

Application of Green Energy-Saving Technologies in Green Buildings in Real Estate Construction

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Abstract. Energy saving and low-carbon environmental protection are not only simple policy requirements but also bring impetus to the development of green buildings. The real estate construction business has become concerned. The construction process not only consumes huge capabilities and resources, but also causes varying degrees of damage to environmental products. Therefore, the comprehensive application of green building energy-saving technology in real estate development does not cater to the needs and preferences of current consumers, but is based on major challenges in the construction of national ecological civilization and future industry trends. This article mainly starts with the basic form and function of energy-saving technology in green buildings and discusses the effective application of building ground construction. This text analyzes the green building energy-saving technology and its current application status. Some problems exist: the building materials are not up to standard, and the process is not kept in mind. Some green energy-saving technologies have been applied in real estate construction: increasing the green energy-saving material markets and the supervision of material procurement, improving workers' ability to apply green and energy-saving technologies, correcting the attitude towards green building energy-saving technology, coordinating design and planning in real estate construction, determining the application criteria of green technology, and adhering to the principle of on-site and improve the energy-saving effect.

Keywords: Real Estate Construction, Green Building, Energy-Saving Technology.

1. Introduction

The rapid development of China's economy and technology has greatly impacted real estate development. For real estate construction projects. Construction activities not only consume huge energy and funds, but also cause different degrees of damage to the environment. Thus, environmental protection and energy-saving technology appeared. Due to the continuous updating of environmental protection and energy-saving technologies and the continuous improvement of environmental protection and energy-saving products. The development capacity of the real estate industry continues to expand. Therefore, real estate construction integrates green building technology and applies energy-saving and environmental protection ideas. It is an effective construction technology and is well-received by the masses. From the perspective of real estate construction companies. Realizing the house's health and the family's safety can effectively meet the needs of our contemporary people's home life. Therefore, in order to implement the idea of green energy conservation and environmental protection. The real estate construction industry also needs to actively cooperate in implementing green development, taking the road of green ecology and aiming at energy conservation and environmental protection [1].

2. Problems of Energy-Saving Technologies in Real Estate Construction

2.1. The Nonstandard Green Building Materials

In the application process of green building energy-saving technology. The quality of green building materials plays an important role. The new high-performance building and building envelope are analyzed as a case study, because the outer insulation board has a higher thermal insulation performance after selecting the vacuum chamber closed window frame and the metal profile of the

insulating glass. However, once the thermal insulation construction strength of building materials cannot meet the technical requirements. The value of green building construction technology would not be considered and the energy-saving goal would be difficult to achieve. In my country. Green building energy-saving technology is still in the preliminary exploration period and the technical market system related to green building materials has not yet been completed. Many real estate projects in the process of purchasing building materials overemphasize product prices. Without paying enough attention to the characteristics and quality of building materials. It would seriously affect the actual use benefits of green building energy-saving technologies [2].

2.2. The Undisciplined Construction Process

In building construction activities. Improper on-site construction management and unreasonable construction technology significantly impact the application and effect of green energy-saving technologies. For example, ground source heat pump technology is an important alternative to traditional HVAC central air conditioning. Which can reduce the frequency of use of traditional HVAC systems. Because of its good environmental protection performance. Relatively low operating costs and the advantages of energy saving. It is widely used in urban planning and construction industries with good benefits. In the practice of ground source heat pump technology. Construction personnel are also required to have high professional ability. Whether the construction technology meets the requirements is directly related to whether the technical role can be fully utilized [3].

2.3. Unimplemented Green Building Energy-Saving Technologies

At present, with the real estate development work promoted by the country focusing on ecological civilization construction and urban pollution control. Green development has become the pursuit of the public. In the process of modern real estate development. Green ecological buildings not only reflect the home concept of caring for and being close to nature and a high-quality living environment, but also reflect the public's tendency to pay attention to home life. Therefore, in order to promote the concept of green building design. It is necessary to implement green energy-saving and environmental protection technology as the main content. At present, green energy saving and environmental protection technology has been applied to the building materials industry [4]. According to the current domestic market trend. Now energy saving mainly occurs in effective heat preservation and effective heat insulation. But we still lack the efficient use of these technologies. A large part of resources are wasted on this leading to increased damage to the environment. The green construction energy-saving technology has not been implemented and the overall reduction rate of construction energy consumption has not achieved the expected goal.

2.4. Inadequate Knowledge of Energy Conservation and Environmental Protection

When it comes to construction. Most construction units feel that using environmental and energy-saving technologies will reduce the economic benefits of the enterprise. Thereby increasing the input cost of the project. But as the relevant departments pay attention to ecological protection and energy conservation and the value society calls for protecting the ecological environment. Energy-saving technologies are getting increasingly recognised. Many enterprises in our country have begun to use new energy-saving technologies and achieved good results. At the same time, because some infrastructure construction institutions have a limited understanding of new energy-saving materials and technologies. The application and progress of new energy-saving materials and technologies for basic buildings have been inhibited [5].

Currently, the project's problem is that the engineering construction enterprises do not know enough about the energy-saving protection scheme and the use is not scientific and reasonable enough. Therefore, it is necessary to strengthen the work of energy conservation and emission reduction in the construction stage to improve resource utilization and economic benefits. Many shortcomings in actual production would harm environmental protection and because there are too many raw materials. Energy-saving and environmental protection measures must be adopted throughout the construction

process. This would increase the construction cost and reduce the purpose of taking environmental protection measures [6].

2.5. The Insufficient Application Frequency of Passive Technology

Green building energy-saving technology has two categories: active and passive. Among them, passive energy-saving technology requires planning the house's structure. Entirely using its own conditions and natural environment. While active energy-saving technology does not. For example, the "draft wind" can bring us coolness. Mainly because of the ingenious structure of the house and the use of green building energy-saving materials. Due to the limitations of subjective and objective conditions. Such as the concept of real estate construction companies and the low technical level of designers. The surrounding renewable resources cannot be fully utilized and the frequency of passive technology applications is slightly insufficient [7].

The construction period of real estate is generally relatively long and the construction site is usually fenced off until completion. However, the problem of accidental discharge of wastewater by construction machinery is also inconsistent with the initial application of green building energy-saving technologies. In addition, there is still much waste of energy and resources in the construction process. Especially the consumption of building materials. Which has caused severe environmental pollution. It also reduces the use efficiency of passive technology to a certain extent. It does not effectively implement the technical requirements for environmental protection construction. Negatively impacting the reputation of the person in charge of the real estate project [8].

2.6. Weak Awareness of Green Energy Conservation for Consumers

Up to now, housing prices in my country have been rising yearly and housing prices have become the most important consideration for most consumers when buying a house. Because green buildings need to consume a lot of energy-saving and environmentally friendly materials during construction. The price of these materials is very high compared with ordinary building materials. So the cost of houses is also higher than that of ordinary houses. Which makes the market housing prices rise sharply. Consumers have to pay attention to budget issues. They are limited to the immediate price, short-sighted, do not consider the long-term benefits of green buildings and have weak awareness of green energy conservation. As a result, they do not want to pay too high prices when buying houses. Which leads to green building sales market. The performance is not as good as ordinary buildings and dramatically undermines builders' confidence in green and energy-saving buildings [9].

2.7. Unreasonable Use of Urban Energy

At present, natural gas, coal, and solar energy have become the primary energy sources in our country's cities. Among them, coal is the most widely used and the most consumed. Because the other two energy sources are used in small amounts. There is an unreasonable energy distribution ratio. Renewable the use of resources is not optimistic and the existing energy in the city is not rationally used. In recent years. My country's real estate construction projects has been increasing yearly. Most buildings have high energy consumption, but the energy utilization rate is only about 20%. Energy waste occurs frequently and causes irreversible environmental pollution [10].

3. Application of Energy-Saving Technologies in Real Estate Construction

3.1. Increasing the Green Energy-Saving Material and the Supervision of Material Procurement

For the rational use of green building energy-saving technology in real estate construction. The government must implement good supervision and management of the green building materials market and the use of materials. On the one hand, relevant competent departments of local governments and industry associations can quantify the technical standards of green buildings and

clarify market management standards to promote orderly competition in the national trading market and overall service quality improvement. On the other hand, by strictly stipulating the material procurement process. Cultivating the good professional ethics of material supply staff and strictly controlling green building materials' production quality and characteristics. It provides good help for the effective use of green building energy-saving technology.

3.2. Improving Workers' Ability to Apply Green and Energy-Saving Technologies

The cultural quality and previous work experience of construction workers are very limited. Without systematic training. Improving green and energy-saving construction technologies would be difficult. Therefore, in real estate construction. Attention should be paid to the cultivation and improvement of construction personnel's awareness of using green building construction technology and young skilled workers with corresponding learning levels can be selected to undertake the implementation of green building construction technology. On this basis. We must also do an excellent job in the technical supervision of the construction site. In addition, it is necessary to strengthen the promotion and application of green building energy-saving technology in construction enterprises through various means to improve its social influence. In the engineering team. Technical and on-site managers with rich experience in applying green building energy-saving technology and solid professional knowledge are selected to strictly supervise the construction process of green building and energy-saving technology in real estate projects.

3.3. Correcting the Attitude Towards Green Building Energy-Saving Technology

In the early stage, due to the relatively high cost of using energy-saving technologies such as green buildings. This is also why many real estate construction projects are reluctant to apply this technology. But managers must also have a longer-term perspective. In the longer-term operation process. They can see that applying green building energy-saving technology can improve the community's environmental protection awareness, reduce the overall energy consumption and analyse its input and output. At the same time. We must also pay attention to energy conservation and emission reduction and combine it with the company's development strategy. Moreover, it is necessary to strengthen the promotion work to make the public realize the importance and significance of using energy-saving products in environmentally friendly buildings. This can create greater benefits for the company. Only by establishing lofty goals and adopting the correct method for green construction cost technology can we promote the rational application of green construction technology in real estate development [11].

3.4. Coordinating Design and Planning in Real Estate Construction

Cooperate with the design and planning of real estate construction and conduct preliminary research and investigation. In real estate construction projects. We should pay attention to the reasonable planning of land resources to ensure that land resources can be effectively utilized for construction and improve the utilization rate of urban land. Through scientific and practical planning and design. Promote the healthy and stable development of the real estate industry. At the same time, we can also design and plan the atrium and other spatial structures during the construction process and expand the ventilation area of the living room to make reasonable use of renewable resources, such as wind power and light energy. So as to achieve the design goals of green energy saving and environmental protection. At the same time, in real estate development, people must also regulate the location and disposal of construction or construction site waste. From pollution treatment to garbage removal. We need to plan well. Reduce construction waste and pollution during building construction.

3.5. Determining the Application Criteria of Green Technology

Determining the application standard of green technology is also content that needs attention to in applying energy-saving technology. In the current real estate construction. The green environmental protection technologies that need to be used by construction projects in different locations are

different. So, in the specific application process. It is necessary to classify the application standards of the technology. For example, for real estate construction projects in ecological environment areas and urban downtown areas. Ecological projects must focus on green environmental protection. So their level should be higher. Based on this, actively discussing the application of green technology at all levels and promoting it to specific application environments can better play the advantages of green building energy-saving and environmental protection technology.

3.6. Adhering to the Principle of On-Site and Improving the Energy-Saving Effect

Green building energy-saving technology is not simply applied to a certain link but must be used throughout construction. In the technology use process. The on-site principle must be followed. That is, measures should be adapted to local conditions. In this process, two aspects need to be done well: on the one hand, the introduction and use of technology. Green building energy-saving technology has not been used in China real estate construction for a long time and most of them are directly borrowed and used from other countries' models. The situation of incompatibility is serious and the effect of implementation is not good. This requires the construction company to adjust the inappropriate parts of the technology based on the actual site environment and realize that simply using green technologies and materials cannot achieve greenness and energy saving. At the same time, using advanced information technology in the new era can also assist the energy saving and environmental protection of real estate construction. On the other hand, open the on-site principle of the construction link. In real estate construction. The most serious damage is the site environment. Processes such as site preparation and foundation excavation in the early stage could cause large-scale damage to the soil structure. Landform environment and plant coverage on the site and even damage the local ancient buildings and other historical relics to bring about destruction. Therefore, under the green building energy-saving technology. The construction link must respect the site environment's principles and improve the management quality.

Before the design drawings and construction. The construction unit and the client must plan the plan reasonably according to the natural environment and historical environment of the site environment to reduce the large-scale damage to the environment as much as possible. First, it is necessary to investigate and understand the building areas and plant species that must be protected on the construction site and propose a clear protection plan. Next, under the premise of ensuring that the building construction structure and building quality are not affected. The occupied area and building pipelines are minimized. Secondly, temporary facilities need to be built during construction and relevant personnel must strictly review and supervise this part of the plan and supervise. When dealing with the garbage generated in real estate construction. It is necessary to classify it. For example, the waste that can be naturally degraded can be landfilled and the non-degradable residue can be recycled.

4. Conclusion and Future

Due to our country's high speed and the rapid increase in the number of people. A series of issues such as the increasing shortage of resources. The aggravation of pollution and the increasingly severe ecological damage have constituted an enormous challenge for China in the 21st century. Since the reform and opening up. With the support of the state. The national economy has developed rapidly and healthily. On the other hand, seeking growth at the expense of polluting the environment could eventually lead to economic and social difficulties.

In economic and social development. Sustainable economic development is an essential guarantee and a fundamental requirement. Environmental protection and ecologically sustainable development have laid a foundation for economic and social development. Real estate development requires an organic combination of the three. With population growth. Shortage of resources and deterioration of the ecological environment becoming increasingly prominent. The public has begun to realize the critical role of resource conservation and environmental protection. It has started to adopt energy-

saving and emission-reduction technologies to ensure the sustainable development of the ecological environment. Following the vital development trend of my country's real estate industry. Green real estate has been developed on this basis and a series of practical explorations have been launched. Therefore, real estate construction projects must focus on applying green and energy-saving technologies during operation.

Social benefits and economic interests should be coordinated to promote the healthy development of green real estate. Therefore, government departments should create a superior environmental condition for the development of the real estate industry by building a sound legal system. First, the development of green real estate needs to be serious and it cannot be regarded as a "concept". Second, based on the overall urban design perspective. Adhere to the original environmental ecology and design concept and develop green real estate projects based on people-oriented and local conditions. Thirdly, an expert or advisory body must conduct adequate. Feasible and scientific research. Fourth, implement the international green real estate evaluation standards. Increase promotion efforts and promote the sustainable development of green real estate. Fifth, further increase investment in energy conservation. Environmental protection and ecological technology. Improve the technical level of green real estate. Reduce costs and actively promote the healthy development of green real estate.

It should also be realized that the operating concept and design planning of real estate projects will play an important role in the development of green real estate. And the most critical point is people's awareness of the concept of "green". It is difficult to achieve the desired effect. Therefore, the idea of green design is fundamental. The actual green real estate can only achieve its goal if it first has an ideology. Has close contact with the masses and penetrates the actual life of the public.

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