

# Lighting the future

Your guide to changing to energy efficient lamps



GE imagination at work

# Out with ordinary light bulbs In with energy efficient lamps

Classic incandescent light bulbs have been gradually phased out since September 2009 under EU regulations. Those with wattages higher than 60W are no longer available, with 60W bulbs disappearing as of September 2011. By simply switching to eco-friendly bulbs in the home and workplace, people everywhere can lower carbon emissions and energy consumption. GE offers a wide range of alternatives to help you light up a greener world with halogen, compact fluorescent and rapidly evolving LED lamps – all of which fit into ordinary existing sockets.

This guide will help you decide on the clear or non-clear bulb you need with the features and benefits you'd like. Instead of being measured in watts, all energy efficient lamps are measured in lumens: a clear explanation is included on page 7.

Directional lamps (spot) and specialty types are not included in the phase out.

## Phase out lamps



Incandescent  
GLS Frosted  
> 15W

Incandescent  
GLS Clear  
> / = 60W

## Replacement lamps

LED REPLACEMENT	LED Energy Smart™			<b>Finish:</b> Frosted <b>Wattages:</b> 9, 13W* <b>Cap:</b> E27, B22 <b>Life:</b> 25,000 hours <b>Energy Efficiency Class:</b> A <small>* Available from Spring 2012</small>
LED REPLACEMENT	LED GLS			<b>Finish:</b> Frosted <b>Wattages:</b> 5, 8.8W <b>Cap:</b> E27, B22 <b>Life:</b> 25,000 hours <b>Energy Efficiency Class:</b> A
COMPACT FLUORESCENT STICK REPLACEMENT	Energy Smart™ T2, GLS T2			<b>Finish:</b> Frosted <b>Wattages:</b> 8, 9, 11, 12, 15, 20W <b>Cap:</b> E27, B22, E14 <b>Life:</b> 10,000 and 6,000 hours <b>Energy Efficiency Class:</b> A
COMPACT FLUORESCENT STICK REPLACEMENT	Spiral T2, Spiral T3			<b>Finish:</b> Frosted <b>Wattages:</b> 8, 12, 15, 20, 23, 32W <b>Cap:</b> E27, B22, E14 <b>Life:</b> 15,000, 8,000 and 6,000 hours <b>Energy Efficiency Class:</b> A
COMPACT FLUORESCENT STICK REPLACEMENT	Stick T3 Mini Eco			<b>Finish:</b> Frosted <b>Wattages:</b> 9, 11, 15, 20, 23W <b>Cap:</b> E14, E27, B22 <b>Life:</b> 10,000 and 6,000 hours <b>Energy Efficiency Class:</b> A
HALOGEN REPLACEMENT	HaloGLS			<b>Finish:</b> Clear <b>Range of Wattages:</b> 28 – 100W <b>Cap:</b> E27, B22 <b>Life:</b> 2,000 hours <b>Energy Efficiency Class:</b> C, D

## Phase out lamps



Incandescent  
Candle Frosted  
> 15W

Incandescent  
Candle Clear  
> / = 60W



Incandescent  
Spherical  
Frosted  
> 15W

Incandescent  
Spherical Clear  
> / = 60W



Incandescent  
Globe  
> 40W

## Replacement lamps

LED REPLACEMENT

LED Décor  
Candle



**Finish:** Clear, Frosted  
**Wattages:** 2, 4.5W\*  
**Cap:** E14, E27, B22  
**Life:** 17,000 hours  
**Energy Efficiency Class:** A  
\* Available from Winter 2011

COMPACT  
FLUORESCENT  
STICK REPLACEMENT

Candle T2



**Finish:** Frosted  
**Wattages:** 7, 9, 11W  
**Cap:** E27, B22, E14  
**Life:** 10,000 and 6,000 hours  
**Energy Efficiency Class:** A

HALOGEN  
REPLACEMENT

Halo  
Candle



**Finish:** Clear  
**Range of Wattages:**  
18 – 42W  
**Cap:** E14, E27, B15, B22  
**Life:** 2,000 hours  
**Energy Efficiency Class:** C, D

LED REPLACEMENT

LED Décor  
Spherical



**Finish:** Clear, Frosted  
**Wattages:** 2, 4.5W\*  
**Cap:** E14, E27, B22  
**Life:** 17,000 hours  
**Energy Efficiency Class:** A  
\* Available from Winter 2011

COMPACT  
FLUORESCENT  
STICK REPLACEMENT

Spherical T2,  
GLS T2



**Finish:** Frosted  
**Wattages:** 5, 7, 8, 12W  
**Cap:** E27, B22, E14  
**Life:** 10,000 and 6,000 hours  
**Energy Efficiency Class:** A

HALOGEN  
REPLACEMENT

Halo  
Spherical



**Finish:** Clear  
**Range of Wattages:**  
18 – 42W  
**Cap:** E14, E27, B15, B22  
**Life:** 2,000 hours  
**Energy Efficiency Class:** C, D

LED REPLACEMENT

LED Décor  
Globe



**Finish:** Frosted  
**Wattages:** 2, 4.5W\*  
**Cap:** E27, B22  
**Life:** 17,000 hours  
**Energy Efficiency Class:** A  
\* Available from Winter 2011

COMPACT  
FLUORESCENT  
STICK REPLACEMENT

Globe T3



**Finish:** Frosted  
**Wattages:** 15, 20, 23W  
**Cap:** E27, B22  
**Life:** 6,000 hours  
**Energy Efficiency Class:** A

All product information, marketing literature can be downloaded from the GE Lighting website at [www.gelighting.com/eu](http://www.gelighting.com/eu)

GE illuminating ideas  Find us on Facebook <http://www.facebook.com/GE.illuminatingideas>

# Retrofit lamps

No need to change light fittings - just the bulbs

GE has a wide range of alternatives to traditional, inefficient incandescent light bulbs, of which LED technology is the most forward thinking. Many companies make claims about LED performance but all GE claims are supported by stringent, comprehensive testing and backed by over 100 years of expertise in the lighting business.



LED Energy Smart™

## LED lamps

### Innovative technology

GE LEDs are very economical and environmentally friendly: they are mercury free, use far less energy than halogen or incandescent lights, and last longer. They fit into everyday light fittings and the light comes on the instant you click the switch.

Our LEDs can be used everywhere, from general to mood lighting and spotlighting. Although LEDs are directional light sources, our LED Energy Smart™ lamp provides a multi-directional light output, just like a traditional light bulb, with an 80% energy saving.



LED GLS

#### Features

- Consumes just 9W (470 lumens) compared to an equivalent traditional 40W bulb
- Multi-directional light output
- Cool to touch
- Robust – no fragile filament

#### Benefits

- Looks just like a traditional bulb
- Up to 25,000 hours life
- Lasts 25 times longer than a traditional 40W bulb
- Full light comes on instantly
- Environmentally safe: no mercury

## Décor LEDs

Creating mood and saving energy

GE's Décor LED range are perfect for when you need a more decorative-looking bulb, for instance in a chandelier. Available as spherical and candle lamps, they also come in clear and frosted finishes. They deliver incandescent-like sparkling and diffuse effects for mood lighting.



Globe



Candle



Spherical



Miniature GLS

#### Features

- Available in 2W and 2.5W, up to 80 lumens. A 249 lumen version will be available at the end of 2011
- Same size as traditional or halogen equivalents
- Robust and shock resistant

#### Benefits

- Very low energy consumption
- Up to 17,000 hours life
- Last up to 17 times longer than similar decorative halogen or traditional lamps
- Full light comes on instantly

# eCFL lamps

## Energy saving performance

Save money on bills yet lose nothing in quality with GE's new electronic compact fluorescent (eCFL) lamps. Ideal for ambient light, eCFLs combine energy saving benefits with high quality lighting.

Our brand new LongLast™ Spiral lamp is the smallest and brightest lamp in the premium segment on the market. As well as fast warm-up, it provides outstanding energy savings for 15 years.



LongLast™ Spiral T2 15,000 hours



**EnergySmart™**    **Candle T2**    **Globe T3**

**Features:**

- Lamps fit almost everywhere
- Guaranteed outstanding light quality for life
- Available in various colour temperatures

**Benefits:**

- 80% more energy-efficient than traditional incandescent from our 'A' energy labelled products
- Long lasting – between 6,000 and 15,000 hours (15 years)
- Quick and flicker-free start with fast warm-up
- Environmentally friendly with minimised mercury content

# Halogen lamps

## Environmentally-friendly, crisp light

GE's Energy Efficient Halogen (EEH) lamps look just the same as traditional bulbs, with the same bright quality light, but cut down on energy consumption by up to 30%.

Available in standard candle, spherical and reflector shapes, our lamps create a stunning light, and can also be used with dimming switches for a cosier atmosphere.

Unlike some compact fluorescent products, all GE Halogen lamps work with existing light fittings.



HaloGLS



**HaloCandle**    **HaloSpherical**

**Features:**

- Consistent quality of light throughout bulb life
- Can be used with dimming switches

**Benefits:**

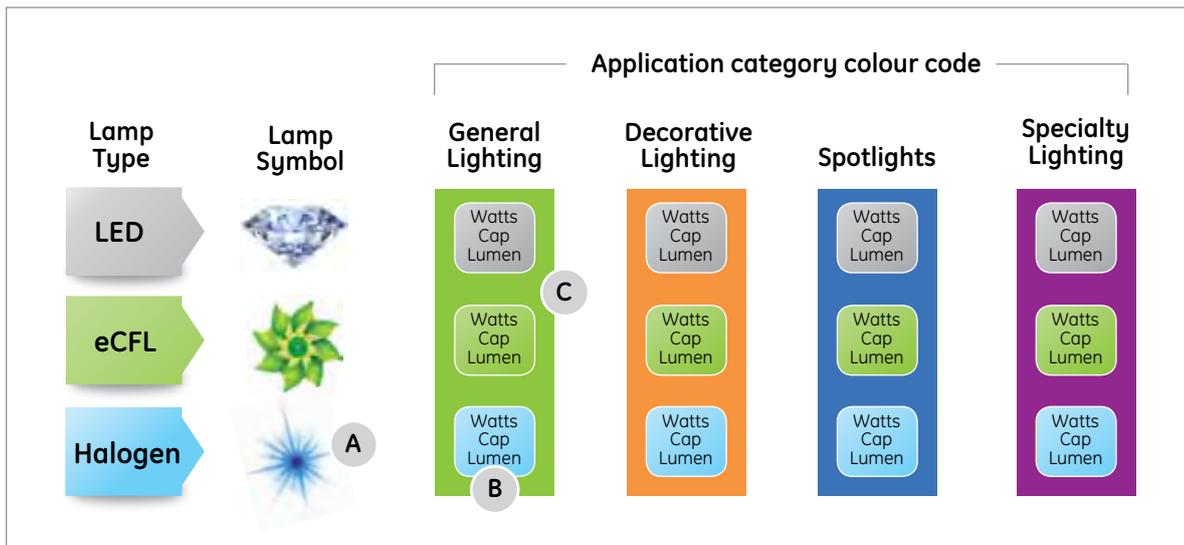
- Full light comes on instantly
- Last twice as long and consume 30% less electricity than corresponding traditional light bulbs
- Environmentally friendly: no lead or mercury

# Your guide to GE packaging

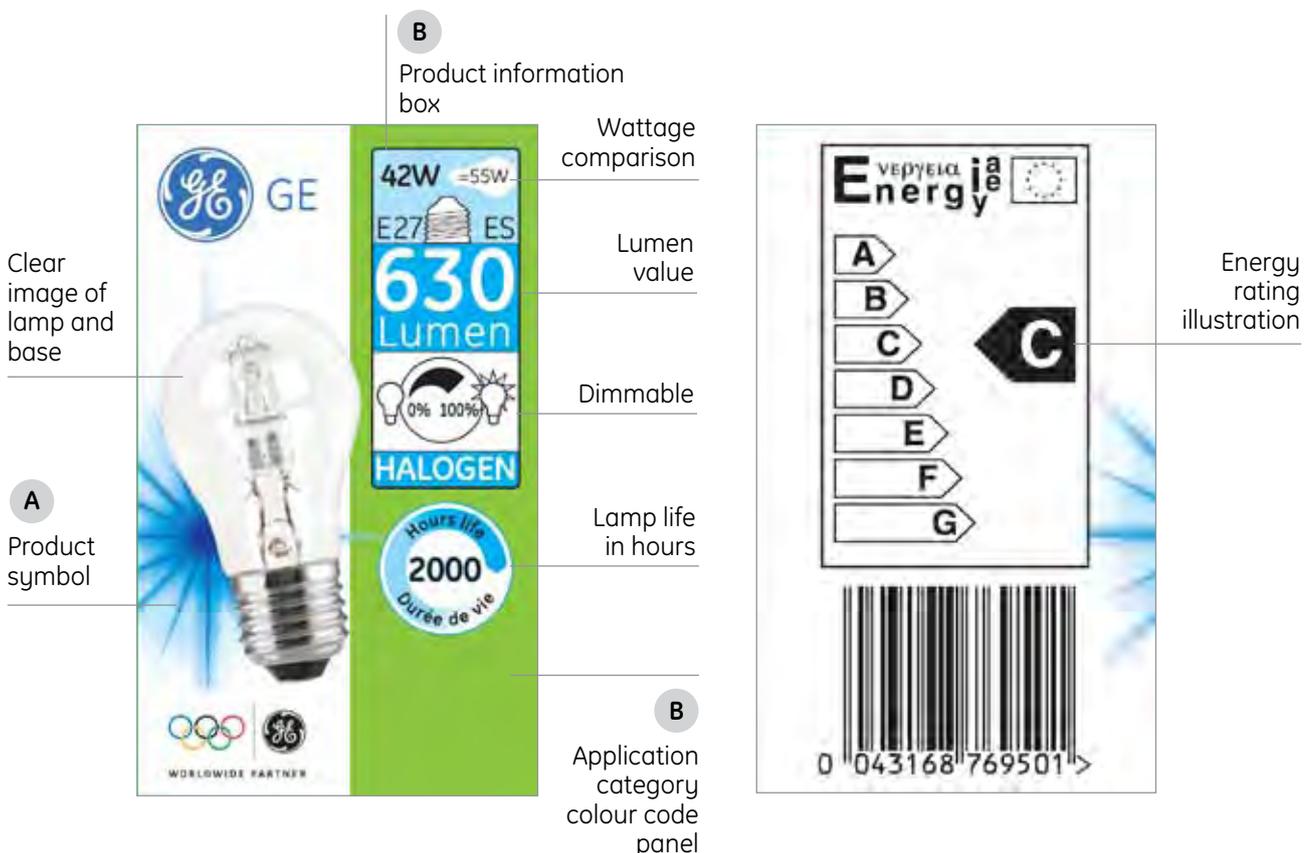
GE packaging is designed to be clear and simple as well as comply with regulations and guidelines. Retailers can display GE products in an organised way for consumers to easily identify what they need.

We use a graphic symbol and colour coding for each lamp type (LED, eCFL, Halogen) and its suitable application (general, decorative or spotlight). To make comparison easy, the traditional wattage is still included.

## GE packaging colour codes



## Identifying what you need



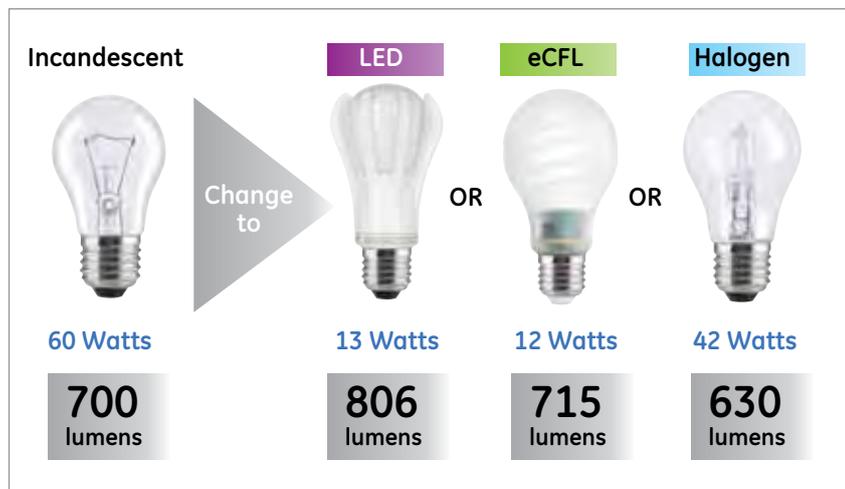
# Switching from Watts to Lumens

## How to choose your light bulb strength

Traditional light bulbs are being phased out and modern light technologies use different amounts of power to achieve the same amount of light. Instead of referring to watts anymore, we now need to measure and compare light in terms of lumens.

### What are lumens?

A lumen (lm) is a measure of the total 'amount' of visible light emitted by a source; the higher the number, the brighter the light. Choosing the right kind of light bulb depends on the strength and type of light you want.



These charts to the right show how the wattage of traditional incandescent light bulbs compares to the wattage and lumens of energy-efficient ones. For instance, a traditional 60W bulb with 700 lumens equals a 42W Halogen bulb emitting 630 lumens. This is equivalent to a 12W eCFL bulb emitting 715 lumens or a 13W LED bulb emitting 806 lumens.

### The way forward

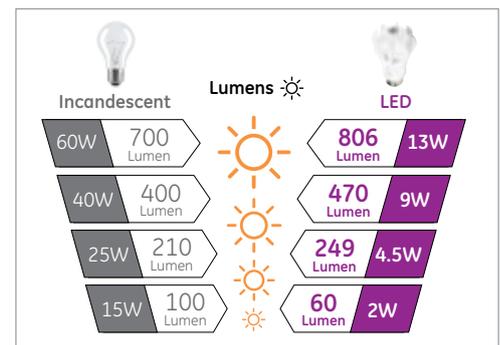
GE offers the very best options on the market, in a wide variety of fittings, shapes and sizes. Many have the option of warm light and are even dimmable. Most also switch on instantly.

Energy efficient light bulbs use less electricity than standard bulbs to do the same job. One energy saving light bulb could save around £2.50 a year, depending on how long you use your lights every day, and last around 10 times\* longer.

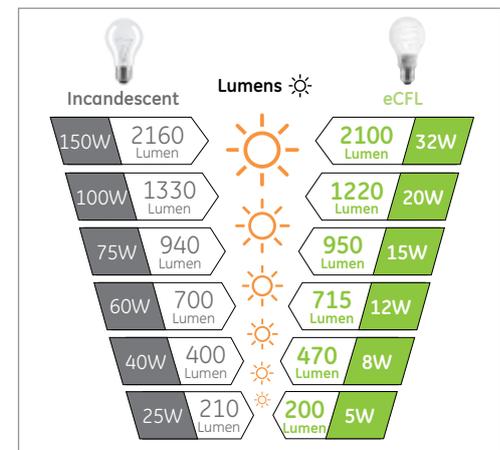
\* Source: Energy Saving Trust

### Wattage to Lumen charts as shown on GE lamp packaging

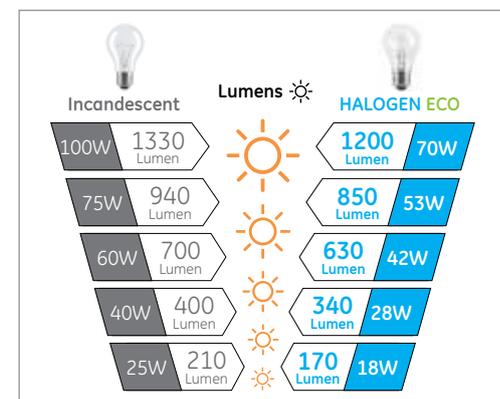
#### Incandescent to LED



#### Incandescent to eCFL



#### Incandescent to Halogen



# What will happen when

## Dateline for product phase out

### Stage 1 September 1st 2009

All non-clear (frosted, opal, etc.) incandescent lamps including mushroom and decorative shapes  
Clear finish, high-wattage incandescent lamps greater or equal to 100W  
Clear incandescent lamps with 75W and lower, F and G energy class  
All non-clear halogen lamps including linear halogen (DEQ) and G9 burners  
Clear halogen lamps 75W and higher including linear halogen (DEQ) and G9 burners with 'D' energy class or lower

### Stage 2 September 1st 2010

Clear incandescent lamps with a wattage of 75W or higher  
Clear halogen lamps 60W or higher, 'D' class or lower

### Stage 3 September 1st 2011

Clear incandescent lamps with a wattage of 60W or higher  
Clear halogen lamps 40W or higher, 'D' class or lower

### Stage 4 September 1st 2012

Clear incandescent lamps with a wattage below 60W  
Clear halogen lamps 25W or higher, 'D' class or lower

### Stage 5 September 1st 2013

Performance standard increase for all lamps (lifetime, etc.)

### Stage 6 September 1st 2016

All lamps with energy efficiency label 'C' (except linear halogen (DEQ) and G9 burners)

### Products that are not included in the scope of the ErP regulation:

- True colour lamps (according to specified colour coordinates)
- Directional lamps (reflector lamps)
- Lamps with lumen less than 60 lm and higher than 12,000 lm
- UV lamps (according to specific radiation requirements)
- CFL lamps with non-integrated ballast
- High-intensity discharge lamps
- E14/E27/B22/B15 lamps with voltage equal or less than 60V and without integrated transformer (till 2013)
- S14, S15 and S19 base linear incandescent lamps till 2012

For special purpose lamps, the following information shall be clearly and prominently indicated on their packaging and in all forms of product information accompanying the lamp when it is placed on the market:

- Their intended purpose and
- That they are not suitable for household room illumination

**Due to limited space on the packaging we will use graphical elements (pictogram) instead of multilingual text.**



Not suitable for household illumination



Automotive lighting



Lamp for refrigerator



Lamp for Oven



Sewing machine



Rough service



Traffic light



Aircraft lighting



Heating lamp



Entertainment



Projector lamps



Special mirror lighting

### The Environment:

There are a number of estimates, ranging from 24 million to 39 million tons of annual carbon dioxide emissions that will be eliminated with the full implementation of the EU regulations. GE Lighting is fully committed to reducing carbon emissions, and as member of the European Lamp Companies Federation it helped develop the new regulations that are now being implemented.

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Lighting the Future - ErP brochure - September 2011