PEOPLE // SPACES // PRODUCTIVITY

FACILITY

PERSPECTIVES

>> VOL 11 NO 1

MARCH–MAY 2017

THE LEADING RESOURCE FOR FACILITIES MANAGEMENT IN AUSTRALASIA

WELLBEING IN THE WORKPLACE

Frasers takes it to the next level

Diversity in FM

Ensuring fair representation in the industry

FMA

OFFICIAL MAGAZINE OF THE FACILITY MANAGEMENT ASSOCIATION OF AUSTRALIA

9 771834 637007

Print Post Approved 100019189 $9.95 inc GST

ARE LEDS RIGHT FOR YOUR BUSINESS?

Five steps to implementing a LED solution that will save you money

BY NATHAN MOORE, SENIOR ELECTRICAL ENGINEER, VERDIA

Maybe you have heard that you can save on energy costs with light emitting diodes (LED) lighting but don't know if a retrofit would be worthwhile for your business. Or, you might simply assume that the upfront cost of LEDs puts them way out of your budget.

If that sounds familiar, you're not alone. But, as awareness of the benefits spreads, it's likely that your board or C-suite will ask you whether your business should be looking at LEDs. This article aims to help you answer that question.

Why are LEDs better than legacy lighting?

To understand why LEDs are better, we need to outline some of the inefficiencies of older lighting technologies, such as halogen and fluorescent lights. Halogen lamps, which become hot to the touch, are the type we often see in our homes. They're inefficient because a proportion of the electricity they use goes towards creating this unwanted heat.

Fluorescent lights are more efficient than halogens, as they produce much less heat. These are the tube lamps that we typically see in offices, but they can also be found in our homes in the form of compact fluorescent lights (CFLs).

Since they produce less heat, fluorescent lights have a longer life span. Fluorescents may be more efficient than halogens, but they have other disadvantages. For example, they emit light in all directions, which means that wastage occurs when light shines where it's not needed (onto the ceiling, for example).

LEDs are more efficient than either halogens or fluorescent lights. Good-quality, well-designed LEDs with good heat-sinking capability give off much less heat, which means that more of the electricity they use goes towards making light. As a result, good-

Verdia Senior Electrical Engineer Nathan Moore

quality LEDs can last more than 50,000 hours and produce a more efficient and more directional light. For businesses, LEDs promise not only a dramatic reduction in energy costs, but also a significant reduction in maintenance requirements.

Is there a catch?

Taking all of this into account, moving to LED lighting seems like a no-brainer for most businesses. But there is a catch – and that's the up-front cost. While LED lighting will save money in the long term, many businesses still baulk at the higher cost of the initial installation.

There's also the disruption that a retrofit could potentially cause to the business and, of course, you may not have time to research LED equipment providers or manage procurement, design and installation.

Where to start with a lighting upgrade

Your starting point will be dictated by your reasons for considering a lighting upgrade. If you're getting a lot of complaints about lighting in your buildings – that it's too bright, too dark, or that there's too much glare – then you need to start with a lighting audit. This is because replacing your current lighting with LEDs will not fix inherent problems with the location and quantity of your lighting fixtures.

CitySwitch (www.cityswitch.net.au) has some good advice on how to approach a lighting audit, whether you're doing it yourself or getting someone else to do it for you.

If you are mostly happy with your lighting but need to find ways to cut costs through improved efficiency and reduced maintenance, there's the straightforward option of replacing your existing lighting with LEDs. The following tips will help you find the right LED solution for your business.

Five steps to a successful LED project

Remember that an LED upgrade is a long-term investment. If you select a quality solution, the long-term results will far outweigh the short-term cost. Select your provider based on reputation, not just who has the cheapest quote. Ask for business references to make sure that your preferred provider has happy customers.

Thoroughly evaluate the business case put forward by the lighting provider. This should include:

- a summary of your existing lighting and energy usage
- recommendations for your new LED lighting solution
- return on investment (ROI) calculations
- a summary of the energy savings you can expect
- a summary of the maintenance savings you can expect
- how long it will take the solution to pay for itself
- the savings you can expect over the typical lifetime of the equipment
- the government rebates you might be able to access.

Look carefully at the warranties that will cover equipment and installation. You want to know that if anything fails, you can get it fixed at no further cost. If you proceed, make sure that you keep records of all warranties.

Find out how the provider will manage the installation without impacting your business operations. For example, they might work on weekends or at quiet times in your operations.

Beware of shortcuts. For example, some providers will give you the option to keep your existing light fixtures but replace the tubes with LEDs. When the LED tubes are not fitted as part of a luminaire (a luminaire refers to the LED light as part of the unit with the correct light fitting) they operate less efficiently and will not last as long as they should. This will lead to increased maintenance and replacement costs, which means that the initial saving on fixtures is a false economy in the long term.

Following these simple steps should help to ensure that you get an LED upgrade that will deliver long-term cost savings for your business.

For more information about how to approach energy-efficient upgrades, visit www.cityswitch.net.au.

For more information about Verdia, visit www.verdia.com.au.

About the author:

Nathan Moore leads the engineering team providing technical advice to Verdia's Project Advisory, Product Development and Asset Management teams. He has more than 15 years of experience in the engineering and delivery of projects in a wide variety of sectors, including infrastructure, mining and solar PV.

Nathan's experience includes the design, delivery and commissioning of the 1.7-megawatt Weipa Solar Farm at Rio Tinto's remote bauxite operation in Weipa. This project was the first installation of large-scale PV generation at a mining operation in a remote location.

Previously, Nathan delivered the engineering, project and contractor management for the electrical component on mining projects worth more than $12 million, and he managed the Energy Efficiency Opportunities Program for Xstrata's North Queensland operations.