

# Your complete guide to energy efficient lighting



ESBS EINS 0032

# Why switch to energy efficient lighting?

We have produced this guide to help you choose the best possible energy efficient lighting for your home. Lighting technology is constantly being improved and we are committed to keeping you informed as new energy efficient products become available.

## Why choose energy efficient lighting?

- Saves the environment and saves you money – ordinary (incandescent) bulbs are incredibly wasteful as 90% of the electricity they use produces heat rather than light.
- The EU will start the phase out of ordinary incandescent bulbs from September 1<sup>st</sup>, 2009 and will encourage everyone to buy energy efficient alternatives.

Given this new EU regulation it is a good idea to start changing your bulbs **now** as the savings will more than pay for the replacement costs.

## More about the EU regulation

The EU will be banning the production and importation of the following bulbs from September 1<sup>st</sup>, 2009:

- All frosted bulbs (except CFLs).
- All bulbs in energy classes F & G.
- All clear glass bulbs 100 watts or over (except for those with a energy rating of 'C' or better).

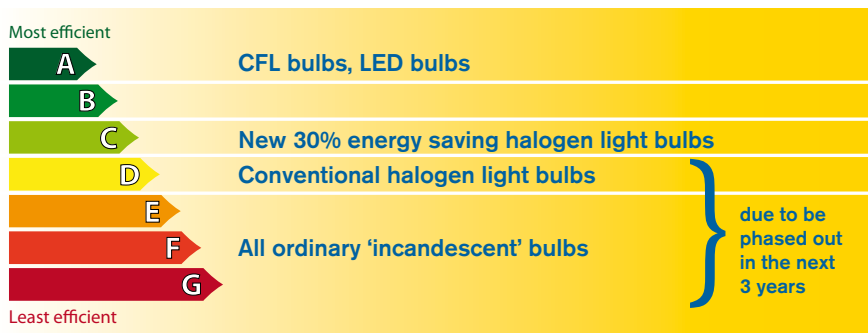
All remaining lower wattage clear glass bulbs will be banned progressively between September 1<sup>st</sup>, 2009 and September 1<sup>st</sup>, 2012. Reflector bulbs and spotlights are excluded from this EU regulation. The EU regulation will also set minimum standards for bulb performance and improve product information displayed on the packaging.

## Technical terms explained

There are three important things to be aware of when shopping for energy efficient bulbs:

1. **Energy rating:** All ordinary bulbs (excluding spotlights and reflector bulbs) are given a rating to indicate their efficiency. This rating is found on the packaging for each bulb. The chart on the following page explains the ratings of both ordinary and energy efficient bulbs.

# Why switch to energy efficient lighting?



2. **Cap:** this connects the bulb to the light fitting unit. The main types available in Ireland are shown below.



**Bayonet Cap** (also known as BC or B22d):  
This is the most common bulb cap used in Ireland.



**Small Bayonet Cap** (also known as SBC or B15d):  
This bulb cap is not very common. It is mainly used on low wattage candle bulbs and 'golf ball' bulbs.



**Edison Screw Cap** (also known as ES or E27):  
This bulb cap is widely used throughout Europe and is sometimes referred to as 'screw-in'.



**Small Edison Screw Cap** (also known as SES or E14):  
This bulb cap is widely used in low wattage bulbs e.g. candle lamps, R50 reflectors.

3. **Light 'colour':** The colour of ordinary bulbs is generally referred to as 'warm white'. However, CFLs are available in both warm white and cool white and these colour differences can change the general ambience of a room. Light colour is measured in degrees Kelvin. A bulb marked '827' (2700 degrees Kelvin) will give a warm white equivalent to that of an ordinary bulb while one marked 834 (3400 degrees Kelvin) will produce a cool white closer to daylight. You will find these numbers or codes printed on the CFL bulb box or the CFL itself.

# Choosing energy efficient bulbs

When you want to replace your ordinary bulbs, use the following information to decide which energy efficiency alternative is right for you.

## Replacing an ordinary bulb



### Most energy efficient alternative: CFL (A-rated)

#### BENEFITS

- Uses 80% less electricity.
- Lasts up to 15 times as long as an ordinary bulb.

#### CONSIDERATIONS

- Dimmable version not readily available.



### Second most energy efficient alternative: Halogen (C-rated)

#### BENEFITS

- Uses 30% less electricity.
- Dimmable.
- Clear glass.
- Lasts twice as long as an ordinary bulb.

#### CONSIDERATIONS

- Lower electricity savings than a CFL.
- Not available in frosted glass.



### How much you will save with CFLs or Halogen bulbs

Wattage of your current ordinary bulb	Nearest equivalent CFL wattage	Annual saving per CFL bulb*	Equivalent Halogen wattage	Annual saving per Halogen bulb*
150 watt	23 watt	€25.88	105 watt	€9.17
100 watt	20 watt	€16.30	70 watt	€6.11
75 watt	15 watt	€12.22	53 watt	€4.48
60 watt	11 watt	€9.98	42 watt	€3.66
40 watt	9 watt	€6.31	28 watt	€2.44

\*Please note that savings indicated relate to electricity costs as of April 1st, 2009 and light bulbs switched on for 3 hours daily.

# Choosing energy efficient bulbs

## Replacing an ordinary candle bulb



### Most energy efficient alternative: CFL (A-rated)

#### BENEFITS

- Uses 80% less electricity.
- Can last up to 10 times as long as an ordinary candle bulb.

#### CONSIDERATIONS

- Dimmable version not readily available.



### Second most energy efficient alternative: Halogen (C-rated)

#### BENEFITS

- Uses 30% less electricity.
- Dimmable.
- Available in clear glass.
- Lasts twice as long as ordinary candle bulbs.
- Excellent light quality that helps glass sparkle.

#### CONSIDERATIONS

- Lower electricity savings than a CFL.
- Not available in frosted glass.



### How much you will save with CFL or Halogen candle bulbs

Wattage of your current candle bulb	Nearest equivalent CFL wattage	Annual saving per CFL bulb*	Equivalent Halogen wattage	Annual saving per Halogen bulb*
60 watt	11 watt	€9.98	42 watt	€3.66
40 watt	9 watt	€6.31	28 watt	€2.44

\*Please note that savings indicated relate to electricity costs as of April 1st, 2009 and light bulbs switched on for 3 hours daily.

# Choosing energy efficient bulbs

## Replacing ordinary reflector bulbs



Ordinary reflector spotlights are very inefficient, have a short life and can be difficult to remove from the light fitting. They come in various sizes: R50, R63 and R80 as shown on the packaging.

### Most energy efficient alternative: CFL

#### BENEFITS

- Uses 80% less electricity.
- Lasts up to 15 times as long as ordinary reflector bulbs.

#### CONSIDERATIONS

- Dimmable version not available yet.



### Second most energy efficient alternative: 30% Energy Saving Halogen

#### BENEFITS

- Uses 30% less electricity.
- Dimmable.
- Lasts twice as long as ordinary reflector bulbs.
- Excellent light quality that helps glass sparkle.

#### CONSIDERATIONS

- Lower electricity savings than a CFL.



### How much you will save with CFL or 30% Energy Saving Halogen

Wattage of your current reflector bulb	Nearest equivalent CFL wattage	Annual saving per CFL bulb*	Equivalent Halogen wattage	Annual saving per Halogen bulb*
60 watt	11 watt	€9.98	42 watt	€3.66
40 watt	7 watt	€6.72	28 watt	€2.44

\*Please note light bulbs using very efficient Light Emitting Diodes (LED) technology are becoming increasingly available. For now, however the light output is considered too low for general domestic lighting.

# Choosing energy efficient bulbs

## Replacing halogen spotlights



These come in two main types – one with a ceiling transformer and one without. Those which have a transformer are much more energy efficient than those without.

### TYPE A: 12 volt, Halogen spotlights connected through a transformer with a GU5.3 cap

- BENEFITS**
- Uses 30% less electricity.
  - Gives better light output.
  - Lasts 2.5 times as long as standard spotlights.



### How much you will save with 12 volt, 35 watt Energy Saver Halogen spotlights (GU5.3)

Wattage of your current 12 volt Halogen bulb	Wattage of 12 volt Energy Saver Halogen bulb	Annual saving per spotlight
50 watt	35 watt	€3.04

### TYPE B: 230 volt, Energy Saver Halogen spotlights connected directly to the mains with GU10 cap

- BENEFITS**
- Uses 20% less electricity.
  - Better light quality.
  - Same bulb life.



### How much you will save with 40 watt Energy Saver Halogen spotlights (GU10)

Wattage of your current GU10 Halogen bulb	Wattage of Energy Saver GU10 Halogen bulb	Annual saving per spotlight
50 watt	40 watt	€2.03

# Choosing energy efficient bulbs

## Replacing 230 volt, Halogen, G9, capsules



### Energy efficient alternative: 30% Halogen Energy Saver Capsule

- |                |                                  |
|----------------|----------------------------------|
| BENEFITS       | - Uses 30% less electricity.     |
| CONSIDERATIONS | - Available in clear glass only. |



### How much you will save with 30% Energy Saver Halogen, G9, capsules

Wattage of your current 230 volt Halogen capsule	Wattage of 30% Energy Saver Halogen capsule	Annual saving per capsule
60 watt	42 watt	€3.66
40 watt	28 watt	€2.44

## Changing a light bulb safely

- Switch off the electricity at the light switch and make sure your hands are dry.
- Use a secure ladder. Get assistance if you feel you cannot complete the task.
- Wait until the old light bulb cools down. Handle CFLs by the plastic base.
- Make sure the watts of the replacement bulb does not exceed the rated watts of the lamp holder or shade.

## When disposing of light bulbs

- CFLs are covered by the WEEE (Waste Electrical and Electronic Equipment) Directive and therefore should never be placed in your waste disposal or recycling bins.
- Retailers will take back your old CFLs, free of charge, when you purchase new ones on a one for one basis.
- Your Local Authority will also take them, free of charge, at their local re-cycling centres.
- Although ordinary bulbs and halogen bulbs are not covered by the WEEE Directive they should be disposed of responsibly by bringing them to your local re-cycling centre.

For further information about the disposal of light bulbs see [www.environ.ie](http://www.environ.ie)