

Innovative thinking of construction Engineering management mode under the concept of green construction

Yuxun Zhu

Suzhou Polytechnic Institute of Agriculture, Suzhou 215008, Jiangsu Province

Abstract: with the development of economy, environmental protection has become the focus of attention, and has penetrated into the construction project management. Under this background, the concept of green construction arises at the historic moment, which promotes the balance between social development and economic growth. It is imperative to strengthen the reform and innovation of construction project management mode. However, in the actual implementation process, the advantages of the green building project management concept have not been brought into full play, and there are still many places to be improved. Based on this, this paper explores the construction project management mode under the concept of green construction, in order to improve the effectiveness and rationality of the management mode.

Key words: green construction; Construction works; management model

At present, China attaches great importance to environmental protection and adheres to the strategy of sustainable development, which requires the active participation of all sectors of society to change ideas and promote the dynamic balance between development and economic growth. In the field of building construction, the construction of ecological and energy-saving buildings is an inevitable trend. Designers need to pay attention to the selection of technology and materials that meet environmental protection requirements and regulations, and managers need to improve the construction management level with the help of green construction concept to minimize the impact and damage of building construction on the environment. Therefore, the content explored in this paper has very important practical significance, which can make the construction field keep pace with the times and promote the harmonious coexistence between man and the natural environment.

1. Advantages of Construction Engineering Management under the concept of green construction

1.1 Reduce the consumption of construction resources

First of all, under the guidance of the concept of green construction, the management of energy use needs to be strengthened, the electric energy and heat energy consumed in the construction process should be reasonably controlled, and the promotion and application of clean energy such as wind energy and electric energy should be accelerated based on the principle of reducing pollution. Secondly, in the construction process, we should combine the green construction concept, improve the energy utilization rate, and recycle the energy with recycling value. In this way, not only the environmental pollution can be reduced, but also the input cost of the construction unit can be reduced. Under the concept of green construction, the staff of construction enterprises need to formulate a reasonable energy use plan to improve the effectiveness and efficiency of the whole project. Finally, in terms of equipment procurement and use, we should seek more fully functional and energy-saving equipment, always implement the concept of green energy conservation in the process of its use, and make full use of construction equipment

1.2 Improve the utilization rate of building construction materials

In the process of building construction, managers need to formulate a reasonable plan for material procurement according to the engineering design scheme and the technical conditions of construction. Combining with the concept of green construction, they need to test the environmental protection of materials as well as use the process and equipment with high energy conservation, in order to give full play to the environmental protection performance of materials. For example, in the treatment of waste bricks and tiles, binding materials such as knots of clay, lime and wollastonite can be mixed into the ingredients to generate recycled bricks, wallboards and floor tiles, which not only solves the problem of waste bricks and tiles, but also reduces the consumption of natural clay and sand resources.

1.3 Reduce environmental pollution caused by construction

Under the concept of green construction, construction enterprises should first have a strong sense of responsibility, minimize the generation and emission of pollutants in the construction process, start from the source, and strengthen environmental protection and governance. At this stage, many construction units will do a good job in reducing dust generated during construction to minimize the impact on the surrounding environment. For another example, the noise generated during construction is also a kind of environmental pollution. In this regard, sound insulation panels will be installed on the construction site to reduce the negative impact on the surrounding residents, and relevant regulations will be strictly implemented to ensure no construction at night.

2. Problems faced by innovative construction engineering management mode under the concept of green construction

2.1 Incomplete evaluation system

The evaluation system needs to play its supervisory role in the construction project management, and test the implementation effect of the construction companies on the concept of green engineering. However, according to the current evaluation system, its content is

relatively one-sided, and the relevant indicators are not complete enough, so it is difficult to play a supervisory role in the construction process. In addition, although the field of green building in China has begun to take shape in the exploration and research of the evaluation system, in the implementation process, the evaluation of indicators are simply, and the label of green construction can be affixed after meeting the basic indicator requirements. In this way, the construction operation has only achieved the goal of green building in name, which is difficult to truly protect the environment, leading to green construction becoming a mere formality.

2.2 Unclear team consciousness

Due to the complexity of personnel in the field of construction and the low entry threshold, it is difficult to comprehensively promote the concept of green environmental protection, which also brings some difficulties to green construction. Most construction workers operate according to previous experience without a strong sense of green construction. Although it can ensure the construction quality, it has brought some obstacles to the implementation of the green concept. In the construction process, construction personnel are executors and participants in the whole process, and their overall quality directly affects the construction of the project. If the professional knowledge and environmental protection concept of the construction team can not keep up with the development of the times, many new construction technologies and green construction schemes will not be effectively promoted and applied.

2.3 Lack of high-quality talents

The concept of green construction reflects the development and progress in the construction field. In order to fully implement the concept of green construction and ensure its implementation, a good and high-quality team is required to guide it. In the construction team, the collective consciousness should be established to make the operators deeply aware of the importance of green construction. However, according to the current actual situation, most of the construction units have not formed a large-scale green construction atmosphere, nor have excellent technical teams to provide support. In the green construction management work, due to the lack of high-quality talents, the whole construction process has not been effectively infiltrated with the green concept, so it is difficult to achieve energy conservation and environmental protection, and even the managers have the problems of inaction and unwillingness in green construction.

3. Innovative mode of Construction Engineering Management under the concept of green construction

3.1 Improve the application rate of green materials

Nowadays, the green concept has been widely valued in various fields, which makes the research and development of building materials develop towards green and energy saving, and has achieved many significant research results, which have been widely used in actual construction. In order to further strengthen the application of green materials and improve the comprehensive benefits of buildings, relevant departments need to issue encouraging policies for the construction field, appropriately reduce the collection of material taxes, reduce the financial pressure of construction companies, and encourage them to actively use green materials. In addition, policy and financial subsidies can also be given to projects using green construction materials, so that green materials can be widely applied to the design and construction of new buildings. Through these measures, construction project managers can fully consider environmental friendly and economical green construction materials in the procurement plan, effectively control the generation of construction waste and pollutants, and fully embody the concept of green construction in construction engineering materials.

3.2 Improve the green construction management system

To guide the management of construction projects with the concept of green construction, it is necessary to establish a perfect construction system, formulate a reasonable management mode and measures in combination with the actual situation of construction and the concept of green construction, and realize the constraints and specifications of construction operations. For instance, in the construction preparation stage, the enterprise can arrange professionals to conduct field survey of the surrounding environment of the project, taking full account of the available clean energy such as solar energy, wind energy, geothermal energy, etc.. By grasping the availability of these resources, apply different professional knowledge and technology to the rational development and utilization of clean energy. Through the development of scientific and reasonable design scheme, the green construction is implemented in the actual work. In this way, under the perfect green construction management system, the preparation work before construction can fully consider the demand for green energy conservation, and green materials can be integrated into the design content, so as to save energy, reduce emissions and reduce energy consumption.

3.3 Vigorously promote the concept of green construction

In order to promote the further application of the green construction concept in the management work, the construction company needs to strengthen the propaganda and education, so that the construction manager can deeply understand the green construction concept, and offer convenient conditions for the smooth implementation of the project management work. For example, in the content of project management, the manager and construction personnel are regularly organized to learn the relevant content of green construction, and everyone is actively encouraged to innovate on how to reduce the use of water resources and power consumption, promote the innovative idea of effectively reducing construction costs, and reward the personnel who put forward this idea. We can also carry out publicity and education on the green construction system and regulations, create a green construction atmosphere in the whole construction team, and forge a community of environmental protection.

3.4 Improve the overall level of the management team

In the process of vigorously promoting the concept of green construction, the construction company needs to strengthen the training

for the managers, give full play to the leading role of the management, and improve the management level as a whole. For example, before construction, the management needs to consider the situation that the construction personnel are highly mobile, complex and have different understanding of the concept of green environmental protection, and actively carry out training activities before construction, focusing on the relevant contents of green construction, so that all participants in the project can further understand the significance of green construction. In addition, in order to improve the professional level of the management team, the enterprise can also integrate some practical content in the training process, so as to improve the practical ability of the construction team and ensure the smooth implementation of the green construction scheme in the actual work. In addition, in order to urge the construction managers to participate in various training work, the construction unit can formulate reward and punishment system, and link it with the performance of the managers, so that the managers can aware of the importance of green construction concept for the whole construction project. In this way, by doing a good job of top-level construction, we can ensure that the contents of building management can effectively stimulate the enthusiasm and initiative of construction personnel, fully combine the concept of green construction, and reflect the characteristics of construction management in the new era.

3.5 Formulate green construction scheme

The construction scheme has laid the foundation for the whole building construction, which requires the construction managers to fully implement the green construction concept and establish the core task of energy conservation and consumption reduction in the process of formulating the construction scheme. Therefore, the overall construction cost can be effectively reduced. For example, reduce the use of resources such as oil, electricity and hydropower, actively promote and encourage the use of low-carbon materials and related technologies in engineering projects, and implement incentives and penalties to strengthen the management of low-carbon resources. In addition, the project manager needs to do a good job in the planning of the construction site. In the overall plan layout work, he should follow the scientific and reasonable principles, complete the construction operations and tasks according to the land use indicators, and understand the surrounding environmental conditions of the project through field investigation and cooperating with the survey report, so as to carry out the construction work steadily, and protect the natural environment as well.

3.6 Strengthen the management of material procurement

The construction project management under the concept of green construction needs to strictly control the quality of construction materials to meet the requirements of building construction on the quantity and quality of green materials. The market demand for green materials is larger and larger and there is a large space for development. Therefore, more and more green materials with energy-saving and environmental protection functions in the material market are coming out. However, the quality of materials are varying and will have different degrees of impact on the safety, stability and the environmental protection level of the building. Therefore, the construction management needs to be reformed and improved according to the material procurement link. Before entering the site, the quality and performance of the materials should be comprehensively tested to ensure that their parameters meet the design and use requirements and prevent serious harm to the building quality and people's health. Measures should be taken such as improving the application rate of green materials in building design, using green construction materials as much as possible, updating some traditional construction materials iteratively, and even eliminating some materials that do not meet the requirements of environmental protection. At the same time, we should also do a good job in the management of green materials.

Conclusion

In a word, the construction industry is still an indispensable part of China's socio-economic system. In the current era of rapid development of the global economy, building a community of shared future between human and nature is an important issue to achieve economic stability and national sustainable development. The practice of green construction, energy conservation and emission reduction in the construction industry is the key measure to respond to the call of the state and promote historical progress. It is also an important means of scientific and systematic engineering project management.

References:

- [1] Hongbin Wang Discussion on Construction Engineering Management under the concept of green construction [j]Juye, 2023 (02): 172-174
- [2] Feng Zang Research on Problems and Countermeasures in green building project management [j]Brick and tile, 2023 (02): 119-121
- [3] Caiqin Xie Research on construction project management scheme under green construction system [j]Brick and tile, 2023 (01): 95-97
- [4] Xuqiang Jin Research on Construction Engineering Management and green building engineering management [j]China residential facilities, 2022 (12): 63-65
- [5] Zhang Rui, Huang Kun, Wang Jinxing, anpengtao, Yang fufu, zhaoxuejun Practical application of BIM Technology in green building project management [j] Architecture technology, 2022,53 (12): 1734-1737