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GREEN TECHNOLOGIES AS A NEW TREND IN CONSTRUCTION

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Abstract:

This article examines construction trends and technologies used to reduce environmental impact.

Keywords

construction trends, ecology in construction, natural materials, green technologies.

Introduction

Changing market and customer needs, as well as new technologies, are reflected in construction trends. Modern construction utilizes a wide range of materials and technologies that deliver economic benefits and enhance competitiveness, ultimately meeting customer needs with maximum efficiency. Construction trends point to a shift from traditional approaches to innovative and sustainable solutions that also contribute to the creation of an environmentally friendly and safe environment.

Environmental sustainability and the use of natural materials are among the trends in construction and architecture in 2023. Architects and designers are increasingly striving to create buildings that blend harmoniously with the environment and minimize their negative impact. This includes the use of sustainable and renewable materials such as wood, bamboo, and natural stone, as well as the implementation of energy-efficient systems and technologies.

The relevance of the topic is confirmed by the words of the Minister of Construction and Housing and Public Utilities of the Russian Federation, Irek Faizullina : “The new national standard will become one of the tools for implementing the task of widespread implementation of advanced “green” construction technologies, announced by the President of the Russian Federation at the plenary session of the Eastern Economic Forum [5].

As urbanization increases, so does urban development. Construction industry leaders are under increasing pressure to reduce building material costs and seek out environmentally friendly options. These two trends in construction have led many in the sector to develop new building materials that meet both goals. Green building has become more than just a trend, it's a science.

Among the most recognized methods for measuring environmental and energy efficiency are the British BREEAM, the American LEED, and the German DGNB. According to Knight Frank , from 2013 to 2020, the number of buildings in Russia certified according to

BREEAM, LEED, and DGNB green standards increased more than 8-fold—from 20 to 165. At the same time, offices remain the greenest buildings in Russia—their share of the total number of certified buildings is approximately 40%, and in Moscow, 80% [2].

RBC Real Estate respondents cite the reuse of materials and the production of structures relatively close to the construction site as key approaches used in construction today to reduce environmental impacts, in order to reduce emissions from transportation.

"Another common technology is the use of aluminum façade structures ," says Yuliy Borisov. "This is an environmentally friendly material that offers good thermal insulation, is fire-resistant, and can be reused [1]. In the future, such façades could serve not only a decorative and enclosing function but also regulate the building's microclimate (providing additional thermal and light insulation)."

To increase developer interest and open up new opportunities for green construction in Russia, the government is offering preferential financing through special bonds or loans. The implementation of state standards and incentives for green construction is a step toward achieving the country's sustainable development goals.

According to research by the information and analytical journal "All About the World of Construction," several examples of this standard's application already exist in Russia. For example, Zaryadye Park in Moscow was built in accordance with this standard and received LEED Gold certification , an internationally recognized green building certification. There are also ongoing projects, such as the "Smart City" in Kazan, which is being built in accordance with the standard's requirements.

Currently, Russia is developing a construction development strategy, in which a separate section is devoted to the “green” theme.

Environmental issues are currently being addressed worldwide. Solving these problems requires new scientific approaches that integrate ecology and construction [4]. The construction industry will eventually fully recognize the importance of environmental conservation. Even now, more and more companies are prioritizing eco-technologies , striving to use resources wisely and minimize environmental impact.

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