

ENERGY SAVING TECHNOLOGIES

Daria Morozova

Faculty of Chemical Technology,

National Technical University of Ukraine "Igor Sikorsky Kyiv Polytechnic Institute"

Energy saving is a new round in technological development, as well as an absolute necessity. On average, energy costs make up about 30%, and at some enterprises of the metallurgical, chemical, and oil refining industries, the share of energy in the cost of the product can exceed 60%. (Kozhyn, 2022) Due to the low thermodynamic efficiency during the transformation of thermal energy into other types of energy, there are large emissions of thermal energy into the environment, which is the reason for its waste (Plachkovska, 2012). Here are some ways to help you save it:

Solar collectors allow you to "collect" ultraviolet rays and turn them into energy. If you want to use them for heating, then you will need an additional source of energy, because it doesn't work in bad, cloudy weather and at night. Solar collectors will provide heating mainly from September to December and from March to May.

Heat pumps can transfer heat from sources to consumers. It uses the heat of the ground or groundwater is usually used. These pumps can not only heat an apartment or house, but also provide us with hot water.

Heated floors are the most efficient heating devices due to their location. They use of such heaters allows you to transfer heat to the necessary areas, without heating all volume of air in the room. Easy to use, low costs.

Today, energy-saving lamps are used in residential buildings, offices, commercial and industrial areas. They are cheap and easily accessible.

A heat reflector is a special foil, which is placed between the wall and the battery, it directs the energy, which should heat the wall in the other direction. Advantages: easy to use, not expensive.

A heat pipe is a pipe laid underground that supplies heating to the house.

Water flowing in a poorly insulated pipe loses most of heat. If you cover such a pipe with a material with poor thermal conductivity, less heat will flow out. But it will be difficult to do because they are underground.

The insulation of the house works in the same way as the insulation of the heat pipes, but they insulate the house. Foam plastic - material with the lowest thermal conductivity glues to the wall, but it costs a lot of money.

Having processed all these theses, we can conclude that there are many ways to save energy, some expensive, some cheap, but all of them are effective, especially in our time.

References:

Kozhyn, A. (2017). Ohliad enerhozberihaiuchykh tekhnolohii [Overview of energy-saving technologies]. Retrieved November 4, 2022, from <https://energox.com.ua/energoaudyt/korysni-statti/korotkyj-oglyad-energozberigayuchykh-tehnologij/>

Plachkovska, S. (2012). Vplyv teploenerhetyky na navkolyshnie seredovyshche [The impact of thermal energy on the environment]. In *Energy: history, modernity and future*. Retrieved November 4, 2022, from <http://energetika.in.ua/ua/books/book-5/part-3/section-2>