Catch energy thieves and increase energy efficiency in your home

Every month we receive a bill for consumption of heat energy during the heating season and for consumption of electricity during all year. And almost every day we are hearing and reading in news that the amount of energy source is significantly decreasing on the Earth and that the day when quantity will be near zero is not so far away in future. This is the reason why energy is becoming more and more expensive.

A lot of people realized that one of the ways how to decrease energy bills is to decrease energy consumption. First of all if you decide to reduce consumption, you need to take into consideration all electrical appliances in your household, monitor and then evaluate energy consumption of each appliance to find more energy consuming ones and replace them with more energy efficient alternatives.

In this article you will find a couple of advices and information about energy efficient devices for your home that can help you to change your behavior.

The energy thieves are very active in stealing energy sources and there is a small smart devices team that can help you to win the battle in reducing energy consumption. The main mission is to identify the energy thieves and save energy.

Let me introduce myself – I'm a smart device which can help you to recognize energy thieves in your home. I'm an **energy meter**! Plug me in and I will tell you how much energy is consuming your TV, refrigerator or washing machine. If leaving your mobile charger in a plug after charging, it consumes 2 kW/h. Just imagine the same amount of energy you need to boil water for a cup of coffee. For example, the fridge-freezes class A consumes 408 kWh/y (energy consumption related emissions are 175 kg CO_2/y) but if you choose a fridge-freezes class

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A++ it will use 206 kWh/y and energy consumption related emissions are only 89 kg CO_2 /y. The saved energy is almost equal to the energy consumption of an electric oven if it is used 135 times per year (91 kg CO_2 /y).

I'm not only telling you how much do you spend, but also how much do you pay for it. I hope we will be friends and together win the battle against wasters.

After you have found out which appliances are working against you and are the reasons for high electricity bills, you can start to change your behavior or if you plan to buy a new appliance – choose the more energy efficient one.

Again the winter is coming and you are asking yourself – will it be warm at my home, how about temperature in living and bedroom, will it be enough to feel comfortable? Do you want to know the moisture level and air temperature inside your home? I will help you! My name is **hygrometer** and my mission is to calculate these parameters.

The comfortable temperature in the living room is +21^{o}C, bedroom +18^{o}C, but moisture content should be in between 40-60%. If the air moisture is less than 40% - suggestion is to open window and let fresh air circulate in the room. If the moisture content is exceeding 60% there is a risk that mould will appear and damage building construction, furniture, will have an impact on your health and esthetical look of your home.

If the indoor temperature is lower than +18^{o}C or +21^{o}C and you are thinking that your home has high heat loses I will give you an opportunity to detect thermal bridges in your home. I was born to do it! My name is **infrared thermometer** and I infer temperature using the thermal radiation which is emitted by the object of measurement. I can be used to serve a wide variety of temperature monitoring functions; one of them is to detect the thermal bridges and hot/cold spots of the building envelope and construction elements.

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My name is **water saver** and I offer you to save not only electricity and heat energy but also water in your household. I suit almost for every tap and reduce the running speed of water up to 7 liters per minute. When you use the tap during 3 minutes, 45 liters of water disappear into the drain. Firstly the water saver saves enormously on water consumption. Considerable savings are also made in the consumption of gas (for preparation of warm water), electricity and the cost of drain/drainage. On average one water saver saves 3m^3 of water and 8 m^3 of gas annually. The water saver for the shower saves 9m^3 of water and 63 m^3 of gas annually. In addition you save on water, therefore on the cost of energy.

Probably you are already familiar with energy efficient bulbs and are using them but if you are leaving the premises very often it is worth to take into consideration to set up **the motion sensor** directly at a bulb. It can be simple screwed into a lamp socket. The sensor reacts to movement and light intensity. This sensor has more ecological than economical effect because the pay – off period is 4 years using conventional light bulbs but longer time period if using energy saving bulbs. The other way how to decrease electricity consumption is to use energy efficient **bulbs with control panel.** It allows turning down the brightness of the lighting and in this way reduce energy consumption.

Now you have got acquainted with the team of small appliances for saving energy at home, some of them are helping to evaluate current energy consumption, others help to decrease consumption and save costs. If you are thinking about become more environmentally friendly you should become friends with these small and smart devices!

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