

Lighting

The low-energy bulb revolution

Energy-saving light bulbs use up to 90% less electricity than the old bulbs but produce the same amount of light. And they last over 10 times longer.

Since 2011, all light bulbs sold in the UK have had to meet new energy efficiency standards. Because of this, a typical UK home now uses nearly a third less electricity to light their home than it did twenty years ago.

And from this year (2016), only light bulbs with an energy rating of B or better will be available. A typical old-style (incandescent) bulb would have had an energy rating of E.

Like the old-style bulbs, energy saving ones come in a range of shapes, sizes and brightness. You can buy them for bayonet or screw fittings. Even dimmable low-energy bulbs have been developed. What's more, the most recent models have a warmer light that's very similar to old-style bulbs. Look out for the Energy Saving Trust Recommended label for the best performing bulbs.



There are now three main types of low-energy light bulb: compact fluorescent light (CFLs), halogen, and light emitting diodes (LEDs). All of these bulbs are more efficient and last longer than their old-fashioned equivalents. They produce more light for each unit of electricity and they need to be replaced less often.



Photos: bulbs, Energy Saving Trust, light fixture, Paul Groom

CFLs

Compact fluorescent light bulbs or CFLs are the most common type of light bulb sold in the UK. They use the same technology as fluorescent tube lamps found in offices and commercial buildings. They often look like tubes shaped into a helix or a series of loops, though it is now possible to get CFLs in a range of traditional bulb shapes. There are also bulbs available which mimic the light quality of incandescents. CFLs are often criticised for taking a long time to reach full brightness, but most now reach 70% of full brightness within a minute of being turned on.

Halogen bulbs

These work in a similar way to old-style incandescent bulbs. They have a similar light quality, work well with dimmer switches and reach full brightness almost instantly. Although they are relatively efficient, they still use more energy than other types of low-energy bulb and so don't meet the B-rating standard for energy efficiency and will be phased out as a consequence. Halogen lights will still work as you can replace your halogen bulbs with similar sized LEDs.



How do they compare?			
	Halogen	CFL	LED
Cost per bulb (approx)	£2	£4	£10
Typical energy saved*	25%	75%	80%
Average lifetime (hours)	2,000	10,000	25,000+
Time to reach full brightness	Instant	30-120 seconds	Instant
Typical running cost per year	£12.32	£4.11	£3.29

* compared to equivalent incandescent bulb

LEDs

Light emitting diodes, usually referred to as LEDs, are the most efficient bulbs available. They've been around for years on christmas trees lights and bicycle lights and are now becoming very common in room lighting and even traffic lights. They achieve full brightness instantly, can be dimmed and come in a wide range of colour quality, including some that resemble natural daylight or the warmth of traditional incandescent bulbs.



LEDs are more expensive but their extremely low energy consumption means that this cost is more than repaid over their very long lifetime. They use a tenth of the electricity of the equivalent halogen bulbs. LEDs are a low energy option for modern fittings like G4 and MR16 as well as being available for more traditional fittings like bayonet, screw and strip lights.

Watts and lumens

Light bulbs have traditionally been rated in watts. The wattage tells you how much electricity a light bulb will use and enables you to work out how much it will cost to run. Watts are not an accurate measurement of the amount of light given off – this is actually measured in lumens. These

days, when you buy a light bulb you will see a figure for lumens as well as the wattage rating on the packaging. The table shows the wattage you'd need to produce the same brightness with different types of bulbs. You can use it as a guide to converting your old bulbs to more energy efficient equivalents.

Lumens v Watts				
Lumens	Old-style bulb	Halogen bulb	CFL	LED
1300	100W	75W	25W	20W
700	60W	45W	15W	12W
400	40W	30W	10W	8W
200	25W	19W	6W	5W

Light bulb packaging now clearly states the bulb's strength in lumens as well as watts



Turn them off!



Finally, if you're worried about your electricity bill, one of the best things you can do is keep an eye on your household's use of lighting. Are lights switched

off when they're not needed or are they being left on in unoccupied rooms? What about passageways and landings? Do you really need those

lights on all the time? It is particularly important to use low-energy bulbs in places where you really do need to have the light on for long periods of time.

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