technology, reducing the resource consumption of physical displays. Furthermore, innovations in exhibition format and content should be employed to enhance the appeal and influence of exhibitions, achieving a win-win situation for both "green exhibitions" and "economic development."

4.3 Specific Measures and Suggestions

The green development of China's exhibition industry must be guided by sustainable development and the green economy, adhering to the principles of resource conservation, environmental protection, and improved economic efficiency, thereby achieving a green and low-carbon transformation of the exhibition industry. Environmental awareness must be integrated into every aspect of planning, organization, and operation to ensure that exhibitions achieve positive economic and social outcomes while minimizing negative environmental impacts. During the exhibition planning phase, a detailed green exhibition implementation plan should be developed, clearly defining specific goals and measures for resource conservation and environmental protection. In terms of venue selection, preference should be given to venues certified as green buildings. In exhibition design, green design concepts should be adopted to reduce material waste. Furthermore, during exhibition promotion, green exhibition concepts should be actively promoted to cultivate environmental awareness among exhibitors and visitors. During exhibition operations, the green exhibition implementation plan should be strictly implemented. Strengthen the rational control of lighting and air conditioning facilities to improve energy efficiency. Promote waste separation and recycling to ensure the proper disposal of exhibition waste. Exhibitors should be encouraged to use environmentally friendly raw materials and products to reduce environmental harm. At the same time, we must strengthen environmental supervision of exhibition venues and ensure early detection and resolution of existing environmental issues. After the exhibition, we will conduct a comprehensive evaluation of the exhibition's environmental performance and summarize the lessons learned. We will recycle and reuse recyclable materials, such as booths and display racks, to reduce waste. We will also classify and dispose of exhibition waste to increase recycling. Based on this, we will provide recommendations for environmental planning for the next exhibition project.

Project Sources

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