



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		10 Years	
Bulbs required for 3,650 hours:	43.8	Bulbs required for 36,500 hours:	430
Total cost of bulbs:	£21.90	Total cost of bulbs:	£219
Total cost of electricity:	£175.20	Total cost of electricity:	£1,752
TOTAL YEAR 1 COST:	£197.10	TOTAL 10 YEAR COST:	£1,971

5W LED Bulbs

Year 1		10 Years	
Bulbs required for 3,650 hours:	12	Bulbs required for 36,500 hours:	12
Total cost of bulbs:	£179.40	Total cost of bulbs:	£179.40
Total cost of electricity:	£21.90	Total cost of electricity:	£219
TOTAL YEAR 1 COST:	£201.30	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 CO2

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 CO2

Total CO2 emission savings for 12 LED light bulbs over 10 years is 8.28 tonnes
(Excludes the CO2 cost of manufacturing, shipping, installing & recycling 430 traditional bulbs)