

IMPROVING THE ENERGY EFFICIENCY OF BUILDINGS INTERNATIONAL EXPERIENCES AND APPROACHES

Shungaraeva Gulmira Berdishukirovna

gulmirashungaraeva1995@gmail.com

prof. Mirolimov Mirrahim Mirmahmudovich

*Tashkent University of Architecture and Construction,
"Building and construction design" department*

Abstract: *Improving the energy efficiency of buildings in the course of this research and the construction system was analyzed based on international experience. The general condition of the buildings under construction today is in line with international experience is being created in the form.*


Key words: *discomfort, energy consumption, isolation*

INTRODUCTION

Individual modern residential buildings under construction today improving energy efficiency are becoming the need of the hour because most of the existing residential buildings in the Republic of Uzbekistan are detached consists of houses designed and built on the basis of individual projects. When building such houses, the climate of Central Asia, including Tashkent, is hot and harsh is considered continental. Summer in the rooms of the building used in this climate when the temperature is 40-45 °C, the room temperature exceeds 45 °C. This situation creates an uncomfortable microclimate in the room. Uzbekistan improving the energy efficiency of residential buildings under climatic conditions from the point of view of analyzing the projects of modern residential buildings under construction barrier constructions, energy-efficient roofs, door windows and residential analysis of the location of the building in the area. It is very important to take into account the dry and hot climate of Uzbekistan.

An energy-efficient house is a building that is comfortable inside the building it takes very little energy to maintain the microclimate. In such buildings energy saving reaches 90%. Annual energy consumption in this type of buildings is per 1m² can be less than 15kWh. As an example, today most of the private houses under construction (reinforced concrete foundation, "warm floor" the system is without additional heating, the walls are 1.5 bricks thick with cement plaster, usual plastic windows, roof heat insulation 150 mm and ventilation system without air





handling unit) the amount of energy used for heating every 1 110-130kWh per m² per year. The following houses in the European Union classification is accepted.


1. Low energy houses: Less than conventional buildings homes with 50% less energy consumption than actual energy consumption that meets the requirements of regulatory standards.

2. Ultra-low energy houses: Compared to conventional houses 70-90% energy saving. For example, ultra-low energy consumption Passive House (passive house) in German, which clearly includes the requirements of houses, Effinergie in French, Minergie in Swiss. In many foreign countries a number of administrative and economic measures to increase the energy efficiency of buildings regulatory and support measures are being implemented.

1. Implementation of energy saving standards, strict construction standards and regulations, indicators on the map, energy consumption for heating and lighting the building indicators related to limitation. Improvement of energy efficiency of dwellings includes the following measures: new construction standards for buildings under construction, passive energy and near-energy construction of buildings that do not require energy saving of existing buildings in terms of re-equipment, introduction of construction certification. International according to the final statistics of the energy agency, it has 19 members the policy in the field of energy efficiency in the country plays a decisive role played, according to which this indicator has been 1.3% since 1990. Today, the modern trend of residential buildings is "green buildings" consists of building. As part of this trend, the world's only standards have been developed the reason for this is the ecological level of the building in world experience a detection approach has not been developed. Standards that belong only to him only UK, France, Germany, Italy, Australia, Japan and only available in China. There are four standards for "green buildings" in the United States. Buildings certified by the Green Building Council in some states owners are given subsidies. Most states have building codes every year will be renewed, because until 2030 the energy of every new building will be built is to reduce the consumption by two times. Building energy in a number of cities verification within the framework of the ENERGY STAR program to determine the level of efficiency determined by law, according to it from 1 to 100 and more and the area it consists of suitable tables for buildings over 1000 m².

2. State support and subsidy for improving the energy efficiency of the building present. In Great Britain there is a program called Warm Front. this program is aimed at low-income families, according to which heat improvement of energy efficiency of insulation and heating system, the investment is 50 million pounds





sterling. This program is also valid in the USA does. In Japan, subsidies are aimed at “new energy sources and industrial technologies development” (NEDO) organization, this organization complies with the thermal protection of residential buildings (on the basis of the Energy Efficiency Law) reconstructed, using renewable energy sources equipped with energy-saving appliances and efficient systems. 15% energy efficiency in newly built houses due to subsidies and 25% of the energy consumption in buildings to be reconstructed requires less energy. New and remodeled homeowners every three years

It is necessary to inform the NEDO organization about the increase in energy consumption. The level of basic energy demand is the new modern one that is being built in Poland in buildings, the following technology is useful for buildings with different energy per kW/m^2 :

Many buildings have a concrete wall of 20-30 cm and a high efficiency individual counter 20-25 cm insulation from mineral wool, heated by central heating systems in places, polystyrene is at least 20 cm, or on slopes, a wooden roof is flat with one layer it is advisable to cover the roof with 15 cm polystyrene heat insulating material. Individual houses have 20-25 cm insulation, individual gas boilers in buildings, the wall thickness is 20-30 cm, hollow brick walls and insulation expanded polystyrene is 15 cm. High heat of walls, ceilings and foundations the size of the insulation meets high thermal standards, the thickness is about 15 cm. As a result of using modern insulated windows and doors checking the effectiveness of ventilation systems of buildings, insufficient ventilation as a result, it is possible to prevent mold and rot on walls and ceilings will give.

CONCLUSION

In conclusion, there is enough experience in the world in the field of energy efficiency and the tests have been carried out, and they are in our Central Asian climate it is required to consider according to the conditions. Suggestions and solutions of Uzbek scientists in the implementation of the measures mentioned above required to be taken into account. Based on world experience, their achievements and it is necessary to study the shortcomings and adapt them to our conditions. Of course, taking into account all the above points, QMQ and normative documents are necessary to comply with the requirements.

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