



How to reduce energy consumption?

Energy efficiency is the most important factor when considering heat consumption by a household. This includes the use of appropriate insulation, ventilation, heating or cooling ducts and heat sources. However, energy consumption habits also affect the energy bill, and some simple behavioral changes can reduce energy costs.

What can you do to save energy and reduce your bill?

The first step should be to conduct an energy audit and implement the recommended actions described in it. The initial costs of these changes can be significant, but in many cases, there are local or national programs that can help to fund these measures. In some cases, heat consumption can be reduced by more than 80%.

In multi-family buildings with central heating, the building, the owner or housing co-operative should be responsible for conducting the energy audit and implementing the recommendations contained therein. However, as in the case of single-family houses, each resident can have an impact on reducing bills in accordance with simple rules:

Temperature at home should be sufficient to ensure thermal comfort, which in most cases can be achieved at 20 ° C. Remember that an increase in indoor temperature by one degree can increase energy consumption by several percent, therefore - when you leave the house - the temperature should be lowered, e.g. by changing the radiator settings. It should also lower the temperature in situations where it is possible, e.g. in unused rooms or at night, when the heat demand is lower. Hot pipes that pass through unheated spaces, such as an attic or basement, should be insulated to avoid heat loss.

Ventilation is also important. Insufficient ventilation may contribute to mold growth due to insufficient moisture removal from cooking, washing, drying clothes, etc. Remember not to block the main ventilation ducts. If necessary, air the room by opening the window - open it wide for a short period of time.

It is more efficient than when the window is constantly ajar. When cooking, remember to cover the pot with a lid - it not only causes faster cooking of food, but also reduces humidity, and the process will require less energy.

The radiators should not be blocked by furniture or covered by curtains. In order to save energy, instead of opening windows, lower the temperature by reducing the heat from the radiators. The technical condition of the radiators is also important. Dusty radiator is less efficient than clean. To reduce the heat demand, cover the windows with curtains or blinds at night and uncover them throughout the day to allow daylight into the rooms.

Household appliances are mostly supplied with electricity. Air conditioners, dishwashers, electric ovens, refrigerators and freezers, lamps and fittings, electric heaters, hoods, televisions, tumble dryers, vacuum cleaners, ventilation equipment, washing machines, electric water heaters - all use electricity and are characterized, among others, by energy labels. In many cases, it is worth considering whether the old equipment can be replaced with new, more efficient, which will contribute to a significant reduction in energy consumption. Energy labels can help you choose the most energy-efficient solution on the market.

How to use household appliances effectively?

The quality of the equipment is not the only factor affecting the consumption of electricity. The use of simple rules for the use and maintenance of household appliances can also contribute to the reduction of energy bills.

Dishwashers during work should be loaded to the full. It is more efficient to use a dishwasher filled to a maximum, and when it is not possible, use programs dedicated to work with incomplete load, which reduce the consumption of water and electricity. When choosing a dishwasher, you should analyze your real needs to avoid buying a device with too much capacity.

Energy consumption for a standard dishwashing cycle for a device with a capacity of 12 sets

Energy class	A+	A++	A+++
Energy consumption in kWh	1,02	0,90	0,84

Energy consumption for a standard cleaning cycle for a A++ energy class device

Capacity in sets of dishes	9	10	11	12	13	14	15
Energy in kWh	0,69	0,74	0,78	0,91	0,92	0,93	0,95

Refrigerators and freezers should also be adapted to the needs of users. Too large device capacity will affect the amount of bills. The temperature in the freezer should not be lower than -19°C , and in the refrigerator its optimal value is around $+6^{\circ}\text{C}$. It is enough for the products to remain fresh, and any reduction in temperature by one degree results in a higher consumption of electricity. The refrigerator door should not remain open for too long. The lowering of electricity consumption will also result in leaving the door closed for as long as possible. To ensure the most efficient operation of refrigerators and freezers, it is recommended to place them in the cooler parts of the room and avoid exposing them to the effects of intense solar radiation. The ice that accumulates inside the refrigerator can act as a thermal insulation, so regular removal of the ice layer by defrosting the refrigerator will increase its efficiency. Placing hot food in the fridge or freezer is not recommended. Before putting them in the fridge, dishes should first be cooled to room temperature. Frozen products are best thawed in the fridge. This is possible because the temperature inside the refrigerator should be "positive". This will allow thawing of the product and increasing the efficiency of the refrigerator.

Lighting can easily contribute to energy savings. The mere replacement of old bulbs with energy-saving ones will probably bring significant benefits. Reducing energy consumption will also be achieved by switching off the light when it is not needed and using natural light.

Energy consumption by various types of light sources

Traditional bulb	Compact fluorescent lamp	LED lamp
25 W	5 W	2W
40 W	8 W	5W
60 W	12 W	6W
75 W	15 W	10W
100 W	20 W	13W
150 W	35 W	26W

TVs should be turned off if they are not currently in use. TV sets in stand-by mode also consume energy. The size of the screen can also be a factor influencing the choice of the new model - usually the larger the display, the higher the energy consumption.

Laptops should be turned off when they are not in use. The use of a screen saver is not an energy-saving solution. When the battery is fully charged, disconnect the charger.

The **washing machines** should also work, using their full capacity. To reduce energy and water expenses, you can sometimes choose a special program for a completely unfilled washing machine. Try to set the washing temperature as low as possible. Washing at 40°C is often the most efficient. Make sure you are drying clothes that are already spinning because wet, un-impregnated clothing requires a lot of heat and can greatly increase the humidity in the room.

