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Modern Technologies to Improve Energy Efficiency

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Abstract: *Houses built before the 2000s cannot meet today's high energy efficiency requirements. At the time of their construction, there were completely different standards, and technology did not allow for a serious reduction in heat loss. Today, developers have a whole arsenal of knowledge, materials and technologies that will allow them to build an energy-efficient apartment building.*

Keywords: *energy efficiency, modern technologies, heat losses, heat transfer, energy saving.*

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Facade

The Achilles' heel of any building is the exterior walls and windows. It is through them that the main heat loss occurs, leading to an increase in energy consumption. Insulation of external walls is the most expensive and time-consuming process, but at the same time it can reduce heat loss by 12-15%.

Regardless of what the house is being built from, builders use heat-insulating materials, in other words, insulation. Contributes to the preservation of heat and the installation of a hinged ventilated facade, consisting of plates attached to a metal frame on the facade. Since the plates do not adhere closely to the wall, a kind of air cushion is formed, which makes it difficult to transfer heat between the house and the street. Today, many construction companies use a similar technology.

Another effective technology is facade heat regulation. On the north and south sides of the house there should be different thermal conditions.Today, this task can be solved automatically through an individual heat point installed in the house, “Warm Ceramics” brick is used to fill the outer walls, the lining is made according to the system of ventilated facades. The developer plans to use this system in all of its Window

One of the most serious "conductors" of heat. Suffice it to recall how our grandmothers laid cracks in window frames with cotton wool for the winter and sealed them up until spring. In many ways, the problem has been solved through the use of modern double-glazed windows with gas filling.

The installation of windows with heat-reflecting glazing helps to reduce heat loss by up to 40%. Enlarged window openings and panoramic glazing contribute to more light and reduce energy costs, while glazed balconies and loggias will help save on heating.

Ventilation

Ventilation with a recuperation system is becoming increasingly popular with developers. The cold air that enters the building from the street is heated by the heat of the air from the premises.

Individual heating point

Its presence is important not only for facade regulation of heat. Another reason why an individual heating point is important and necessary is the reduction of heat losses during transportation. It's one thing when hot water rises immediately to the house from its own heating point, another thing is if it gets from the district boiler house.

There is perhaps only one drawback of energy-efficient houses - their design and construction requires high costs, which are reflected in the cost of housing.However, the buyer can count on the fact that these costs will pay off along with utility bills, for which you will not have to overpay.

Nevertheless, energy saving technologies do not stand still. Every year there are more and more new solutions that reduce energy consumption and save on it. Buyers of apartments in new buildings can be sure that their housing is not below the average level of energy efficiency, and if they wish, they can have an apartment in a building of a higher class. Perhaps in the future, energy efficiency will become a determining indicator when choosing housing.

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