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INTERNATIONAL EXPERIENCE AND IMPROVED APPROACHES IN BOOSTING THE ENERGY EFFICIENCY OF RESIDENTIAL CONSTRUCTIONS

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ABSTRACT

Improving the energy efficiency of buildings Information about the experimental and approach methods is provided.

A contemporary single-family residence under construction nowadays increasing the energy efficiency of constructions is becoming a need of the hour, because most of the existing residential buildings in the Republic of Uzbekistan houses developed and erected on the basis of individual projects are enough. The climate of the Central Asia, including Tashkent, is hot when architectures such houses and is strictly continental. A building in use in such a climate when the temperature in the rooms is 40-450 C during the summer, the room temperature is more than 450C exceeds. This situation creates an uncomfortable microclimate in the room brings Energy of residential buildings under the climatic conditions of Uzbekistan to analyze from the point of view of increasing efficiency, the modern one under construction energy-efficient barrier structures of residential building projects placement of roads, windows and residential buildings in the area to analyze Taking into account the dry-hot climate of Uzbekistan is very important is of great importance.

An energy-efficient house is a building that is comfortable inside the building. It takes very little energy to maintain the microclimate. Such energy saving in buildings reaches up to 90%. Annual energy in buildings of this type consumption can be less than 15kWh per 1m2. As an example Most of the private houses being built today (reinforced concrete foundation, "warm floor" system without additional heating, walls 1.5 bricks thick together with cement plaster, typical plastic windows, roof thermal insulation 150mm and without an air handler in the ventilation system) for heating the amount of consumed energy is 110-130kWh per 1m2 per year.

KEYWORDS: *Ventilation, Energy Consumption, Insulation, Warm Floor.*

INTRODUCTION

The following classification of houses has been adopted in the European Union.

1. Low energy houses:

Houses that consume at least 50% less energy than conventional buildings,

Which meets the requirements of current energy consumption standards answerable.

2. Ultra-Low Energy Houses: It will save 70-90% of energy compared to conventional houses. An example clearly includes the requirements of ultra-low-energy houses Passive House in the Germans, Effinergie in the French, Minergie in Swiss. Energy efficiency of buildings in many foreign countriesa numbers of administrative and economic regulation and support remedial measures are being implemented.

1. Introduction of energy saving standards, strict construction norms and rules, indicators on the map, which go to heating and lighting the building indicators related to limiting energy consumption. Stays to increase the energy efficiency of places, take the following measures includes: construction standards for new buildings, passive construction of energy and almost energy-free buildings, available from the point of view of energy efficiency of buildings in terms of re-equipment, introduction of construction certification. According to the final statistics of the International Energy Agency in the above energy efficiency sector in 19 member countries policy played a decisive role, according to which since 1990 the indicator was 1.3%. This is the modern trend of residential buildings today construction of "Green buildings". Within this trend in the world uniform standards have not been developed, and this is due to world experience the approach to determining the environmental level of the building has not been developed. Only the United Kingdom, France, Only available in Germany, Italy, Australia, Japan and China. In the USA four standards of "Green buildings" apply. In some states to owners of buildings approved by the Environmental Building Council subsidies are given. Most states update building codes every year will go, because until 2030 the energy of every new building is to reduce the consumption by two times. Build a series of cities ENERGY STAR program for determining the level of energy efficiency within the scope of the inspection, according to which it is from 1 to 100 and more and suitable for buildings with an area of more than 1000 m2 consists of tables.

2. State support for improving the energy efficiency of the building and providing a subsidy. Warm Front in Great Britain program exists, and this program is for low-income families directed, according to which the energy of thermal insulation and heating system 50 million pounds will be invested to increase efficiency constitutes. This program is also valid in the USA. in Japan subsidies "New energy sources and industrial technologies development" (NEDO) organization, this according to the organization's thermal protection of residential buildings (Energy based on the law of efficiency) is reconstructed, renewable energy-saving household appliances using energy sources and equipped with efficient systems. New in relation to subsidies 15% energy efficiency in houses under construction and reconstruction 25% less energy consumption in construction houses requires energy. Owners of new and remodeled homes are all three increased energy consumption of the NEDO organization they must provide correct information.

The level of demand for basic energy is new, which is being established in Poland In modern buildings, the following technology is different for buildings kW/m2 energy is useful: - many buildings have concrete walls 20-30 cm and higher the efficiency of the insulation of an individual counter minvata total 20-25 cm, polystyrene in places heated by central heating systems at least 20 cm or 15 on a flat roof with one layer of wooden roof on slopes cm. It is desirable to cover with polystyrene heat insulating material. Individual houses are insulated with

20-25 cm minvata, individual gas in buildings with boilers, walls 20-30 cm, hollow brick walls The thickness and insulation of expanded polystyrene is 15 cm. Wall, ceilings and high thermal insulation volume of foundations, heat is high meets the standards, the thickness is about 15 cm. Modern of buildings as a result of the use of insulated windows and doors checking the effectiveness of ventilation systems, less mold and rot on walls and ceilings as a result of ventilation allows prevention.

In conclusion, the world is sufficient in the field of energy efficiency tests and tests have been carried out, and they are ours of Central Asia adaptation to climatic conditions is required. It is mentioned above In the implementation of measures, Uzbek scientists also offered suggestions and solutions are required to be considered. Based on world experience, they have to study the achievements and shortcomings and adapt them to our conditions must be mastered. Of course, taking into account all the above points, QMQ and it is necessary to comply with the requirements of regulatory documents.

REFERENCES

1. Walter R. Jaggard Francis E. Drury Architectural Building Construction: Volume 1: A Text Book for the Architectural and Building Student Cambridge Univ Press Angliya, Kembridj, 2013.

2. Francis D.K. Ching Building Construction Illustrated 5th Edition Wiley; 5 edition USA, 2014.

3. Miralimov M.M., Sayfiddinov S., Babajanov M.D. ARXITEKTURA. Darslik. Toshkent, 2016 y.-316 bet.

4. QMQ 2.01.04-97* “Qurilishdaissiqliktexnikasi”. Toshkent–2011y.