



## LED Lighting - Cost Comparison

### 12 x 40W traditional light bulbs vs. 12 x 5W LED light bulbs

**Assumptions:** Bulbs illuminated for 10 hours/days, 365 days/year  
Traditional 40W bulbs cost 50p each, rated 1,000 hours  
LED 5W bulbs cost £14.95 each, rated 50,000 hours  
Electricity cost 10p/unit  
All costs fixed for 10 years  
Cost of physically changing a light bulb is nil

#### Traditional 40W Bulbs

##### Year 1

Bulbs required for 3,650 hours: 43.8  
Total cost of bulbs: £21.90  
Total cost of electricity: £175.20

**TOTAL YEAR 1 COST: £197.10**

##### 10 Years

Bulbs required for 36,500 hours: 430  
Total cost of bulbs: £219  
Total cost of electricity: £1,752

**TOTAL 10 YEAR COST: £1,971**

#### 5W LED Bulbs

##### Year 1

Bulbs required for 3,650 hours: 12  
Total cost of bulbs: £179.40  
Total cost of electricity: £21.90

**TOTAL YEAR 1 COST: £201.30**

##### 10 Years

Bulbs required for 36,500 hours: 12  
Total cost of bulbs: £179.40  
Total cost of electricity: £219

**TOTAL 10 YEAR COST: £398.40**

#### Summary

**Capital investment recovered in one year, total saving over ten years is £1572.60**

#### Environmental Benefits

In 10 years the traditional 40W bulbs consume 17,520kWh of electricity.  
To produce this electricity a fossil fuelled power station emits 9.46 tonnes of CO<sub>2</sub>

In 10 years the 5W LED bulbs consume only 2,190kWh of electricity  
To produce this electricity a fossil fuelled power station emits 1.18 tonnes of CO<sub>2</sub>

**Total CO<sub>2</sub> emission savings for 12 LED light bulbs over 10 years is 8.28 tonnes**  
(Excludes the CO<sub>2</sub> cost of manufacturing, shipping, installing & recycling 430 traditional bulbs)