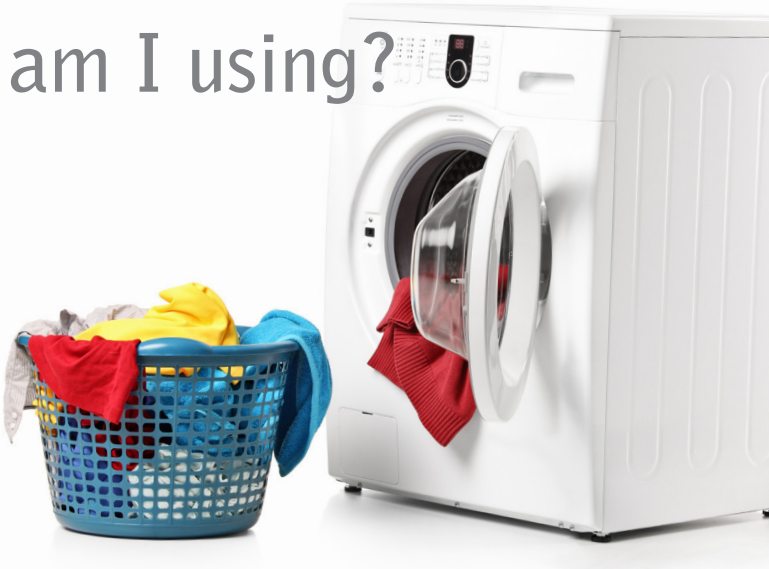
See all our energy advice leaflets at www.cse.org.uk/advice-leaflets

centre for sustainable energy

What uses watt?

How much electricity am I using?

Millions of UK households are facing an energy crisis. The steep increases in the cost of electricity mean that it's more important than ever to find savings.



The largest proportion of most household's electricity bill comes from running appliances like washing machines, dishwashers and electric showers.

Some electrical appliances use a lot of electricity. Others don't. As a rule, those with moving parts or which produce heat use much more than those that produce light or sound. So if you want to save electricity, there's no point worrying about a digital clock or an electric razor since these use so little power you would hardly notice the difference. The big savings lie elsewhere.

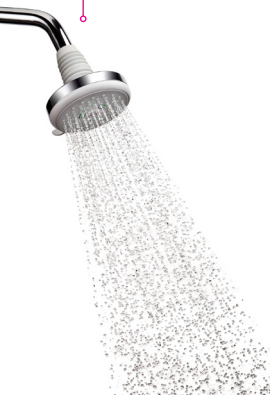
Every appliance has a power rating, usually given in watts (W) or kilowatts (kW) (1000W = 1kW). This is the amount of electricity it needs in order to work. Of course, the amount of electricity it uses depends on how long it's on for. An item like a fridge has a low wattage, but because it's on all the time it'll use a lot of electricity. And although an iron is only used now and again, it uses a lot of electricty so the quicker you do your ironing the better.

Electricity is sold by the kilowatt-hour (kWh) – usually referred to as 'units' on your electricity bill. You can work out how much an appliance costs to run by multiplying its wattage by the amount of time it's on and then by the cost of electricity. So let's say you have a 500W (0.5 kW) dehumidifier and you run it for a whole day (24 hours). It will use 12kWh of electricity (e.g. half a kilowatt every hour). Electricity now costs 34p per unit, so multiply 12kWh by 34p and you get a grand total of 408p, or £4.08. This is what it costs to run the dehumidifier all day.

The table on the following page shows what it costs to use a range of common appliances. **These are based on a unit price for electricity of 34p per kWh (the price cap after 1 October 2022).**

Bear in mind that sometimes a higher-wattage appliance will actually use less power overall than a lower-wattage one because it is well designed and does its job quicker. An energy efficient dish washer, for example, may have a power rating of 2kW – the same (or higher) as a non-energy efficient one. But it completes its cycle quicker, so while it may use the same (or more) electricity per hour, it's working for less time so uses less energy overall. In other words, don't judge the energy efficiency of a device only

Electric shower
£3.06/hour



Tumble drier
From 85p/hour

Hair drier
11p for ten minutes

Oil-fired radiator
From 68p/hour

Electric mower
From 34p/hour

Vacuum cleaner
From 31p/hour

Phone charger
Almost nothing at all!

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Costs of running a range of common appliances

Based on a unit price for electricity of **34p per kWh** (the price cap after 1 October 2022)

Appliance (with typical power rating*)	Cost per hour**	Cost per 10 mins
Electric shower (9000 W)	£3.06	51p
Immersion heater (3000 W)	£1.02	-
Kettle (3000 W)	-	17p
Tumble Dryer (2500 W)	85p	14p
Electric heaters (2500 W)	85p	14p
Oven (2100 W)***	71p	-
Washing machine (2100 W)	71p	
Oil-filled radiator (2000 W)	68p	11p
Hairdryer (2000 W)	-	11p
Hob (2000 W)	61p	11p
Grill (1500 W)	51p	9p
Iron (1500 W)	51p	9p
Toaster (1000 W)	-	6p
Microwave (1000 W)	34p	6p
Electric mower (1000 W)	34p	6p
Vacuum cleaner (900 W)	31p	5p
Dehumidifier (500 W)	17p	-
Towel rail (450 W)	15p	-
Plasma TV (350 W)	12p	2p
Fridge-freezer (300 W)***	10p	-

Appliance (with typical power rating*)	Cost per hour**	Cost per 10 mins
Freezer (150 W)***	5p	-
Fridge (150 W)***	5p	-
Heating blanket (150 W)	5p	1p
Desktop computer (140 W)	5p	1p
Games console (120 W)	4p	1p
LCD TV (120 W)	4p	1p
Laptop (50 W)	2p	-
TV box (40 W)	1p	-
DVD player (40 W)	1p	-
Extractor fan (20 W)	1p	-
Broadband router (10 W)	1p	-

* We've taken an *average* power rating for each appliance; the *actual* power rating will depend on the size and specifications of the appliance. So the cost of running, say, your microwave, could be less than the figure given, or more.

** For some appliances we've only listed the cost for either an hour (column 2) or 10 minutes (column 3).

*** Appliances like ovens, fridges and freezers turn themselves off when they reach the required temperature, so for some of the time that they're in use they won't be using much or any electricity. So the daily cost of running a fridge or freezer is not 24 x the hourly cost.

by its given power rating, particularly if it is controlled with thermostat or operates on a timed cycle.

Instead, if you're buying a new fridge or TV or other appliance, the best way to judge its energy efficiency is the label. Those rated A or above are the most efficient for their size. To compare between differently sized appliances, energy labels also now print suggested kWh usage per annum for each appliance.

Energy monitors

These are are wireless devices that can tell you useful things like how much electricity is being used at that moment, as well as how much was used last week or last month. Your energy supplier will give you an energy monitor (also called in-home display) if you have a smart meter.

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Charity: 298740
Founded: 1979

We're a charity supporting people and organisations across the UK to tackle the climate emergency and end the suffering caused by cold homes.

Our Home Energy Team offers free advice on domestic energy use to people in Bristol, Somerset, Wiltshire, South Gloucestershire and Dorset.

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