



---

## Coulsdon Manor Hotel and Golf Club, Surrey



### Lighting a path to savings

The Coulsdon Manor Hotel was once the country retreat of Lord Byron and is now a 42 room hotel set in 140 acres of Surrey parkland, 15 miles from central London. With its own golf club, conference and leisure facilities the Bespoke owned hotel was already on a journey to reducing its energy bill when the Food Wise project team came to help crystallise the plans and light a pathway to a brighter, greener, resource efficient future!



---

## Using lighting effectively

Originally built in 1850, the manor house has been restored to provide modern, fresh facilities for its customers. As is the case in many period properties, the architectural design of the Hotel limits the amount of natural light that reaches some parts of the property and artificial lighting plays an important role in creating a bright and airy feel. When reviewing at existing lighting provision it was a priority that the light quality in the hotel should be maintained or enhanced.

With over one thousand lights throughout the property, lighting represented a significant proportion of the hotel's energy bill (around 10%). A high proportion of the total lamp load was comprised of recessed halogen downlights and these required regular replacement (halogens can be particularly susceptible to changes in the voltage loading and when recessed can also suffer from overheating) and replacing lamps that had blown was keeping the maintenance manager extremely busy!

The Coulsdon Manor Hotel had already started a bulb replacement scheme when the Food Wise team turned up armed with a trusty light meter, eagle eyes and a bag of experience. The team completed a lighting audit of every area of the hotel. The audit results put a spotlight on just how significant the savings could be. These could be accrued from a switch to energy efficient lamps and by changing the lighting hours in key areas of the hotel during off peak times. The audit identified the areas in which those savings could be most quickly accrued, helping the hotel to target investment in energy efficient lamps in the areas that could deliver the quickest savings.



Coulsdon Manor had already started a lamp replacement scheme and around 48% of 50 and 60 watt incandescent and halogen bulbs had been replaced. The FoodWise project calculated that a further £10,000 saving in energy costs could be accrued by switching all

lighting to energy efficient alternatives and introducing a switch off scheme. With a return on investment of just a few months, it was a lightbulb moment to speed up the plans to replace the old energy hungry lighting.

The 'Switch it off' campaign focussed on ensuring that lights in public areas were switched off when they were not in use (it would make immediate savings while the bulb replacement project got up and running). It also recommended: reducing the number of lights that were left on in the entrance hall and corridors between 02:00 and 06:00 AM to reduce energy consumption; switching lamps off in areas where sunlight is already providing adequate daylight free of charge and installing blanks<sup>1</sup> in the place of halogens in some of the function rooms which were overlit. In one of the function rooms, for example, it was recommended that 60 of the 50 watt halogen lamps were replaced with blanks reducing energy consumption by at least 5,000 kilowatt hours (kWh) per annum. In the longer term, investment in photocells and daylight and motion detectors will ensure that lighting is as efficient as possible.

---

<sup>1</sup> Plastic disks that replace recessed downlighters in overlit areas.

---

## Choosing the right type of lamp



The team at Coulsdon Manor had already chosen the replacement energy efficient lamps when the FoodWise team joined them. These had been carefully selected to include primarily 4 watt LED lamps (although some older style 11 watt CFLs are in use in the WCs). Two types of lamp dominate, a 4 watt candle lamp and a 4 watt GU10 halogen downlight.

By choosing a limited range of standardised lamps for use throughout the property, the hotel has simplified the process of both ordering and replacing lamps. The lamp choices made by the team at Coulsdon primarily include lamps with a warm white colour rendering index<sup>2</sup> and a lumen rating of 250. The selected lamps all reach full brightness in less than 0.5 of a second and so do not suffer from the delay that is characteristic of older style CFL and LED lamps. In areas where the lamps are on dimmer circuits, dimmable lamps have been chosen. These are marginally more expensive than non-dimmable lamps, but are required to ensure that lamp life is achieved (using non-dimmables on a dimmer circuit damages the ballast in the base of the lamp and significantly undermines lamp life).

### It's not just about the energy bill....

Along with the clear cut financial and environmental savings from reducing the energy consumption of the hotel's lighting requirements, there are other savings to be had too. The maintenance team were spending a good deal of their working week checking and replacing blown incandescent or halogen bulbs and a switch to the energy efficient versions will cut their workload significantly. In function rooms, the lighting was generating a significant amount of heat (90% or more of the energy used by conventional incandescent lamps is used to generate sufficient heat to allow the filament to glow white hot– the lights is in effect a by-product of the heat). Changing these incandescents for low energy alternatives will increase customer comfort, helping customers to keep cool.

LED bulbs (or lamps as they are often referred to) can last up to 10 times longer than traditional halogen or incandescent versions, freeing valuable time for maintenance teams to work on other areas of the property.

For Coulsdon Manor this could mean more time for implementing the preventative maintenance programme. This will increase energy savings and ensure that the fabric of the building is well maintained to reduce drafts and ensure that customer comfort & satisfaction remains high. It will also free up time to maximise other resource saving opportunities in the hotel, such as installing water saving devices (hippos) into some of the older WCs in the property, thus reducing the flush volume from 9 to 6 litres and investigating the potential to install waterless urinals into public WCs.

The maintenance team and general manager of the hotel were enthusiastic about the results of the lighting survey. Both had already recognised that a lighting upgrade could help to improve quality as well as reducing energy costs.

---

<sup>2</sup> The exception is task lighting in back of house areas where bright white can be a better choice.



“We were aware there were saving opportunities from installing energy efficient lamps before the FoodWise team came to visit but they helped us to work out which areas we should focus on first, found areas that were over-lit which helped us to specify the right type of bulbs for us and they calculated exactly how much we could reduce costs by. The Foodwise team also helped us find other areas we could reduce energy and water costs which supported our quality drive too!”.

Nigel Walker (GM)

The ERDF FoodWISE Sustainable approaches to food waste in the hospitality sector project aims to help 250 SMEs working within, serving or supplying the hospitality sector to make cost savings and improve their environmental track record on purchasing, preparing and disposing of food.

The Project is managed by Oxfordshire County Council and part funded by the European Regional Development Fund (ERDF). For more information on the project and its delivery partners visit [www.Food-wiseuk.co.uk](http://www.Food-wiseuk.co.uk).

