

## **ENERGY SAVING TECHNOLOGIES**

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Energy saving is one of the largest problems of our time. With the worsening of the economic crisis, the energy shortage in the world and the threat of destroying the bases of conservation of fossil substances in Ukraine, the issue of energy conservation is becoming more acute. Especially now, when our power plants are being damaged due to the Russian aggression. In recent weeks, the authorities have been constantly asking for energy savings, because the damaged stations do not have

the ability to generate much energy.

It is important to consider what people can do to save the energy. Firstly, we can replace incandescent lamps with more energy efficient LED-lamps. For example, the energy efficiency of incandescent lamps is about 40W, and the LED-lamp is about 5W. If a person lives in a country house, it would be more economical to install solar panels, wind generators and special "air-water" heat pumps. These technologies will not only save electricity, but also become energetically independent of the general energy supply system. What is more important is the fact that they are not dangerous for our environment and, in fact, are ecological technologies.

In addition, participation in energy saving of factories and the state will be a huge contribution. Depending on the location, enterprises can switch to fully or partially independent production of electricity. For example, factories can use water energy, the Swedish waste-to-energy technology or install hybrid systems of WPP / SPP (Eveloy, Ayoub, 2019, p. 44). The advanced technology networks of various energy sources guarantee the best efficiency in energy production.

States can implement the Swedish technologies, systems of solar power plants or wind power plants. What is more, Ukraine can start a certain economy regime. For example, completely modernize city lighting, namely, to replace old lamps with less energy-consuming ones, even with the use of solar energy (Bachanek, Tundys, Wiśniewski, Puzio & Maroušková, 2021, p.11). Moreover, biogas produced from rotting garbage in landfills can be used to generate electricity. This method has already begun to actively being developed in Ukraine.

In addition to generating electricity, it must be used efficiently. One of the important costs of energy is a significant loss of heat during the heating season. This can be solved by replacing old heating networks, equipment and full insulation of buildings. According to statistics, these actions will help reduce costs by approximately 10-25 % (Bezzub, 2022).

To conclude, people have to be open to changes and fully understand a demand of using energy saving technologies. It can be both the modernization of our own buildings (using more energy efficient LED-lamps, "air-water" heat pumps, non-

industrial solar or wind power sources) and the absolute renewal of energy production at the country level (Swedish technologies, biogas energy technology, systems of solar power plants or wind power plants). This is one of the ways to keep our country and the planet in safety, especially when we have a huge war is going on.

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