

Take home tasks: lighting and appliances

These days it's easy to forget quite how much we rely on electricity around the home. Try out these simple exercises to learn more about the way your home uses electricity, and to discover some simple techniques that can help shave pounds off your fuel bills.

LIGHTING AUDIT

Go round your home and count the number of lights. The average home has around 34 bulbs – and that number is increasing by around one bulb a year.

- How many of your lights already have low-energy lightbulbs?
- Which lights do you use the most? These are the ones to switch first to low-energy bulbs.

STANDBY AUDIT

Count the number of appliances in your home that still have lights on, or displays and clocks operating even when you've turned them off. These are all drawing power, even when you aren't using them.

If you include all the appliances with built in transformers in the appliance itself or its plug or lead, these may account for up to 10% of your home's total electricity consumption. This is called the 'vampire load'. Don't let the vampires be a drain on your electricity use – get in the habit of turning appliances off at the wall.

MEASURING YOUR HOME ENERGY USE

Measuring your home energy use is the first step to really getting to grips with your home energy consumption – and taking control. Here are a number of suggestions you might like to try.

Get to know your electricity bill

Your quarterly electricity bill will give you information about the number of units of electricity, measured in Kilowatt Hours (kWh), your home has used over the last quarter and during the past 12 months.

Unless you have recently submitted a meter reading, or had someone come and read your meter regularly, the bill will be based on an estimate of your energy use.

Getting to understand your home's pattern of electricity use:

The amount of electricity we use varies from week to week and season to season. Studies suggest that simply measuring your electricity use on a regular basis can result in your reducing the amount you use. There are a number of ways to measure your electricity usage:

Real time energy monitors

Energy monitors are small devices that help you discover how much energy you're using in your home. They give you 'real time' information about how much electricity you are using and what it costs both in CO₂ and money terms.

You can either buy an energy monitor or you may be able to borrow one. It's also worth checking to see if your energy company has an offer for free or subsidised energy monitors.

Vampire hunting with an energy monitor

Vampires are gadgets that consume power while you aren't looking, sucking the energy lifeblood from your home. You can read more about them in Chapter 22 of the book *Sustainable Energy – Without the Hot Air* by David MacKay. This is available free online at: <http://www.withouthotair.com/>

MacKay suggests the following exercise:

First, set up your energy monitor.

Then go round your home, turning off any lights and making sure no appliances are running. The reading on your energy monitor is an indication of the 'resting' energy consumption of your home – the 24 hour background energy use.

Next go round and turn off everything that's on standby – what does your energy reading drop by?

Now, try to unplug anything else that it's safe to do so – the fridge-freezer, fish tanks, etc – and switching off every appliance at the wall (make sure you switch them back on afterwards!)

It's very hard to get the reading down to zero as there will be items such as burglar alarms that will be constantly drawing small amounts of power.

What's the lowest reading you manage to achieve?

Take regular electricity meter readings

Your home may have electricity and gas meters, which will be keeping a record of all the gas and electricity used in the home, in terms of the unit of fuel used. By taking regular meter readings you build up a picture of your energy use over a period of time.

You can either keep your own records or use a website like *imeasure*, a low cost online service originally developed by the University of Oxford (<http://www.piliogroup.com/home-monitoring/>) or the carbon account (www.thecarbonaccount.com) to record your energy use and track it over time.

If you have pre-paid meters, these do the same thing, but tend to measure consumption in terms of credit spent. You can also track your energy use by keeping a record of credit spent. If you know the amount each unit of energy costs when you top up your key, you can convert this back into energy used.

FURTHER INFORMATION

The Open University's course *Energy measurements at home* (T152), is the OU's course for energy savers and is available for all to view online. Section 2.2 gives step-by-step guidelines on reading your meter.

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