

# How **brillianz** LED lighting can reduce your carbon footprint

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## A Brighter Retail Shop

No longer do you have to compromise on the brightness of your store to save energy. **brillianz** LED lamps are watt for watt 10 times brighter than conventional light bulbs and because they are purpose built to both your Colour and Brightness requirements they will produce a bright "Crisp light" that will create a Retail Environment more inviting to your Customers.

## What is a carbon footprint?

A carbon footprint is a measure of the impact our activities have on the environment, and in particular climate change. It relates to the amount of greenhouse gases produced in our day-to-day lives through burning fossil fuels for electricity, heating and transportation etc.

The carbon footprint is a measurement of all greenhouse gases we individually produce and has units of tonnes (or kg) of carbon dioxide equivalent.

## Why is it important to you?

Estimates suggest that almost half of our carbon footprint is due to electricity and 17% is due to lighting alone.

People choose LED lighting because it is the most energy efficient option. LEDs use around 10 times less electricity than halogen bulbs, and around 2 times less than compact fluorescent bulbs. LEDs also produce very little heat and therefore can dramatically reduce the electricity used for air conditioning.

Due to recent UK Government legislation the manufacture of standard 60W incandescent bulbs ceased on 1<sup>st</sup> September 2011 and EU legislation aims to phase out the manufacture of standard halogen light bulbs by 2016. It is therefore essential to switch to sustainable energy efficient lighting such as LEDs.

## How does it work?

For the same amount of light, over the same amount of time, LEDs use far less power. Using less energy reduces your carbon footprint because generating electricity produces CO<sub>2</sub> (Carbon Dioxide).

An LED lamp can last well over 10 years. Standard (incandescent) light bulbs have a short life span, so they have to be replaced frequently. Switching to LED lamps won't just save you money; it also lowers your carbon footprint.

The manufacturing of bulbs uses precious resources, takes energy and produces carbon dioxide. The more bulbs manufactured and used, the greater the carbon dioxide emissions.

LED lamps have a very long life span compared to incandescent bulbs. During the lifetime of just one LED, you would have to use around 30 incandescent bulbs. This means 30 times more bulbs would have to be manufactured, using significantly more materials and resources, resulting in more CO<sub>2</sub> emissions.

**Lumens per watt:** The Best quality LEDs typically (on paper) produce around 90-100 lumens per watt at an operating temperature of 25 deg C. In reality, the operating temperature will be higher than this, reducing the light output and a certain amount light will be lost within the fixture, resulting in an efficiency loss of about 15% in total, Allowing for a further 10% losses in the power supply, the resulting performance is about 85 lumens per watt being delivered by an LED light. An incandescent light bulb will on the other hand only deliver about 12 lumens per watt, and after the light has found its way out of the fitting, this will have reduced to about 7lm/w - very inefficient.

## How can your company benefit from reducing its carbon footprint?

With **brillianz** LED replacement lighting, you company can achieve

### Cost Savings

Retail application payback in under 3 years (see case study below). Significant cost savings due to reduced electricity consumption of LED lamps as well as dramatic savings from reduced need for air conditioning.

### Government incentives

Enhanced Capital allowances – 100% reclaimable in the first year. This is a major cash flow incentive for “going green”.

### Carbon Tax reduction

For larger companies the energy savings can be used to reduce Carbon Tax liability

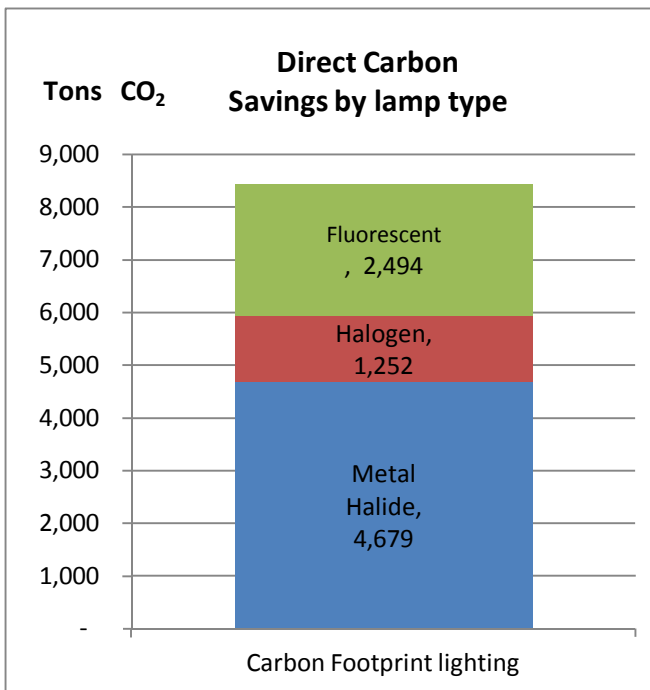
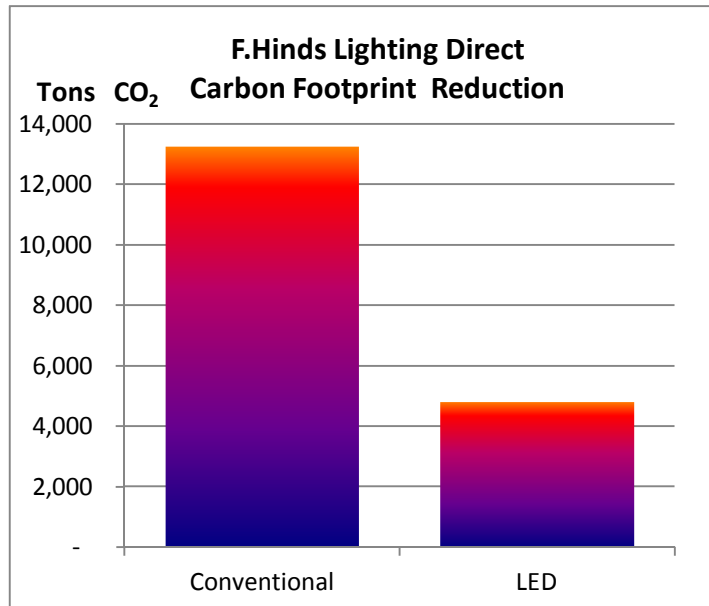
### Public image

Caring companies trade more successfully and for longer. A green policy is becoming an important element in Public Profile

# F.Hinds Carbon Reduction Case Study

BayLite, which has been developed in close collaboration with F.Hinds, the family owned 'high street' Jewellery business, is expected to save that company over £4,000,000 in energy costs, maintenance and re-lamping over the next 10 years across their 110 shop estate.

- 8425 Tons saved by LED lighting across the estate. A further 8400 Tons saved from the resulting reduced Air Conditioning load Making a total Carbon reduction of almost **17,000 Tons**
- £3.5 million in total energy savings over 10 years (includes lighting and air conditioning savings)



- F.Hinds used over 4800 metal halide lamps in their window displays. The bulk of their direct carbon savings come from replacing these lamps.
  - Although the greatest savings per lamp come from Halogen replacement, F.Hinds had already changed many of their halogen lamps to metal halide in a previous upgrade. The Carbon reduction is from replacing only 1400 track lights
  - All F.Hinds undershelf lighting was fluorescent based. Changing this out for more efficient, better directed LED linear lighting (2.5km in total) makes a very significant impact on the carbon footprint