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Analysis of the shortcomings of modern construction for the presence of energy saving

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Анотація

Описано недоліки, щодо споживання теплової енергії, Наведено пропозиції з рішення виявлення проблем. Охарактеризовано основні завдання для енергоефективності створюваних будівельних споруд. Наведено основні причини нераціонального споживання теплової енергії.

Ключові слова: *енергозбереження, конструкції, будівництво, науково-методологічні процеси, теплова енергія.*

Abstract

The shortcomings of the consumption of thermal energy are described, suggestions for solving problems are given. The main tasks for energy efficiency of the created building constructions are described. The main reasons for irrational consumption of thermal energy are given.

Keywords *: energy saving, constructions, building, scientific and methodological processes, thermal energy.*

Introduction

In Ukraine energy efficient buildings are the direction of current development of modern building . Covering the emergence of energy efficiency in Ukraine and abroad, the current state of the issue of modern technologies in construction was analyzed. Problems that prevent the active appearance of energy-efficient buildings have been identified. A rational approach to solving the identified problems is proposed, which consists in the formation of scientific and methodological processes of organization of the life cycle of energy efficient buildings. The life cycle of an energy-efficient house is considered as a life cycle of a complex energy system that is in constant development and interaction with the external environment. To improve the analysis in future works to perform the method of calculating the energy efficiency of buildings based on the integration of energy costs during the life cycle of the building and obtaining an integrated indicator of energy efficiency of buildings[1;2].

Results of the research

One of the main tasks of energy saving is to increase the efficiency of the created building structures and structures through the development and implementation of energy efficient design and technological solutions.. Energy efficiency is the useful (rational) use of energy resources by optimizing through the use of energy to maintain a constant level of energy supply of a building or structure[2;3].

According to current data, energy saving in the creation of existing residential and public buildings and structures in Ukraine is used according to the indicators involved in advanced foreign countries with similar climatic and engineering-geological conditions.. Among the main reasons for irrational consumption of thermal energy in our country are[3]:

- imperfection of unregulated natural ventilation systems;
- Insufficient quality of thermal insulation of windows and balcony doors;
- imperfect architectural-planning and engineering solutions for heating stairwells and stair lift units;
- Insufficient quality of thermal insulation of external walls, coverings and ceilings of basements and attics;
- obsolete types of boiler equipment, imperfect heating and hot water supply systems, lack of meters, control and regulation of these systems;
- extremely developed network connection of external heat pipelines with insufficient thermal insulation;

- lack of an effective mechanism for material interest of energy consumers in the thermal energy economy;
- insufficient use of non-traditional energy sources.

Thus, to increase the energy efficiency of both existing and newly constructed buildings and structures, it is necessary to create a systematic approach and an economically sound set of interconnected and interdependent energy saving measures for urban construction, architectural planning, design, engineering[3;4].

Conclusions

So, in the development of energy efficient buildings, the factors that determine their energy efficiency are systematized, the problems that prevent the widespread introduction and replication of energy efficient buildings in the modern construction industry are described, and ways to solve them are proposed. Meanwhile it was underlined that the topic of energy efficient buildings is huge and complex in its content it also does not lose its relevance, but on the contrary, with the advent of new scientific buildings, it expands and acquires new horizons and task sets for further research.

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