


**ANALYSIS OF MANAGEMENT STRATEGIES FOR URBAN HOTELS IN CHINA UNDER THE SUSTAINABLE DEVELOPMENT GOALS OF LOW-CARBON TOURISM**

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ARTICLE INFO	ABSTRACT
<p><b>Article history:</b></p> <p><b>Received</b> 01 May 2023</p> <p><b>Accepted</b> 27 July 2023</p>	<p><b>Purpose:</b> The objective of this study is to seek out common problems and improvement strategies in the management of urban hotels in China under the Sustainable Development Goals of low-carbon tourism. As significant contributors to carbon emissions in the tourism industry, urban hotels in China face various challenges in their operations. It is worth exploring the specific problems they encounter and how to enhance the management of urban hotels, along with strategies for improvement.</p>
<p><b>Keywords:</b></p> <p>Sustainable Development Goals (SDGs); Low-Carbon Tourism; Hotel Management; Management Strategies.</p>	<p><b>Theoretical framework:</b> Recent literature indicate that carbon emissions from urban hotels are more pronounced compared to other components of tourism activities.</p>
	<p><b>Design/methodology/approach:</b> This paper adopts a qualitative research approach and draws upon literature and relevant theories to propose the "4R+1C" principle for urban hotel management. Subsequently, it summarizes the existing problems in the management of urban hotels in China and finds out common issues through text analysis. Finally, based on the Sustainable Development Goals of low-carbon tourism and relevant theories, improvement suggestions are provided.</p>
	<p><b>Findings:</b> Low-carbon tourism is not only a requirement of Sustainable Development Goals but also a crucial means of addressing economic and environmental conflicts, which is also a trend in the development of urban hotels. As the second-largest source of carbon emissions in the tourism industry, it is imperative for hotels to implement energy-saving and emission reduction measures.</p>
	<p><b>Research, Practical &amp; Social implications:</b> It is recommended that future research focuses more on the Sustainable Development Goals of low-carbon tourism and encourages the hotels to actively engage in low-carbon practices in their operations.</p>
	<p><b>Originality/value:</b> The results indicate that urban hotels lack a strong awareness of low-carbon tourism in their operations, which deviates from the Sustainable Development Goals. Low-carbon management can enhance hotel management capabilities, improve competitiveness, and promote high-quality and sustainable development in the hotel industry.</p>
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## ANÁLISE DE ESTRATÉGIAS DE GESTÃO PARA HOTÉIS URBANOS NA CHINA SOB OS OBJETIVOS DE DESENVOLVIMENTO SUSTENTÁVEL DO TURISMO DE BAIXO CARBONO

### RESUMO

**Propósito:** O objetivo deste estudo é buscar problemas comuns e estratégias de melhoria na gestão de hotéis urbanos na China, de acordo com os Objetivos de Desenvolvimento Sustentável do turismo de baixo carbono. Como contribuintes significativos para as emissões de carbono na indústria do turismo, os hotéis urbanos na China enfrentam vários desafios em suas operações. Vale a pena explorar os problemas específicos que encontram e como melhorar a gestão dos hotéis urbanos, juntamente com estratégias de melhoria.

**Quadro teórico:** A literatura recente indica que as emissões de carbono dos hotéis urbanos são mais pronunciadas em comparação com outros componentes das atividades turísticas.

**Design/metodologia/abordagem:** Este artigo adota uma abordagem de pesquisa qualitativa e se baseia na literatura e em teorias relevantes para propor o princípio "4R+1C" para a gestão de hotéis urbanos. Posteriormente, ele resume os problemas existentes na gestão de hotéis urbanos na China e descobre questões comuns através de análise de texto. Finalmente, com base nos Objetivos de Desenvolvimento Sustentável do turismo de baixo carbono e em teorias relevantes, são apresentadas sugestões de melhoria.

**Constatações:** O turismo de baixo carbono não é apenas um requisito dos Objetivos de Desenvolvimento Sustentável, mas também um meio crucial para enfrentar conflitos econômicos e ambientais, o que também é uma tendência no desenvolvimento de hotéis urbanos. Sendo a segunda maior fonte de emissões de carbono na indústria do turismo, é imperativo que os hotéis apliquem medidas de poupança energética e de redução das emissões.

**Investigação, implicações práticas e sociais:** recomenda-se que a investigação futura se concentre mais nos Objetivos de Desenvolvimento Sustentável do turismo de baixo carbono e incentiva os hotéis a participar ativamente em práticas de baixo carbono nas suas operações.

**Originalidade/valor:** Os resultados indicam que os hotéis urbanos não têm uma forte consciência do turismo de baixo carbono em suas operações, o que se desvia dos Objetivos de Desenvolvimento Sustentável. A gestão hipocarbônica pode melhorar as capacidades de gestão hoteleira, melhorar a competitividade e promover a alta qualidade e o desenvolvimento sustentável na indústria hoteleira.

**Palavras-chave:** Objetivos de Desenvolvimento Sustentável (ODS), Turismo de Baixo Carbono, Gestão Hoteleira, Estratégias de Gerenciamento.

## ANÁLISIS DE LAS ESTRATEGIAS DE GESTIÓN DE HOTELES URBANOS EN CHINA BAJO LOS OBJETIVOS DE DESARROLLO SOSTENIBLE DEL TURISMO DE BAJA EMISIÓN DE CARBONO

### RESUMEN

**Objetivo:** El objetivo de este estudio es buscar problemas comunes y estrategias de mejora en la gestión de hoteles urbanos en China bajo los Objetivos de Desarrollo Sostenible del turismo con bajas emisiones de carbono. Como contribuyentes importantes a las emisiones de carbono en la industria del turismo, los hoteles urbanos en China enfrentan varios desafíos en sus operaciones. Vale la pena explorar los problemas específicos que encuentran y cómo mejorar la gestión de los hoteles urbanos, junto con estrategias de mejora.

**Marco teórico:** La literatura reciente indica que las emisiones de carbono de los hoteles urbanos son más pronunciadas en comparación con otros componentes de las actividades turísticas.

**Diseño/metodología/enfoque:** Este artículo adopta un enfoque de investigación cualitativa y se basa en la literatura y teorías relevantes para proponer el principio "4R+1C" para la gestión hotelera urbana. Posteriormente, se resumen los problemas existentes en la gestión de hoteles urbanos en China y se descubren cuestiones comunes a través del análisis de textos. Por último, sobre la base de los Objetivos de Desarrollo Sostenible del turismo con bajas emisiones de carbono y las teorías pertinentes, se ofrecen sugerencias de mejora.

**Hallazgos:** El turismo con bajas emisiones de carbono no solo es un requisito de los Objetivos de Desarrollo Sostenible, sino también un medio crucial para abordar los conflictos económicos y ambientales, que también es una tendencia en el desarrollo de hoteles urbanos. Como segunda fuente de emisiones de carbono en la industria del turismo, es imperativo que los hoteles implementen medidas de ahorro de energía y reducción de emisiones.

**Investigación, implicaciones prácticas y sociales:** Se recomienda que la investigación futura se centre más en los Objetivos de Desarrollo Sostenible del turismo con bajas emisiones de carbono y anime a los hoteles a participar activamente en prácticas con bajas emisiones de carbono en sus operaciones.

**Originalidad/valor:** Los resultados indican que los hoteles urbanos carecen de una fuerte conciencia del turismo con bajas emisiones de carbono en sus operaciones, lo que se desvía de los Objetivos de Desarrollo Sostenible. La gestión con bajas emisiones de carbono puede mejorar las capacidades de gestión hotelera, mejorar la competitividad y promover un desarrollo sostenible y de alta calidad en la industria hotelera.

**Palabras clave:** Objetivos de Desarrollo Sostenible (ODS), Turismo Con Bajo Contenido de Carbono, Gestión Hotelera, Estrategias de Gestión.

## INTRODUCTION

With the intensification of global climate change, Sustainable Development Goals (SDGs) have gradually become hot topics of global concern (Shen et al., 2020; Shi, Han, Yang, & Gao, 2019). These goals require countries around the world to actively address climate change, reduce greenhouse gas emissions, protect the natural environment, promote resource recycling, and achieve economic sustainability. As an important economic industry, the tourism sector faces issues of resource consumption and greenhouse gas emissions (Nassani, Yousaf, Radulescu, & Haffar, 2022). In order to minimize the impact of tourism on the resources and climate while effectively promoting economic and social development, the concept of low-carbon tourism has emerged (Nassani et al., 2022). Urban hotels, as integral components and one of its three main pillars of the tourism industry, must actively engage in low-carbon practices and transform their management strategies under the guidance of the SDGs of low-carbon tourism, in order to achieve sustainable development (Wang, 2023).

## OVERVIEW OF LOW-CARBON TOURISM

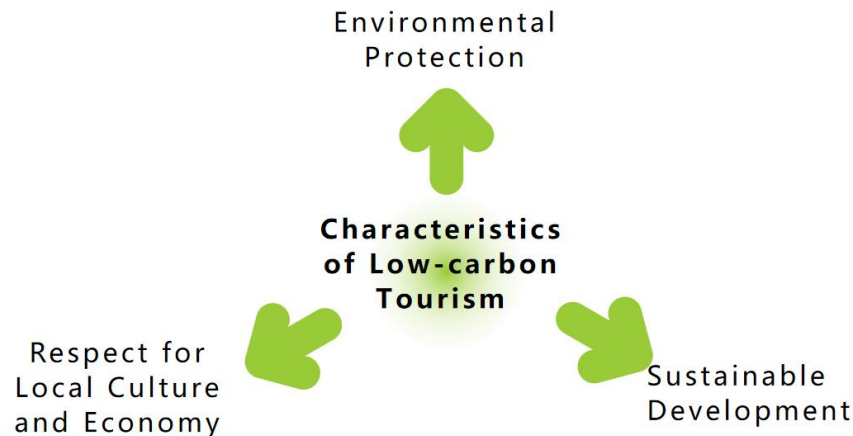
### Definition of Low-Carbon Tourism

The term "low-carbon tourism" originated from a report titled "Towards a Low Carbon Travel and Tourism Sector" published in 2009. After more than a decade of development, low-carbon tourism has formed a relatively unified definition. Low-carbon tourism is a new type of tourism that aims to reduce carbon emissions (Li, Shao, & Shi, 2022). In this form of tourism, tourists prioritize low energy consumption, low emissions, and low pollution to minimize negative impacts on the environment and carbon dioxide emissions (Ghosh & Sustainability, 2022). It encompasses a range of behaviors and practices, considering various aspects such as travel modes, accommodation options, sightseeing at tourist attractions, dining, shopping, and entertainment, with the goal of reducing carbon emissions and minimizing environmental damage (Fakfare & Wattanacharoensil, 2023). Some scholars argue that low-carbon tourism is not only a tourism approach but also a tourism philosophy (Fakfare & Wattanacharoensil, 2023). It emphasizes the sustainable development of the tourism industry and also focuses on protecting the ecological environment and cultural heritage of tourist destinations (Zhu et al., 2023).

## Characteristics of Low-Carbon Tourism

Low-carbon tourism focuses on the integration of environmental protection, respect for local culture and economy, and sustainable development (Akbar et al., 2022; Kropinova, Anokhin, Primak, & Geosites, 2023; Olszewski-Strzyżowski, 2022; Zhu et al., 2023), as shown in Figure 1. Its main characteristics are as follows:

Figure 1. Characteristics of Low-Carbon Tourism



Source: Akbar et al., 2022; Kropinova, Anokhin, Primak, & Geosites, 2023; Olszewski-Strzyżowski, 2022; Zhu et al., 2023.

I. **Environmental Protection:** The core principle of low-carbon tourism is environmental protection. It involves adopting eco-friendly measures in terms of transportation, accommodation, and activities to minimize environmental impact and carbon emissions (Zhu et al., 2023).

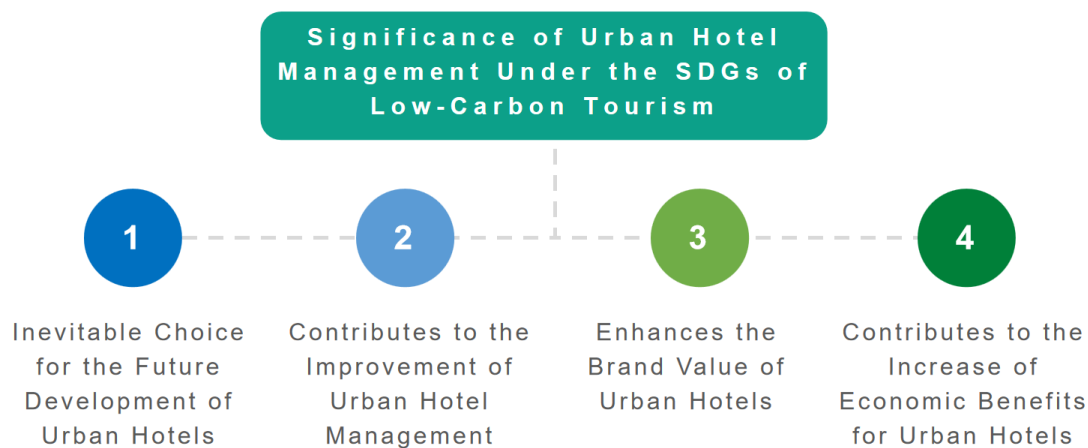
II. **Respect for Local Culture and Economy:** Low-carbon tourism advocates for respecting local culture and society. It involves following local lifestyles and behavioral norms, while also supporting the local economy and community (Kropinova et al., 2023; Olszewski-Strzyżowski, 2022).

III. **Sustainable Development:** Low-carbon tourism emphasizes sustainability. It aims to protect natural environments and cultural heritage while promoting local economic development and social progress, thus achieving sustainable tourism (Akbar et al., 2022).

## SIGNIFICANCE OF URBAN HOTEL MANAGEMENT UNDER THE SDGS OF LOW-CARBON TOURISM

For a long time, urban hotels have faced challenges such as high energy consumption, pollution, and emissions, which contradict current requirements for economic development (Pan et al., 2018). Developing urban hotels with a low-carbon goal holds significant importance in alleviating resource and environmental pressures and achieving the effective integration of economic, ecological, and social benefits, as shown in Figure 2.

Figure 2. The Significance of Urban Hotel Management Under the SDGs of Low-carbon Tourism



Source: Genghua, 2019; J. Li et al., 2020; L. J. S. Wang, 2023; Luo, Mou, Wang, Su, & Qin, 2020; W. Wang, Qiao, Cheng, Sun, & He, 2019; Wu, Xin, Zhu, & Ye, 2022.

### Inevitable Choice for the Future Development of Urban Hotels

With the intensification of climate change and energy crisis, the Chinese government has introduced a series of policies for energy conservation and emissions reduction (Lin & Zhu, 2019). In 2008, the "Energy-Saving Technology Management Measures for Tourist Attractions" required the formulation of energy-saving technology management plans for tourist attractions. In 2010, the China National Tourism Administration issued the "100 Measures for Energy Conservation and Emissions Reduction in Hotels." In 2013, the "Action Plan for Green and Low-Carbon Development of the Hotel Industry" proposed specific goals and measures for green and low-carbon development in the hotel industry. In 2017, the "Energy Law of the People's Republic of China" was revised, putting forward requirements for energy consumption, energy efficiency, and energy conservation. In 2019, the "Regulations on Building Energy Conservation of the People's Republic of China" set requirements for building energy conservation, including energy utilization in hotel buildings and external wall insulation. In 2022, the 20th Party Congress further deployed the acceleration of green

transformation in development approaches. Although low-carbon tourism is still in the exploration stage, it has been widely recognized by the public as a new development model that conforms to the trend of the times (Jing, 2019). Therefore, in the current situation, as representatives of high carbon consumption, hotels need to pursue a low-carbon development path, which not only aligns with policy guidelines but also reflects public sentiment (Wang, 2023; Wang, Qiao, Cheng, Sun, & He, 2019).

### **Contributes to the Improvement of Urban Hotel Management**

One of the practical methods of low-carbon tourism is energy conservation and emissions reduction (Wang, 2023). By implementing energy-saving measures, urban hotels can optimize resource allocation, reduce energy consumption, and lower operational costs (Sinha, Fukey, & Sinha, 2021). Furthermore, as low-carbon tourism becomes more prevalent, urban hotels can expand market space, improve management mechanisms, enhance competitive advantages, and promote the improvement of urban hotel management (Genghua, 2019).

### **Enhances the Brand Value of Urban Hotels**

On one hand, low-carbon tourism emphasizes the enhancement of environmental awareness (Luo, Mou, Wang, Su, & Qin, 2020). By increasing the environmental awareness of employees and customers, urban hotels can better promote the concept of sustainable development and establish a positive corporate image. On the other hand, practicing low-carbon tourism can reduce the hotel's impact on the environment, demonstrating the hotel's commitment to environmental protection and helping establish an eco-friendly image, thereby enhancing brand recognition and reputation. Therefore, low-carbon development greatly benefits urban hotels in enhancing their brand value (Li et al., 2020).

### **Contributes to the Increase of Economic Benefits for Urban Hotels**

Low-carbon tourism helps increase the economic benefits of urban hotels (Wang et al., 2019). Specific benefits include improving energy efficiency, reducing energy consumption and cost expenditures, enhancing market competitiveness, expanding market share, diversifying sources of income, and reducing economic losses such as environmental fines (Wang, 2023; Wang et al., 2019; Wu, Xin, Zhu, & Ye, 2022).

In conclusion, the low-carbon development of urban hotels not only aligns with policy guidelines but also contributes to the improvement of management levels, enhancement of

brand value, and increase of economic benefits. It is a necessary measure for the sustainable development of hotels.

## PRINCIPLES OF URBAN HOTEL MANAGEMENT UNDER THE SDGS OF LOW-CARBON TOURISM

The development of low-carbon tourism is supported by various established theories, such as Green Management Theory, Sustainable Development Theory, Circular Economy Theory, Low-carbon Economy Theory, and Life Cycle Theory, as shown in Table 1. These theories provide theoretical support and guidance for the development of low-carbon tourism, promoting the transition of the tourism industry and urban hotels towards a low-carbon and sustainable direction, and facilitating the coordinated development of the economy, society, and environment.

Table 1. Comparative Analysis of Theories.

No.	Theory Name	Core Idea	Significance of Theory	Scholars
1	Green Management Theory	Emphasizes environmentally-friendly practices in management	Promotes sustainable and eco-friendly operations	Chen, Wei, Wei, Huang, & Su (2021) ; Saeed et al., (2019)
2	Sustainable Development Theory	Focuses on achieving a balance between economic growth, social development, and environmental protection	Facilitates long-term and harmonious development	Shi et al., (2019) ; Sharpley (2020)
3	Circular Economy Theory	Advocates for resource efficiency, waste reduction, and recycling	Encourages sustainable resource management	Bonsu (2020); Sehnem, Vazquez-Brust, Pereira, & Campos (2019); Suárez-Eiroa, Fernández, Méndez-Martínez, & Soto-Oñate (2019)
4	Low-carbon Economy Theory	Promotes the transition to low-carbon energy sources and reduced carbon emissions	Supports climate change mitigation efforts	Bonsu (2020); Yang et al., (2019)
5	Life Cycle Theory	Considers the environmental impact of a product or service throughout its entire life cycle	Guides sustainable product design and decision-making	Chao, Chen, & Yang (2019); Primc, Kalar, Slabe-Erker, Dominko, & Ogorevc (2020)

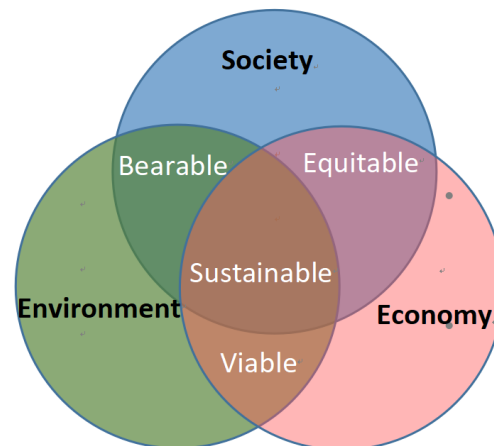
Source: Authors

I. Green Management Theory: Green Management Theory emphasizes the adoption of environmentally friendly practices in operations and management (Chen, Wei, Wei, Huang, & Su, 2021). By implementing measures such as energy conservation, pollution reduction, and resource protection, it aims to minimize environmental impacts (Saeed

et al., 2019). For low-carbon tourism, Green Management Theory provides an effective management framework that helps the tourism industry reduce carbon emissions, improve resource efficiency, and achieve synergistic development with communities and the environment.

II. Sustainable Development Theory: Sustainable Development Theory highlights the importance of meeting current needs without compromising the ability of future generations to meet their own needs (Shi et al., 2019). For low-carbon tourism, Sustainable Development Theory encourages the tourism industry to adopt sustainable business models that prioritize social responsibility, cultural preservation, and environmental conservation. This approach aims to achieve a triple win of economic growth, social development, and environmental protection (Rasoolimanesh, Ramakrishna, Hall, Esfandiar, & Seyfi, 2020; Sharpley, 2020), as depicted in Figure 3.

Figure 3. The Sustainable Development Model

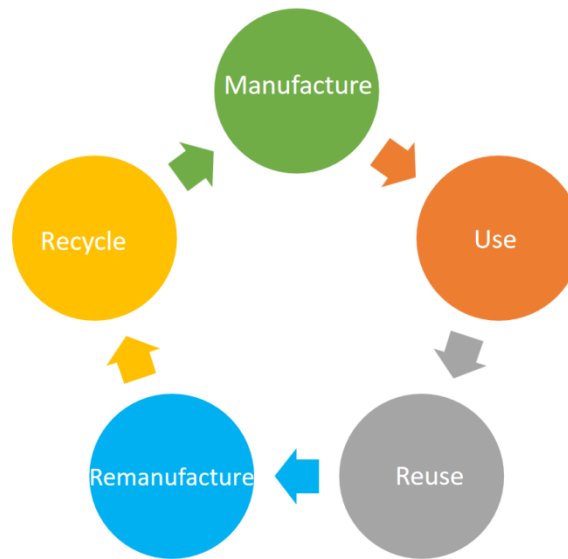


Source: Rasoolimanesh, Ramakrishna, Hall, Esfandiar, & Seyfi, 2020; Sharpley, 2020; Shi et al., 2019.

III. Circular Economy Theory: Circular Economy Theory emphasizes the efficient use and recycling of resources, aiming to reduce resource consumption and waste generation (Bonsu, 2020; Sehnem, Vazquez-Brust, Pereira, & Campos, 2019; Suárez-Eiroa, Fernández, Méndez-Martínez, & Soto-Oñate, 2019), as depicted in Figure 4. For low-carbon tourism, Circular Economy Theory encourages the tourism industry to minimize resource consumption and waste, promote the circular utilization of tourism products and services, and foster the sustainable development of the tourism sector (Sørensen & Bærenholdt, 2020).



Figure 4. The Circular Economy Model

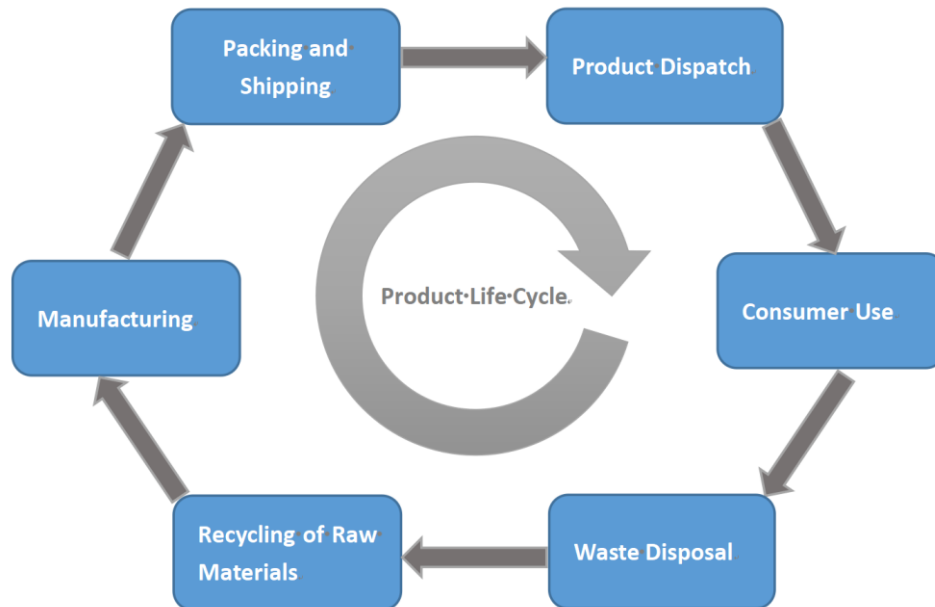


Source: Bonsu, 2020; Sehnem, Vazquez-Brust, Pereira, & Campos, 2019; Suárez-Eiroa, Fernández, Méndez-Martínez, & Soto-Oñate, 2019.

IV. Low-carbon Economy Theory: Low-carbon Economy Theory emphasizes the reduction of carbon emissions and greenhouse gas release by transitioning to low-carbon industries and technologies to drive economic development (Bonsu, 2020; Yang et al., 2019). For low-carbon tourism, Low-carbon Economy Theory encourages the tourism industry to reduce carbon emissions, provide low-carbon tourism products and services, enhance energy efficiency, promote clean energy, and achieve the transformation towards a low-carbon economy.

V. Life Cycle Theory: Life Cycle Theory considers the entire life cycle of a product or service, including the impacts from resource acquisition, production, use, and waste disposal (Chao, Chen, & Yang, 2019; Primc, Kalar, Slabe-Erker, Dominko, & Ogorevc, 2020), as depicted in Figure 5. For low-carbon tourism, Life Cycle Theory can assist the tourism industry in assessing and optimizing the carbon emissions associated with tourism products and services, covering aspects ranging from supply chain management to tourist behavior, and achieving comprehensive carbon reduction efforts.

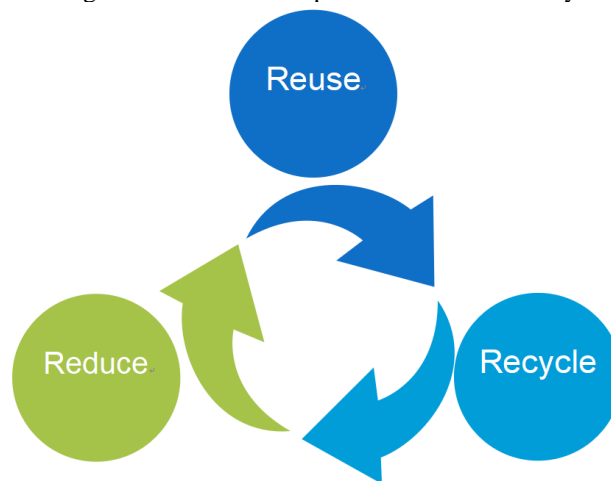
Figure 5. Product Life Cycle



Source: Chao, Chen, & Yang, 2019; Primc, Kalar, Slabe-Erker, Dominko, & Ogorevc, 2020.

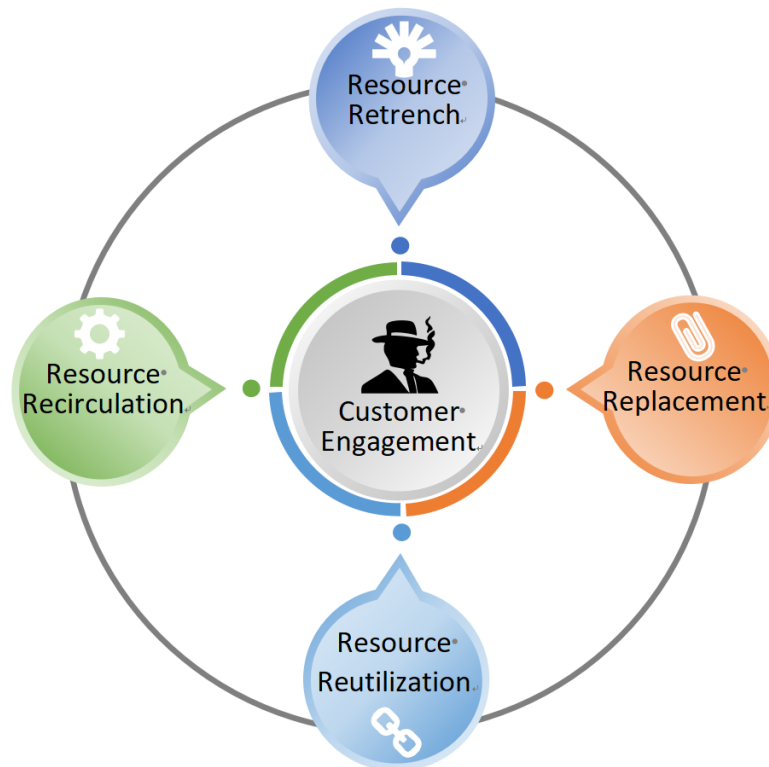
After a careful study of the aforementioned theories, this paper primarily references the economic principle of substitution and the 3R principle of the circular economy (Reduce, Reuse, Recycle) (Bonsu, 2020), as depicted in Figure 6. In conjunction with the characteristics of urban hotels, the article proposes the "4R+1C" principle of urban hotel management (Retrench, Replacement, Reutilization, Recirculation, Customer), as illustrated in Figure 7.

Figure 6. The 3R Principle of Circular Economy



Source: Bonsu, 2020

Figure 7. "4R+1C" Management Principle



Source: Bonsu, 2020; Chen, Wei, Wei, Huang, & Su, 2021; (de Oliveira Santini et al., 2020); Primc, Kalar, Slabe-Erker, Dominko, & Ogorevc, 2020; Sehnem, Vazquez-Brust, Pereira, & Campos, 2019; Shi et al., 2019; Yang et al., 2019.

### Principle of Resource Retrench

The principle of resource retrench involves the adoption of efficient energy-saving equipment and technologies in hotels to reduce resource consumption, costs, and carbon emissions. For example, using LED lights, energy-efficient air conditioning, and smart control systems to minimize electricity consumption; installing water-saving devices to regulate water usage in guest rooms; implementing buffet-style dining to optimize food supply and minimize waste.

### Principle of Resource Replacement

The principle of resource replacement entails replacing homogeneous goods with cost-effective, energy-efficient, and environmentally friendly alternatives in hotel management. Resource replacement in hotels typically focuses on the replacement of durable goods such as equipment, furniture, software, and appliances. For instance, utilizing renewable energy sources like solar and wind power to reduce reliance on fossil fuels; employing eco-friendly cleaning agents and recycled paper products to minimize environmental pollution.

### **Principle of Resource Reutilization**

The principle of resource reutilization involves the reuse and recycling of previously used items, equipment, and energy resources in the hotel's operational processes to achieve resource circularity. For example, implementing water recycling systems in hotels to treat wastewater for irrigation, toilet flushing, and laundry purposes, thereby conserving water resources. Hotels can also reutilize surplus food ingredients by transforming leftover vegetables and fruits into juices to reduce waste.

### **Principle of Resource Recirculation**

The principle of resource recirculation refers to the categorization, recovery, reuse, and regeneration of discarded or previously used items, equipment, and energy resources within the hotel. This aims to reintegrate these resources into the hotel's production and service systems, maximizing resource utilization and achieving sustainable development. Resource recirculation in hotels includes not only recycling waste materials, wastewater, and emissions but also repairing and remanufacturing used equipment and appliances to reduce the demand for new resources.

### **Principle of Customer Engagement**

The implementation of low-carbon tourism is not solely the responsibility of businesses; it also requires customer participation. Hotels should encourage and facilitate customer engagement in low-carbon tourism initiatives. This can be done by understanding customer needs and opinions, collecting service evaluations and feedback, involving customers in decision-making and planning processes, engaging them in hotel promotion and advertising, and providing opportunities and venues for low-carbon activities.

By adhering to the "4R+1C" principle, urban hotels can effectively reduce resource consumption, waste generation, and environmental pollution while improving resource utilization efficiency and operational performance. At the same time, it meets customers' environmental demands. The application of this principle helps drive urban hotels towards a low-carbon, sustainable development direction, promoting the overall sustainable development of the hotel industry.

## PROBLEMS IN URBAN HOTEL MANAGEMENT UNDER THE SDGS OF LOW-CARBON TOURISM

Based on literature analysis and theoretical review, this paper summarizes the existing problems in urban hotel management under the SDGs of low-carbon tourism. Through text analysis, five common issues are searched out as follows: weak awareness of low-carbon practices and insufficient emphasis on corporate culture in hotels; inadequate management practices and imperfect supervisory mechanisms; low service quality and a lack of skilled professionals in hotels; inadequate infrastructure and a lack of emphasis on energy conservation and environmental protection in hotels; insufficient availability of low-carbon products and services in hotels; and insufficient efforts in low-carbon marketing by hotels, as shown in Figure 8.



Source: Dai et al., 2022; Davronov & Behavior, 2021; Fredrick & Authority, 2019; González-Rodríguez, Martín-Samper, Köseoglu, & Okumus, 2019; Hole & Leisure, 2019; Oriade, Osinaike, Aduhene, & Wang, 2021; Sanjeev, Birdie, & Themes, 2019; Trišić et al., 2021.

### Weak Low-Carbon Awareness and Lack of Emphasis on Corporate Culture

Corporate culture is a comprehensive reflection of an organization's core values and embodies its intrinsic spirit, providing constraints and supervision for its behavior (Graham, Grennan, Harvey, & Rajgopal, 2022). While the hotel industry in China has maintained good development momentum, some hotels do not attach sufficient importance to corporate culture and regard it as unnecessary, leading to a superficial approach to corporate culture (Oriade, Osinaike, Aduhene, & Wang, 2021). Additionally, certain hotels focus primarily on their own

interests during the construction of corporate culture, neglecting the interests of employees and society, and evading their corporate social responsibilities (González-Rodríguez, Martín-Samper, Köseoglu, & Okumus, 2019). Furthermore, some hotels have weak low-carbon awareness, mistakenly believing that economic benefits and ecological benefits are contradictory and cannot be achieved simultaneously (Trišić et al., 2021). They excessively emphasize the economic benefits of the hotel while neglecting the ecological benefits. Under the SDGs of low-carbon tourism, the operational goal of urban hotels is to effectively integrate ecological, economic, and social benefits. This should be achieved by ensuring the quality of hotel services and simultaneously enhancing both economic and ecological benefits (L. J. S. Wang, 2023). Therefore, it is essential for hotels to enhance managers' understanding and awareness of low-carbon practices, strengthen employees' learning and training on low-carbon concepts, and incorporate low-carbon management into the construction of corporate culture.

### **Inadequate Management Practices and Insufficient Supervisory Mechanisms**

In the daily management of urban hotels, the issues of inadequate management practices and insufficient supervisory mechanisms are prevalent (Hole & Leisure, 2019). Problems such as excessive energy consumption, severe resource waste, improper waste management, environmental degradation, insufficient green procurement, and failure to implement low-carbon policies frequently occur (Sanjeev, Birdie, & Themes, 2019). Many hotel managers perceive the implementation of low-carbon management as costly with long investment return cycles, thus neglecting the long-term development of the hotel. They tend to focus on short-term, visible gains, disregarding low-carbon management (Wang, 2023). Additionally, the lack of supervision from regulating authority results in many hotels not genuinely embracing the concept of low-carbon tourism, seriously hindering their healthy development (Fredrick & Authority, 2019). For urban hotels to achieve long-term growth, it is necessary not only to standardize hotel management based on their actual conditions under the guidance of SDGs of the low-carbon tourism but also to clearly define the goals, tasks, and responsibilities of low-carbon development, establish standards and procedures for low-carbon management. Furthermore, strict supervision from relevant departments is required to promote the low-carbon development of hotels.

### **Low Hotel Service Level and Lack of Professional Staff**

Urban hotels, as important places for tourists to rest and stay, serve as a home away from home for guests. The level of service directly impacts customer satisfaction and loyalty. Research has shown that service quality is a crucial factor in customers' hotel selection process (Ali et al., 2021). If a hotel provides high-quality service, guests feel valued and cared for, leading to increased satisfaction and loyalty (Ali et al., 2021). Hotels with high service standards can attract more customers, improve occupancy rates and room rates, and increase revenue, which positively impacts the hotel's brand image and business development. However, in hotel operations, issues such as staff indifference, impatience, lack of professionalism, and high customer complaint rates often arise (Hole & Leisure, 2019). The main reasons for these issues are as follows: I. Hotels may not prioritize the professional qualities and service capabilities of employees during the recruitment process, resulting in an overall low staff proficiency level. II. Employees may lack systematic training and professional learning, leading to a lack of necessary knowledge and skills to provide high-quality service. III. In an effort to reduce operating costs, hotels may resort to employee downsizing or salary reductions, which ultimately leads to a decline in service quality and the loss of professional staff. These phenomena pose serious obstacles to the hotel's sustainable development and operational management.

### **Inadequate Infrastructure and Lack of Emphasis on Energy Efficiency and Environmental Protection in Hotels**

Infrastructure is the foundation for the normal operation and service provision of hotels. To enhance reputation and market competitiveness, hotels often invest significant resources in improving infrastructure to enhance their image, quality, and customer experience (Davronov & Behavior, 2021). Although many hotels understand the importance of infrastructure in their operations, their infrastructure may not meet low-carbon requirements. For example, they may not have installed LED lighting, utilized solar water heaters, or implemented energy-efficient air conditioning systems. They may also lack low-flow faucets and water descaling devices or fail to incorporate natural lighting or ventilation systems. These issues can impact the hotel's sustainable development and image. Therefore, hotels need to prioritize energy efficiency and environmental protection in their infrastructure development from energy management, water resources management, waste disposal, and architectural design, adopt scientific energy utilization methods and environmental protection technologies, improve resource utilization

efficiency, reduce energy consumption, achieve low-carbon and energy-saving goals and improve the sustainable development of the hotel.

### **Lack of Low-carbon Products and Services in Hotel Management**

With the increasing awareness of environmental protection and sustainable development among the public, there is a growing demand for low-carbon products and services from consumers (Patti, 2019). However, the current offerings of low-carbon products and services in hotels do not fully meet consumer demands (Dai, Shie, Chu, Wu, & health, 2022). Many urban hotels lack environmental certifications and standards, such as green hotel certifications and sustainable tourism certifications. This makes it difficult for consumers to assess the carbon footprint of hotels, thereby reducing their environmental awareness and demand. Surveys have revealed that some urban hotels still rely on traditional paper-based registration services, and guest consumables predominantly consist of plastic items, resulting in significant carbon consumption. The menus provided by urban hotels often lack organic food and locally sourced products, making it challenging for consumers to enjoy low-carbon dining experiences. Additionally, many urban hotels do not offer bicycle rental services, regular shuttle services, or electric vehicle charging facilities, limiting guests' transportation options and preventing them from adopting low-carbon travel methods. These issues require serious attention from urban hotels, and measures need to be taken to improve and provide more low-carbon choices to meet consumer demands for low-carbon products and services.

### **Insufficient Efforts in Low-carbon Marketing by Hotels**

Sustainable development and low-carbon practices have become significant trends in the hotel industry. Insufficient efforts in low-carbon marketing by hotels imply that they may miss out on opportunities and market share by not aligning with this trend (Dai et al., 2022). Research shows that the current low-carbon marketing efforts in urban hotels are generally inadequate. The main reasons for this are as follows: I. The lack of unified industry standards and certification systems leaves urban hotels without references and guidance for low-carbon marketing, leading to doubts about the execution strategies and effectiveness of low-carbon marketing efforts. II. Urban hotels fail to accurately understand consumer demands and preferences for low-carbon products and services, mistakenly assuming that consumers have a low level of interest in low-carbon initiatives. III. Urban hotels face limitations in terms of financial and human resources, causing them to prioritize aspects such as price competition,



occupancy rates, and profitability, while considering low-carbon marketing as a secondary or less urgent task. To address these reasons, urban hotels can collaborate with industry associations and certification bodies, seek resource support, focus on internal improvements, optimize resource allocation, and implement measures to promote the development of low-carbon marketing in hotels.

## STRATEGIES TO ENHANCE URBAN HOTEL MANAGEMENT UNDER THE SDGS OF LOW-CARBON TOURISM

Low-carbon tourism can drive the transformation of the tourism industry from a traditional high-energy consumption, high-pollution, and high-emission development model to a sustainable development model, thereby improving the industry's sustainability (Wang, 2023). To significantly enhance the management level of urban hotels and fully implement the low-carbon management concept, leveraging modern technology for low-carbon operations, urban hotels need to adopt feasible management strategies from multiple levels and perspectives, as illustrated in Figure 9.

Figure 9. Strategies To Enhance Urban Hotel Management Under The SDGs Of Low-Carbon Tourism



Source: Ali et al., 2021; Dai et al., 2022; Davronov & Behavior, 2021; Dhirasna & Sahin, 2021; Graham et al., 2022; Hole & Leisure, 2019; Patti, 2019; Samatovich & Behavior, 2021.

### Establishing Hotel Culture and Strengthening Low-carbon Awareness

Enterprise culture, as an ideology, plays a crucial role that cannot be ignored. It encompasses the core values, beliefs, behavioral norms, and shared concepts of an organization, serving as one of the cornerstones of its success. It significantly influences the development of

the organization, employees' behavior and attitudes, innovation capabilities, and relationships with external stakeholders (Graham et al., 2022). Urban hotels should recognize the impact of enterprise culture on hotel management and establish it as a guiding principle by clarifying the hotel's core values, vision, and mission. Under the guidance of SDGs of low-carbon tourism, urban hotels should prioritize the development of an organizational culture and the enhancement of low-carbon awareness among managers and employees. Firstly, urban hotels should fundamentally change their previous mindset that prioritized economic aspects over cultural values. By constructing an enterprise culture, they can improve service quality and strengthen employee management. Secondly, the management should deeply understand the importance and necessity of low-carbon awareness and integrate it into hotel management. Furthermore, through organizing training, publicity, and educational activities, employees' understanding of low-carbon environmental protection can be enhanced. Simultaneously, hotels should actively share the low-carbon concept with guests, provide environmental tips and guidance, and stimulate their environmental awareness, collectively building a low-carbon hotel environment. By integrating the low-carbon concept into hotel culture, a favorable atmosphere can be created where ecological environments are protected, resources are reused, and harmony between humans and the environment is achieved, fundamentally assisting the hotel in achieving low-carbon and environmental goals.

### **Strengthening Hotel Management and Building a Supervision System**

Strengthening hotel management and establishing a supervision system complement each other and together lay a solid foundation for the sustainable development of the hotel industry (Hole & Leisure, 2019). Strengthening hotel management is a necessary measure to ensure the implementation of low-carbon practices. Hotels should develop scientifically sound low-carbon policies and codes of conduct, clearly stating their commitment to low-carbon environmental protection, and integrate them into their daily operations. This includes improving energy management systems, using energy-efficient equipment, optimizing energy utilization efficiency, and reducing energy waste. Water-saving measures should be implemented, water-saving devices should be installed, and water resource utilization efficiency should be improved. Additionally, establishing waste classification and recycling systems, promoting reusable products, and implementing green procurement are essential steps. The supervision system provides assurance for the implementation of hotel policies and regulations. Urban hotels should optimize their organizational structure based on their own

conditions, establish regulatory systems, set up regulatory departments, and ensure that there are standards for management and grounds for supervision. This helps hotels fulfill management requirements, find out issues promptly, take corrective measures, and provide opportunities for employee growth and improvement. By strengthening management and establishing a supervision system, urban hotels can enhance operational efficiency, improve service quality, reduce management risks, and promote continuous innovation. This is crucial for the sustainable development and long-term success of urban hotels.

### **Improving Hotel Service Quality and Building a Professional Talent Team**

As a service industry, hotels are expected to provide a range of services that meet customer expectations. The quality of hotel services is directly influenced by the level of hotel service, customer service expectations, and customer service perception (Ali et al., 2021). Hotel employees serve as the providers of service, while customers are the recipients. Service quality is derived from the services provided by hotel staff to customers. Hotel staff are the direct contacts for customers in terms of consumption and service experience, so hotels need to recognize the importance of enhancing service quality and building a professional talent team. In terms of improving service quality, I. hotels should define clear service standards as guidance for employee work to ensure consistent and high-quality service. II. Establish mechanisms for employee participation, encourage employee involvement in service quality improvement and innovation, and stimulate their enthusiasm and creativity. III. Conduct regular customer satisfaction surveys to understand customer needs, expectations, and feedback. IV. Actively respond to customer feedback and complaints, resolve issues promptly, and demonstrate the hotel's commitment to customer satisfaction. In terms of building a professional talent team, I. it is necessary to establish a scientific recruitment system and select talent from multiple perspectives and levels. II. To attract and retain professional talent, comprehensive salary systems and career advancement paths should be developed, providing support and security for long-term talent development. III. Comprehensive employee training should be provided to help employees familiarize themselves with the hotel's service standards and processes, enhance their professional competence, learn from excellent hotel management experiences, and improve service levels. By enhancing service quality and building a professional talent team, hotels can attract, nurture, and motivate outstanding talent, provide exceptional service experiences, and gain customer recognition and loyalty.

### **Improving Hotel Infrastructure and Introducing Low-Carbon Emission Reduction Technology**

Improving hotel infrastructure and introducing low-carbon emission technologies are crucial steps for promoting the sustainable development of hotels (Davronov & Behavior, 2021; Dhirasasna & Sahin, 2021). Firstly, conducting energy efficiency assessments of hotels to understand the current energy usage and seek out potential areas for improvement, in order to determine energy-saving and emission reduction opportunities. Secondly, conducting a thorough examination of existing hotel infrastructure, phasing out facilities with high pollution and emissions, and promptly updating them with facilities and equipment that meet low-carbon development requirements. Selection of new equipment and products should adhere to ecological and environmental standards, with a preference for using renewable and biodegradable resources while minimizing the use of non-renewable and difficult-to-degrade resources. For example, hotels should prioritize the purchase of green and environmentally friendly supplies, such as commonly used consumables. Thirdly, hotels should actively utilize clean and renewable energy sources, apply energy-saving and emission reduction technologies, reduce energy consumption, improve resource utilization efficiency, and minimize the impact of environmental pollution. Improving hotel infrastructure and introducing low-carbon emission technologies require continuous investment and effort, but the market and social rewards that hotels can obtain are enticing.

### **Actively Developing Low-carbon Products and Services**

Low-carbon products and services serve as important vehicles for low-carbon management in urban hotels. However, many hotels currently face a shortage of low-carbon products and services (Dai et al., 2022). Hotels should recognize the seriousness of this issue and take proactive measures to provide more low-carbon choices (Patti, 2019). For example, adopting electronic signatures and implementing paperless office services. Taking the Ge Hua Kai Yuan Hotel in Beijing as an example, since implementing a paperless electronic signature system at the front desk, they have been able to save nearly 500 sheets of paper per day, equivalent to saving about 180,000 sheets of paper and more than 40 printer cartridges annually. In terms of selecting consumables for guest rooms, hotels can choose environmentally friendly and biodegradable materials or renewable materials that can naturally decompose or be recycled without causing secondary pollution. Introducing low-carbon and environmentally friendly dining options by using organic, local, and seasonal ingredients and confirming dish

requirements and quantities with guests in advance to avoid waste. Providing regular shuttle buses, electric vehicles, or bicycle rental services to offer guests low-carbon transportation options and encourage the use of environmentally friendly modes of transportation. In summary, hotels should consider the development of low-carbon products and services as an ongoing effort to promote the sustainable development of urban hotels.

### **Expanding Low-carbon Marketing and Advocating Low-carbon Consumption**

Urban hotels need to incorporate low-carbon practices as a vital component of their brand image. On one hand, through innovative marketing strategies and communication channels, hotels can promote and publicize their low-carbon initiatives and environmental practices, share their low-carbon achievements, design unique low-carbon activities or offers, and expand the influence of low-carbon marketing to encourage consumers to join the low-carbon consumption movement (Dai et al., 2022; Samatovich & Behavior, 2021). On the other hand, in the process of implementing low-carbon concepts within hotels, if consumers do not cooperate with the hotel's low-carbon management or lack awareness of low-carbon tourism, it can hinder the effective implementation of hotel's low-carbon practices. Therefore, hotels should assist consumers in achieving a unified low-carbon environmental awareness and behavior through reasonable means. For example, I. Encouraging and advocating low-carbon consumption through channels such as the internet, social media, radio, and customer letters. II. Placing low-carbon consumption slogans and signs in hotel lobbies, public areas, and guest rooms to continuously reinforce consumer's low-carbon awareness. III. Providing certain discounts to consumers who actively participate in low-carbon consumption to reinforce their low-carbon behavior. Expanding low-carbon marketing and advocating low-carbon consumption not only helps hotels shape an environmentally friendly image and enhance their market competitiveness but also contributes to reducing energy consumption and carbon emissions, achieving a win-win situation in terms of economic and environmental benefits.

### **CONCLUSION**

Low-carbon tourism is not only a requirement for sustainable development but also an important means to alleviate the economic and environmental conflicts. It is also a trend in the development of urban hotels. As the second-largest source of carbon emissions in the tourism industry, it is urgent for hotel enterprises to implement energy-saving and emission reduction measures. This paper first expounded the definition and characteristics of low-carbon tourism,

and objectively analyzed the significance of implementing low-carbon management in urban hotels from three aspects. Then, by reviewing mature theories such as green management, sustainable development, circular economy, low-carbon economy, and life cycle, this paper analyzed the significance of these theories in promoting low-carbon tourism. Based on the principles of economic substitution and the 3R principle of circular economy, the "4R+1C" principle of urban hotel management was proposed. Finally, the paper conducted an in-depth analysis of the main problems in urban hotel management under the SDGs of low-carbon tourism, including weak low-carbon awareness and lack of emphasis on corporate culture, inadequate management practices and insufficient supervisory mechanisms, low hotel service level and lack of professional staff, inadequate infrastructure and lack of emphasis on energy efficiency and environmental protection, lack of low-carbon products and services in hotel management, and insufficient efforts in low-carbon marketing. Corresponding improvement strategies were provided for each of these problems, with the hope of providing reference for urban hotels to actively implement the concept of SDGs of low-carbon tourism. This will promote the integration of low-carbon tourism into daily management practices, continuously improve management capabilities, enhance competitiveness, and advance the high-quality and sustainable development of the hotel industry.

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