



South Gippsland
Shire Council

Case Study - Upgrade to Office Lighting

Background:

Together Bass Coast Shire Council and South Gippsland Shire Council were successful in receiving funding from the Australian Government, through the Department of Industry and Science under the Community Energy Efficiency Program (CEEP). The purpose of this funding was to increase energy efficiency of different types in community-use buildings.

South Gippsland Shire Council's municipal office sits across two sites in Leongatha, at numbers 6 and 9 Smith St, and these two buildings were the focus of upgrades under this project. This case study focusses on the upgrades to lighting and a boiling water unit at the smaller of the two offices, at 6 Smith St, which is the fifth-largest user of electricity out of all of council's facilities.

The Problem

The offices at 6 Smith St, nicknamed 'Carinos', is fifth largest consumer of electricity out of all of Council's facilities. Lighting is a significant contributor to this consumption, with overhead office lights on for around 10 hours per day every Monday to Friday.

The installed lighting was 74 panels each consisting of twin 36W T8 fluorescent tubes, with a consumption of 72W each panel, resulting in a total load of 5.3kW just from office lighting alone, with additional lighting in auxiliary areas, such as toilets, hallways, meeting rooms and lunchrooms.

These auxiliary areas predominantly had halogen downlights throughout. Although only some of these are on all day (hallways and toilets, with meeting and lunch rooms only getting occasional use), the savings potential in shifting from 45W halogen to LED alternatives was potentially significant. As such, additional opportunities existed in replacing lights in these areas.

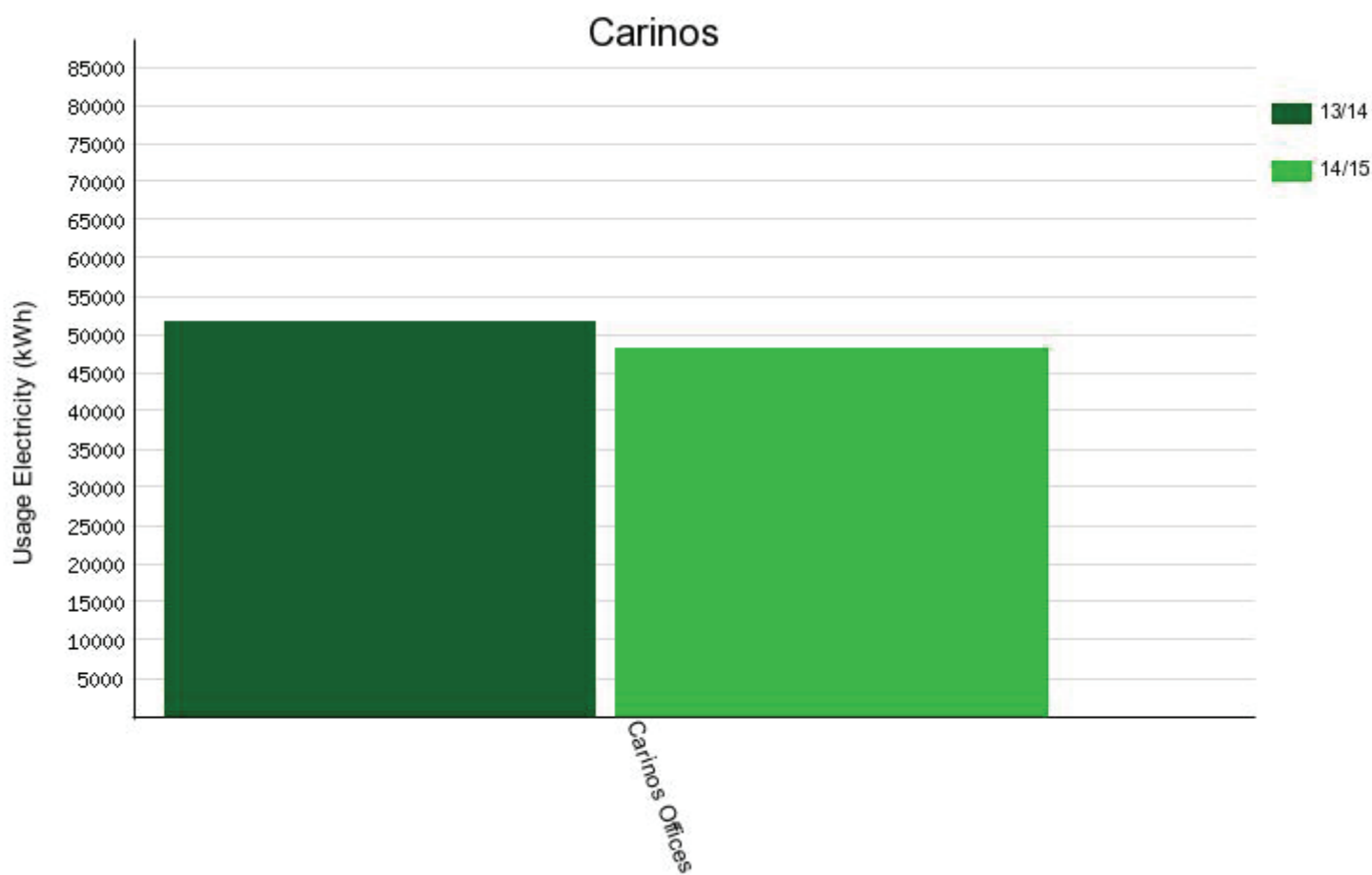
The Solution:

Replacing these with 50W LED panels was anticipated to result in a saving of just under 50% in lighting costs across the site. Further, the chosen LED technology has a more even light output, and reduced flickering, in comparison with the fluoro tubes they replace.

The chosen technology was Greenline LED 50W Flat Panels for the main office area. In addition, it was decided to replace the halogen downlights in the auxiliary areas with LED downlights, and install motion sensors on exhaust fans and lighting in the toilets.

Energy Efficiency Results:

The lights were progressively installed over a period of months in early 2015, and as such it is still a little early to get a clear picture of the energy savings achieved. However the early indications are good. Energy consumption for the 2014/15 financial year is down approximately 7% on the previous financial year, with all of the lights having been installed for between 3 and 4 months out of this entire 12 month period. Extrapolating out over 12 months, we anticipate roughly 20% reductions in energy consumption and up to \$3000.



Energy consumption reductions (2014/15 compared with 2013/14) at the Carinos office, showing a 7% reduction. Note: LED lights were only installed midway through the 2014/15 financial year, so ongoing annual savings are anticipated to be up to three times higher than this.