

Development Direction Trend of Green and Sustainable Indoor Buildings under the Background of "Double Carbon"

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Abstract: With the rapid development of China's construction industry, green sustainability has become the trend and direction of the construction industry. Implementing the development of national "double carbon" in the construction industry has become the key we need to implement. Therefore, to grasp the initial design stage of interior architecture, especially for designers involved in it, we must understand and master the application methods and principles of green architecture, and ensure the use of green technology and green materials in interior design architecture, in order to achieve the goal of resource conservation and efficiency improvement.

1. Introduction

From the current overall environmental situation, there are serious environmental pollution problems in China, especially in the construction industry, which accounts for the energy consumption industry. Therefore, the construction industry has always received high attention in the society. For the construction industry, it is necessary to grasp the energy consumption and the corresponding environmental pollution in the whole project at the initial stage of the construction engineering design, and grasp the green concept of green buildings, so as to ensure that green buildings can guide the construction industry in China and the construction industry will go a long way.

2. Brief introduction of green sustainable interior architecture

2.1. Corresponding concepts of green buildings

Generally speaking, green buildings can be summarized as the full use of the resources used in the whole building cycle, which involves the use of resources and geology used in the building.[1] Minimize the pollution to the environment. Generally, different people have different needs for indoor environment and try to be healthy and comfortable. For example, indoor temperature, sunlight, air quality and other aspects of quality control. The concept of green building is not only to meet people's requirements for living conditions and let residents have a healthy living place, but also to pay attention to the design of the surrounding environment and landscape, and to the greening of the

environment and ecosystem.

2.2. Overview of sustainable development

From the definition of sustainable development, it is not only to meet the needs of human survival and development at present, but also to meet the needs of human survival and development in the future. This view is drawn through long-term practice and reflection. In the whole process of human development, there are many problems, such as the natural environment and economic development. In recent years, environmental problems emerge in endlessly, and the ecological environment has been artificially damaged, They can't handle the balance between human and environment well.[2] In recent years, the proposal of sustainable development is not only to protect the natural environment, but also to promote economic development and ensure the living environment and quality of human life.

2.3. Relevant concepts of interior design

Interior design is closely related to us. According to the use nature of buildings, local real environment and demand standards, through material and technical methods and architectural design principles, we can design an indoor environment with reasonable functions, comfortable conditions and beautiful environment to meet people's material and spiritual needs. The indoor environment has a certain practical value. Its function is to meet the needs, and its appearance has the corresponding architectural style and environmental atmosphere, and it also needs to convey the historical charm. More simply, the purpose of interior design is not only to create an indoor environment that meets people's material needs but also meet their spiritual needs. The understanding of the significance of interior environment design is related to the interior environment and architectural design.[3] Different people have different views, different emphases and different opinions. So different designers have different views, which need us to think carefully and use for reference. For example, interior design can be an extension of architectural design; Interior design can also be said to be the comprehensive recreation of interior space and environment. In the middle, we can see that the indoor environment is also the soul of architectural engineering, and it is the strong combination of human and environment, human and art history and civilization. Mr. Dai Nianzi, a senior Chinese architect, believes that the starting point of architectural design is the connotation of architectural space. Finally, we want to achieve the space effect, which is the ultimate goal of architectural art, and the interface and doors and windows formed by it are the necessary subordinate components. These necessary subordinate parts are the material basis of our whole space, and also play an essential decisive role in our use of the whole connotation space. However, the subordinate part cannot be compared with the key part. The shape of the subordinate part is only the inevitable result of forming the whole connotation space.

3. Application of green ecological sustainable development in architectural design

3.1. Environmental planning

For the construction of ecological buildings, we should first consider the local natural environment, and design on this basis. In the whole building environment, we will be affected by various factors, such as the natural environment, building technology, social culture, and so on. Comparing the ancient and modern buildings, we can find that many buildings in different places are inseparable from the local natural environment. In recent years, the trend of global warming has become more and more serious, which is closely related to the lack of environmental protection in buildings. For many

modern buildings, the designers in charge of them will design after considering the real surrounding environment, so as to meet people's requirements as much as possible on the premise of making good use of local resources. Therefore, if we can learn to use the corresponding ecological knowledge as the reserve force in building planning, balance the requirements of various designs on the premise of protecting the surrounding natural environment and resources, so that human beings and nature can get along more harmoniously. Because each place is located in a different geographical environment, it is necessary to take into account the local natural resources in the architectural design, so as to adapt to the local style for the architectural design of different places, so that the designed buildings can better meet the needs of local people, integrate the buildings with the natural environment, and make each place more green, healthy and sustainable development.

3.2. Architectural form design

In short, the form design of architecture is to create architecture in art. The form design of the building is more focused on the external image of the building. In many architectural designs, most people will pay attention to the connotation of architectural design, that is, the practicability of the building itself and the space of the building. From the external point of view, the shape of the building will not affect people's living, but it will often affect other surrounding environments. Therefore, when we understand the architecture, we will have a preliminary understanding from the perspective of visual perception, but the preliminary understanding often affects our judgment on the architecture to a certain extent. If our first impression is that the building cannot be integrated with the surrounding environment, it will cause our resistance to the building. So for architects, it is necessary to consider the harmonious relationship between human and nature, and integrate architectural design into the ecological concept to design excellent buildings.

4. Principles of green building design

Green building is a manifestation of comprehensive design ability. Green design should take into account the future of the building and reflect the diversity, functionality, demand and development of the building.

4.1. System and reasonable function design principles

First of all, the rational and functional design of the system should achieve the reasonable combination of space as much as possible, and the architectural style should be unique, not only to meet people's survival needs but also to meet people's spiritual needs. On the premise of making good use of local special terrain and exclusive resources, the natural landscape and artificial design should be well combined to form a systematic and reasonable architecture.

4.2. Overall and sufficient environmental design principles

When using the environment for architectural design, we should make full use of the role of the environment, and build the corresponding space, proportion, color, shape, vision, etc. Try to optimize the integrity to match the different natural scenery around. Make the building have beautiful environment, reasonable zoning and complete peripheral facilities. Only in this way can we realize the unity of human and environment. At the same time, the awareness of environmental protection and sustainable development of architectural design should also be considered.

4.3. Design principles of low carbon and sustainable development

To realize the green development of architecture, on the one hand, it is necessary to reduce the use of non-renewable resources and find alternative resources, on the other hand, it is necessary to realize the harmonious coexistence of human and nature. Avoid the current high and dense urban buildings, serious pollution of resources and serious waste. The architectural design takes sponge city into consideration and adheres to the concept of sustainable development. These are the inevitable requirements of the television economy and society. The green buildings designed in this way can not only promote the development of new building technology, the design and development of new green materials, protect the environment, save resources and build new buildings, and better serve people.

5. Design and development trend of green buildings under the "double carbon" strategy

5.1. Use resources to realize energy-saving development

In order to implement green buildings, we put forward the "double carbon" strategy. In the early stage of design, in order to achieve sustainable development, architects should pay attention to energy conservation and environmental protection in the selection of plans and materials, so as to maximize the use of resources. Therefore, for the design and implementation of green buildings, it is necessary to make full use of green resources and establish energy conservation awareness at all times. Only in this way can green building be implemented in the whole construction industry. The first requirement of green buildings is energy conservation. This can be seen in the early stage of design. The first requirement for energy conservation in green buildings is to pay attention to the following aspects: first, make reasonable use of the internal and external orientation of the house, internal structure, and natural sunlight, minimize the use of artificial lighting, reduce the problem of building spacing, and make reasonable use of natural sunlight. For artificial lighting, the architectural designer should consider the use of renewable energy lamps as much as possible, such as the use of energy-saving lamps, simulating natural light lamps, and the use of efficient thermal insulation materials to make the surrounding doors, windows and walls have good thermal insulation function. This should be green and renewable in the limited resources.

5.2. Recycle water resources

For green construction projects, there are strict requirements in the use of resources, especially the use of water resources. In the specific construction implementation process, it is necessary to consider the circulation and utilization of water resources in all links. In this way, the design of green buildings is consistent with the goal of water conservation. For example, water purification equipment is installed in specific construction projects, and natural rainwater is used in construction projects after purification treatment. At present, green irrigation technology has been fully used in construction projects. Green irrigation can be carried out in the green areas of construction projects, so as to realize the full use of water resources through green irrigation technology. In building construction, it is necessary to fully consider the real situation of local water resources, formulate a real and feasible water-saving plan, and make full use of the advantages of natural resources, such as rain, snow, sewage, etc. In the practice of project construction, the utilization of water resources can be improved and implemented, and the used water resources can be treated in a unified and centralized manner, which can be used for water for surrounding facilities and buildings.

5.3. Reasonable site planning

Green architecture and architects are the integration of technology, which requires the necessary planning of the construction site, so as to realize the scientific arrangement of the use of building space, and optimize the whole building layout with a more modern concept. For the selection of building land, we should first consider the energy conservation and green of resources. For example, we should use natural resources as much as possible, have strong ability to prevent accidents, and have the potential for development. In the construction implementation, attention should be paid to the protection of the environment to prevent environmental pollution caused by construction and affect the ecological balance. In the planning of the construction site, the height and density of buildings should be well planned to maximize the use of land resources. At the same time, attention should be paid to the spacing between floors and the adaptability of surrounding buildings. In recent years, the requirements of the construction industry on the environment have become increasingly strict, and there have been many relevant laws and regulations to limit and explain. Therefore, the emission of waste gas and water, as well as the pollution of sound and light source should be reduced in the architectural design. Optimize greening as much as possible, increase greening area and create good living conditions

5.4. Application of intelligent building

The goal of green building has been deeply rooted in the construction industry. The construction industry needs to promote green building as much as possible, save limited resources, balance the ecological environment and achieve sustainable development. What can provide more efficient methods for these is that science and technology. At present, intelligent technology has been applied in all aspects of the construction industry. Through the use of intelligent technology, green buildings can have a certain scientific and technological strength, and the implementation process of building equipment system can be monitored by the architect, and the problems that may occur can be analyzed and corrected in a timely manner, which is convenient for designers to optimize.

6. Conclusion

At present, green buildings play an essential role in building a sustainable society and a good environment. The specific meaning of green buildings in different countries and regions is different. Promoting green buildings as far as possible can not only reduce the waste of resources, improve the utilization of resources, but also balance and protect the ecological environment. In the context of the "double carbon" strategy, the construction industry should adhere to the concept of promoting green buildings, and you should achieve the goal of "carbon peak, carbon neutral".

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