Lighting Energy Efficiency Case Study

Egress Stairs

Since mid-2008, 101 Collins Street Management Team has had a mandate to improve the energy efficiency of the 101 Collins Street Building.

From that date until now, Base Building energy use within the 101 Collins Street Site has reduced from 12,000,000 Kwh/annum to just 7,000,000 Kwh/annum.

"Technically advanced light fittings such as these, with LEDS and motion sensing, are obvious replacement equipment for existing buildings"

Ross Boreham - Senior Manager, Sustainability & Engineering

That drive for energy efficiency is an on-going project for the 101 Collins Street Management Office.

One of our projects (late 2013) was to upgrade the Egress Stairs (Fire Stairs) lighting installation.

At 25 years old, all of the stair lighting had reached its "end of life". Accordingly, this provided the opportunity to upgrade the egress stair lighting to the latest technology equipment.

It was determined that the optimal units available on the market at that time were the LED fittings with integrated motion sensing control. These fittings operate at 7 watts, unless motion is detected and they then switch to 22 watts. This system is also compliant with the Building Code of Australia.

As the stairs are mostly unused, the 7 watt energy function was a substantial reduction over the previous average consumption of 20 watt/fitting.

A simple energy calculation based on number of fittings times the energy saved/unit resulted in a satisfactory simple payback value for the project.

Accordingly, all of the Egress Stair Lights have now been upgraded to the new LED motion sensing fittings bringing significant energy savings to the site.

Achieved Savings and Payback Overview	
Overall Project Cost:	$139,000
Achieved Electrical Savings:	108,500 kWh/yr
Electricity Emissions Savings:	144.7 tonne CO2/yr.
Saving of Base Building Energy:	1.4%
Electricity Costs Savings:	$15,120
Maintenance Cost Savings:	$7,680 per yr.
Simple Payback:	6.1 Years

Eureka FUNDS MANAGEMENT

101 COLLINS