GREENLED - CASE STUDY

Saving energy through sustainable lighting

Haymarket Press – international publishing company

DESCRIPTION:

Haymarket Press are pioneers in adopting new ways to reduce energy consumption across their estate. Recognising that their corridors, tea areas, reception and toilets in their Teddington HQ were all using inefficient 50W halogen dichroic downlighters, they approached Greenled for a minimal energy consuming solution.

Greenled recommended their 3.7W "Antares" low voltage downlight and in Spring 2008, 307 x 50W halogen downlighters were replaced by 307 x 3.7W LED lamps.

ECONOMIC BENEFITS:

Energy Costs: £ 4,372 saved pa, 93% less than previous energy consumption cost.

- This project was originally quoted when Haymarket were paying 5.5p/kWh, thus they were paying £ 2,465 pa in energy consumption for these lights. When the price rose to 9p/kWh in 2008, they were paying £ 4,034 pa.
- Haymarket Press estimate that their lights are on for 2,920 hours a year. Their halogen lightbulbs were designed to last for 3,000 hours and cost £3.94 annually each (purchase cost plus maintenance/replacement/disposal costs pa). The actual annual cost of owning these 307 halogen lamps was £1,210.
- The total energy and annual costs Haymarket Press were paying each year per halogen 50W lamp was £ 17.08. After the installation of the Antares 3.7W LEDs, the total cost per lamp instantly dropped by 83%, to £ 2.84 pa.
- An additional benefit was also experienced. Air conditioning pulls away the heat generated by the lightbulbs. 90% of the energy that is used by halogen lamps is expressed as heat. The energy consumed in pulling away that heat using air conditioning is 42% of the 90%, thus 19W for each 50W dichroic halogen lamp. This accounted for increased energy savings.

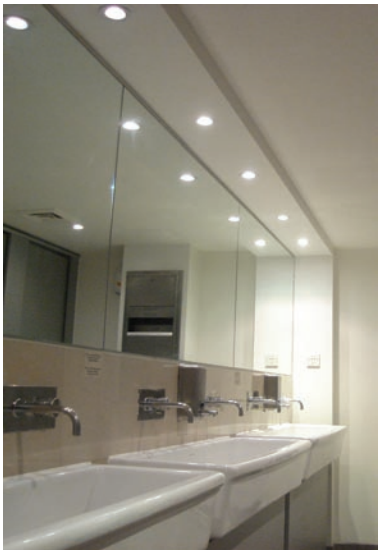
ENVIRONMENTAL BENEFITS:

Energy: 41,505 kWh / yr saved
CO2: 22.29 tonnes CO2/ yr saved

kWh (old)	44822
kWh (new)	3317
kWh saved per year	41505
CO_2 kg emitted (old)	24069
CO_2 kg emitted (new)	1781
CO_2 emissions saved tonnes	**22.29**
No of Trees Saved	**1.11**

SOCIAL AND WIDER BENEFITS:

The introduction of LED lighting was supported enthusiastically by the staff at Haymarket Press. A sign was put up in each space explaining that LEDs were now employed and using 90% less energy and the staff were invited to add their comments. These were all thoroughly complimentary and congratulated the firm on such initiatives.



BUSINESS CASE

Initial Cost: £7966.65
Payback time: 18 months
5 year saving: £16,762

Capital repaid in Year One

	TOTALTraditional Lamps	TOTAL GREENLED Year 1 = Investment cost + annual energy cost
Year 1	£5,244.17	£8,265.16
Year 2	£5,244.17	£298.51
Year 3	£5,244.17	£298.51
Year 4	£5,244.17	£298.51
Year 5	£5,244.17	£298.51
5 Year cost	**£26,220.87**	**£9,459.22**

FURTHER OPPORTUNITIES ARISING

Delighted by the energy savings at Teddington, Haymarket have since commissioned Greenled to replace the downlights at both their Hammersmith and their Cirencester offices.

Haymarket have also asked Greenled to survey the rest of the Teddington site in order to identify other areas which can be lit with LEDs. Greenled are now proposing that all of the exterior lighting be replaced by LEDs.

ADDITIONAL NOTES

The Haymarket project was driven by an informed project manager who had a clear mandate and an available budget to invest in the appropriate technologies.

Haymarket's Sustainability Manager – Nathan McLean:

"We explored a number of LED options and settled on Greenled because they provide the right amount of light – much more light than we could find from other LEDs – and offer excellent environmental benefits."