

EVI Energy Saving Tips – A Brief Guide

Whether you rent or own your own home – saving energy pays off for everyone. Those who live in their own property can make a huge difference, as very effective measures can be implemented by replacing or modernizing heating systems, by improving insulation or by investing in a photovoltaic system with power storage. But one thing is clear: Measures such as these require a budget and proper advice. The energy consultants at the Energy Consulting Center Hildesheim (ECC) will gladly advise you on these topics, determine which technical solution is best for you, and explore available subsidy opportunities: www.ebz-hildesheim.de.

Renters can also significantly lower their energy consumption! With our tips, you as a renter can easily save money and help protect against climate change.

Energy savings measures are particularly effective in places where there is high energy consumption in the household. So you might ask yourself: What areas are there?

Here it is worthwhile to take a look at average energy consumption of German households. More than 70% of energy is used for heating, 14% for electricity, and the rest is used for hot water generation.

In a word: You can save lots of energy particularly in heating and hot water generation. And the warmer months out of the year are an excellent time to begin preparing appropriate savings measures.

The following energy saving tips have proven especially effective:

Heating and ventilating

1. Keeping your radiators "fit"

In order for radiators to heat effectively, it is important for them to develop their full heating potential. That is why it is important to bleed the air out of all radiators at least once a year and – in cooperation with all other residents or homeowners – to subsequently check the heating water pressure. You can find instruction guides for this on the web, and naturally also on our website at <https://www.evi-hildesheim.de/energiespartipps>. It is also important for you to make sure that the warm air current is not blocked: Do not place any furniture in front of the radiator and do not cover it up with curtains. Also important: Clean your radiators regularly – accumulated dust acts as an insulation layer.

2. Take the smart approach to managing your room temperature

You can achieve the highest savings in heating by lowering the room temperature. Lowering the room temperature by 1°C reduces consumption by around 6%. To prevent rooms from being uncomfortably cold, however, it is important to take a smart approach to this savings potential.

- Adapt the temperature to the type of room: Living room 21°C, bedroom around 17 or 18°C. Control the temperature depending upon room use – higher when they are occupied, and lower when they are empty or during sleeping hours. In order for renters to manage temperature more effectively, it is advisable to find out whether intelligent individual valves or an intelligent overall controller can be retrofitted.
- If you would like to raise the temperature again (in the morning or after ventilation, for example), you should not turn up the control to level "5". If the heating is set to "5", even for a short time, this pumps an unnecessary amount of hot water from the system through the radiator – which in turn unnecessarily uses too much energy. Important to know: On standard controls, the valve setting of "2" corresponds roughly to a room temperature of 16°C, level "3" to roughly 20°C, and level "4" roughly 24°C.

3. Let in a targeted amount of fresh air

Regular air exchange creates a positive, healthy room climate – and also prevents the formation of mildew in living spaces. The best way to provide for well ventilated living spaces is shock ventilation.

- Ventilating the right way: Ventilation should definitely be done as so-called "shock ventilation" – by opening the window or balcony door all the way several times a day for several minutes, letting fresh air in, and closing afterwards. Lots of energy is lost unnecessarily due to windows tilted open.
- Reduce sources of draft air. When the weather turns cold outside, the problem of draft air can frequently occur. It occurs with old windows, for example, and over time it can lead to painful muscle tension and increased heating bills. Experts estimate that in German households, up to 20% of the heating energy expended is lost due to draft air on windows and doors. That is

why on cold days you should lower the roller shutters and draw the curtains. Also check the seals on windows and doors at intervals of several years and replace them in a timely manner where necessary (or ask your building administrator to do so). A large volume of precious warm air mostly escapes along the lower edges of doors, leading to the outside. Here a simply sealing brush, which you can install yourself, can provide a significantly noticeable remedy.

- Make sure that warm heating air is not immediately lost on the cold outer wall: Quite a lot of heat is lost due to non-insulated or poorly insulated outer walls behind the radiator. It doesn't have to be that way! Without making any structural changes, for a low cost (a few euros) at your nearest DIY store you can obtain special insulation material (flexible insulation mats for the radiator niche), which can be inserted between the radiator and the wall, reducing a vast majority of the losses.

Warm water usage

1. Check the basic temperature of the water you use

To the extent you can easily regulate your water temperature individually (e.g. for natural gas self-contained central heating, continuous-flow water heater, under-sink heaters), be sure to check whether you can reduce the basic temperature setting. In vast majority of cases, it is set too hot – and that consumes lots of energy unnecessarily. As an explanation: If you have to mix lots of cold water via the temperature knob under the shower, as otherwise the water would be too hot for showering, the basic temperature is definitely set too high. In case you live in a multi-unit building with central heating and central hot water generation: Suggest to the building owner and your fellow tenants to reduce the basic temperature of water for daily use – this will reduce costs for everyone and save energy. Make sure, however, that the temperature in the hot water tank does not drop below 60 degrees Celsius, as otherwise Legionella may develop.

2. Optimize the fixture lever settings

Most sinks these days have single-lever or thermostatic mixing faucets. However, most people leave it in the center lever position, so that warm water is immediately available – only: Is that always necessary? Cold water is often sufficient, or upon opening the faucet, it is even expressly regulated to "cold". This means that lots of warm water is used unnecessarily, as it initially flows down the drain unused. That is why it is best to move the lever back to "cold" after every use.

3. Use water-saver shower heads

Yes, you can save quite a lot of water and energy this way. Important to know: Experts estimate that normal shower heads have a flow rate of some 15 liters – and a shower session of 8 minutes at roughly 38° C warm water uses over 3 kilowatt hours of energy. Water-saver shower heads reduce this flow volume without sacrificing any convenience and can thus significantly lower consumption.

4. Showering instead of bathing

Taking a bath may be very relaxing – the fact is, however, that showering uses far less water and thus also consumes less energy: On average, 120 liters of water are required for a full bathtub, and a little more than half that amount is used for a shower (without a water-saver shower head).

5. Only leave the warm water "running" if it is really needed

It doesn't sound like much – but the conscious use of warm water offers huge potential savings. If you shut off the water when shampooing during a shower, you can noticeably save on warm water consumption. Another question to consider: "Soaking" dirty dishes for several minutes under running hot water.

Reducing electricity consumption – some general tips

1. Closely monitoring electricity consumption – and comparing

Many people don't know whether their electricity consumption is high or low compared to others – which is why they also do not know their individual savings potential. Those who know this potential, however, can more easily identify their individual "power hogs" – and immediately get rid of the outdated and totally inefficient deep freezer. An initial insight into your individual consumption situation – as compared to others – is possible by taking a look at your most recent electricity bill. There you can see whether you use more or less than other comparable consumers. Those who may want to precisely hunt down power hogs can measure their consumption with a power measuring device and then compare.

2. Avoid standby mode

Many power-operated devices (TV, PC, gaming consoles) in the household can be used extremely quickly because in so-called standby mode they are ready to be "powered up" quickly. It is precisely the sum of all these devices operated in standby that uses lots of electricity. According to estimates, in a three-person household, this accounts for up to 8% of overall electricity consumption.

3. Use timing switches and/or switched plug connectors

With timing switches and/or plug connectors switch by and, many devices using power can be intelligently switched on and off. This means that power is only used if actually needed – standby devices are reliably disconnected from the main and truly switched off, and lights controlled in this way will only switch on when it is necessary.

A word about "energy efficiency"

1. Pay attention to the so-called energy efficiency class when making new appliance purchases

Whether it be a refrigerator or a television set – the energy efficiency of appliances can vary dramatically. For the same or similar function, some appliances use significantly more and others is significantly less than average. The so-called EU energy label provides some orientation. Today's energy efficiency classes range from "A" (lowest consumption) to "G" (highest consumption). Via smart phone, using the QR code integrated in the label (generally placed as a sticker on the device or on the packaging) allows you to access detailed information in the linked European database EPREL on the consumption of the individual appliance.

2. But don't be too quick to replace old appliances for new ones

Those seeking to lower their energy consumption by replacing appliances ought to remember: The environment is also polluted by the production of new devices – not only when operating old appliances. So it is worthwhile to carefully consider when an old appliance should be replaced by a new one. Even for energy hogs like refrigerators, the Federal Ministry for the Environment only recommends a replacement if "you purchased your refrigerator prior to the year 2005 or if it has a low energy efficiency class and you are replacing it with a new refrigerator in the highest energy efficiency class."

Saving electricity in the kitchen

1. Cooling foods the energy-efficient way

Refrigerators and stand-up or deep freezers are among the largest consumers of electricity in the household. That is why it is important to pay especially close attention to the energy efficiency class when buying them new or replacing them. The following tips also ought to be observed in daily use:

- Do not choose an unnecessarily cold temperature. Deep freezers are usually optimal at -18 ° C. And 7° C is usually sufficient in the upper refrigerator compartment. You should only set your refrigerator to a cooler temperature if you frequently store foods that spoil extremely easily. Important to know: 1° C lower temperature in the refrigerator increases electricity consumption by roughly 6 %.
- Making optimal use of invaluable cooling power: Defrost your appliances in a timely and regular manner - too much ice reduces the cooling power. Allow foods to cool down completely before putting them in the refrigerator, and close the door again quickly when opening, to prevent too much cold from escaping. Another aspect always to keep in mind: Does everything in the refrigerator or freezer really need to be there? Can the number of refrigerators or freezers also be reduced in the household? Also important: Do not place refrigerators or freezers in the immediate vicinity of heat sources (radiators or windows with lots of direct sunlight) and pay attention to the ambient temperature.

2. Saving energy when cooking, baking and dishwashing

- Frying, steaming and cooking efficiently: This works with pots that fit exactly only to the cooking surface, tight-fitting lids and water boiled (not in a pot but) in a separate water kettle! Important to remember: Only fill the water kettle with exactly the amount of water needed, and don't cover food (such as vegetables or potatoes) completely with water, as this preserves nutrients in the foods and saves energy.
- Baking the clever way: Always use fan forced setting (if your oven has this feature) – as you can save some 15 % energy compared to traditional upper / lower heat. In addition, in most all baked foods, you can do without pre-heating the oven often recommended in recipes – and near the end of the baking time, completely shut off the heat. The residual heat in the oven completes the baking time for you!
- Rinsing dishes the right way: This works best if you make optimal use of your dishwasher (which by the way consumes electricity and water much more efficiently than you can when washing by hand). So load it full (do not overfill it) – and then ideally select an eco program or set the temperature at 45 to 55° C. Try to avoid: Short cycles. They are indeed quicker, but they wash the dishes at significantly higher (more energy-intensive) temperatures!

Saving electricity when doing laundry

1. Doing your laundry the energy-saving way: The key is to load the washing machine as much as possible and select a relatively lower temperature. For everyday normally soiled laundry, 30 – 45° C is almost always sufficient! (And even laundry washed in so-called "hot water" can generally be washed at 60° C. Also very strongly recommended: Eco cycles.
2. Drying your laundry the intelligent way: First of all, there is the question as to whether it is actually necessary to use an electric dryer? If laundry can dry in fresh air and in sunlight, it is good for the laundry – and it also saves electricity. In case a dryer is used after all, the laundry ought to be freed from as much water as possible in the washing machine at the highest spin cycle. This dramatically reduces the drying time (and thus also the electricity consumption).

Saving electricity on lighting

1. Most important tip: Switch over to LED lamps! Preferably in the entire household! Replace all incandescent and halogen lamps with LEDs, and you can save up to roughly 90 % energy!
2. The smart(er) way of switching lamps on and off: It's a fact that lamps are frequently left on unintentionally, although they are no longer needed. For example in hallways or in outside areas. Switching these lamps on only when you really need them can help to save electricity. And here's another tip: Many standing and table lamps are supplied with power via an interconnected transformer. It can consume electricity even though the lamp switch is set to "off"!

Saving electricity on PCs, TVs and entertainment electronics

1. Important to know – the screen size influences electricity consumption decisively: and this goes not only for TVs but also for PC monitors. Even highly efficient monitors use an increasing amount of power as they increase in size. Tip: Carefully weigh what size of screen is actually needed where!
2. Laptops beat PCs in terms of energy efficiency: Laptops use less power than stationary computers. Be sure the use the "power-saving mode" as well as the "sleep" option. After no later than 15 minutes of inactivity, the computer should switch to either of the two saving modes to prevent unnecessary electricity consumption.
3. Keep an eye on background activities: In many electronic devices, background activities run unnoticed that have no direct benefit. Examine this – and switch them off selectively (if not needed).

You can find many additional tips at: www.evi-hildesheim.de/energiespartipps