

Case Study PricewaterhouseCoopers - smart lighting slashes energy demand by 29%



Goals

- Significantly reduce energy usage
- Achieve a long term goal of a 4 star NABERS Energy tenancy rating

Corporate Responsibility is an important strategic focus for PricewaterhouseCoopers (PwC) and its 6,000 staff. The company has shown its commitment to the environment by becoming carbon neutral and signing up their Sydney office to CitySwitch.

Mark Johnson, CEO, PwC Australia said on joining in February 2008, "CitySwitch Green Office is a natural extension of our wider environmental responsibility program and recognises the need for the community generally to acknowledge and address the long-term impacts of climate change."

First step: review energy use

PwC's Sydney offices are located in the Darling Park development on the western edge of Sydney's CBD. The big accounting firm commenced its environmental upgrade by commissioning an energy use review. The investigation recommended a number of lighting control, light fitting and supplementary air conditioning projects and identified an advanced automatic lighting control system as being optimal for the site.

The firm had previously tried to manage out-of-hours lighting through the engagement of security staff and the building management system. However, in such a large facility with many staff working extended hours due to project work requiring tight deadlines, it proved too difficult. PwC recognised that it needed to implement a highly flexible, tightly zoned lighting control system.

Next steps: lighting specifics

The new automated lighting system has no manual switching; instead, lights are activated only when staff are present in each zone. A network of interconnected sensors on each floor ensures that lights are only on in the sections of the floor where staff are working. The system is versatile enough to cater for any special tenant needs such as maintaining corridor and exit lighting.

There are 1,600 sensors throughout the Darling Park tenancy and 8,000 ceiling tiles were removed and reinstalled as part of the upgrade. At any time in the typical office areas, lights will automatically switch off 20 minutes after the last staff movement is detected in that lighting zone. As staff are frequently out visiting clients, at meetings or in training, whole zones will quite often have their lights off during the day.



Signatory status	
Date joined CitySwitch	February 2008
Tenancy size	31,800 sqm
NABERS Commitment rating	★★★★
Website	www.pwc.com.au
Key outcomes	
Annual savings	29% reduction in lighting energy demand
Cost of investment	\$800,000
Technology	Automatic lighting control system

Australia's largest energy efficiency upgrade to an operating office

No energy is wasted on unnecessary lighting. The system has the capability to detect ambient light levels and adjust lights down or switch them off completely when sufficient natural light is available. Even lights in the lift foyers are controlled. At night time, they are cut back by 50%.



In addition to the lighting control system, 1,200 low-voltage downlights were also upgraded with the installation of energy-saving electronic transformers. Each lamp was replaced with a new high-efficiency one and total energy consumption per fitting was cut from 70 watts to approximately 40 watts. While this may only represent a 30 watt saving per fitting – multiply the savings by 1,200 fittings and the benefits are significant.

The results

The lighting project represented Australia's largest energy efficiency upgrade to an operating office and the results are impressive. The automated functionality has led to PwC cutting its electricity use for lighting at its Sydney office by 29%.

The upgrade proved a viable investment for the firm. It significantly reduced the company's greenhouse impact and was appealing to staff. PwC has further demonstrated its environmental leadership by operating on a carbon neutral basis since 1 July 2008.

Get involved

Join CitySwitch and discover how small changes can make a big difference to Australia's future environmental health – and that of the planet.

Visit www.cityswitch.net.au for more information on CitySwitch Green Office or call the Program Manager in your state. Contact details are listed on the website.

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Mark Johnson
CEO
PwC Australia

CitySwitch is a national tenant energy efficiency program. Previously known as the 3CBDs Greenhouse Initiative, the program works with tenants to improve office energy efficiency, thereby reducing the CO₂ emissions that contribute to global warming.

CitySwitch program partners

