Freebridge COMMUNITY HOUSING

# 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 in the EU have been required to meet new energy efficiency standards. Because of the phasing out of inefficient old-style bulbs and replacing them with energy efficient alternatives, a typical UK home now uses nearly a third less electricity to light their home than it did in the late 1990s.

After 2016, only light bulbs with an energy rating of B or better will be available to purchase. A typical old-style (incandescent) bulb would have 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.

If a bulb carries the blue 'Recommended' logo it will produce light of a similar warmth to an old-style bulb, get bright quickly and last for at least 6,000 hours.

| How do they compare? | Halogens | CFLs | LEDs |
|---|---|---|---|
| Rough cost per bulb | £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

There are now three main types of low-energy light bulb: halogen bulbs, compact fluorescent light bulbs (CFLs) 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 far less frequently.

### Halogen bulbs

These bulbs work in a similar way to old-style incandescent bulbs, have a similar light quality, but use up to 40% less electricity. They work well with dimmer switches and reach full brightness almost instantly. However, rooms lit by halogens usually have lots of fittings which increases the overall cost of lighting. Unfortunately, halogens still use considerably more energy than LEDs or CFLs and do not meet the B rating standard for energy efficiency, so the EU has set a target date of 2016 for phasing them out. You can replace your halogen bulbs with LEDs.

### 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.

## LEDs

Light emitting diodes, usually referred to as LEDs, are the most efficient bulbs available. They've been around for years as little lights on TVs and as bicycle lights. They achieve full brightness instantly, can be dimmed and come in a wide range of colours, including hues close to traditional incandescent bulbs.

LEDs are more expensive to buy, but their extremely low energy consumption means that this cost is more than repaid over their very long lifetime. It will be LEDs that replace halogen bulbs after 2016 – they use a tenth of the electricity. LED replacements are already available for halogen fittings.

## 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 |

## 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.


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

Centre for Sustainable Energy

This leaflet was originally produced by the Centre for Sustainable Energy, a national charity (no. 298740) that helps people change the way they think and act on energy | www.cse.org.uk

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