

CASE STUDY: UNDERSTAND ENERGY BILLS AND COLLECT DATA

Saxon Mailey, The Mews, West Perth



Feedback



By tracking their energy use, this West Perth apartment complex has used data to tackle several lighting projects.

YOU CAN DO THIS PROJECT!

When Saxon Mailey first joined the owners committee (OC) of his 54-unit West Perth apartment complex, he was determined to find ways to make the block more energy efficient.

The block is a three-story complex that comprises 12 separate buildings connected by breezeways. The large grounds are dotted with inefficient outdoor lights.

Measuring energy use and collecting data

At first, Saxon faced the usual challenges of trying to convince a change-phobic OC about the merits of his plan. To get them onside, he installed a simple \$400 device to the complex’s electricity meter to give power consumption data at two-minute intervals.

By monitoring snapshots of their energy use minute-by-minute, the OC could see exactly when the pool pump came on, when the outdoor lights went on and off or whether the reticulation pump was running.

Saxon believes this ability to visualise the building’s energy use is critical. It enables the owners to see exactly what is going on and where to focus their efforts. They can also compare graphs in real time to see the effectiveness of their solutions.

ABOUT THE PROJECT



“We used data to convince our building to upgrade lighting”

Communicating the benefits

Saxon also believes it is essential to communicate the tangible benefits of each project. While he might be personally convinced of the merits of installing energy-saving technology, others need to see it on paper.

He now routinely collects statistics and shares energy data on the complex's online forum to demonstrate the financial benefits, and always calculates buy-back periods to quantify their investments.

Energy efficiency lighting projects

The OC first replaced the complex's outdoor light timers with daylight sensors, so the lights respond to seasonal changes.

Next, they replaced more than 100 lights around the grounds with more efficient LED products.

Car park lighting

Originally, each car park bay was lit by six very bright 1200mm-long 100-watt fluorescent tubes, which were actually using 200-watts of energy once the transformers were factored in. Although they were very bright, the light did not spread well. Rust in the fittings also meant the circuits frequently tripped off in wet weather.

Rather than installing expensive LED tubes, an electrician replaced the whole strip with a standard ES bayonet light holder. These standard fittings were flexible and cost-effective, and enabled Saxon to simply retrofit 5-watt LED light globes.

The OC was surprised at the results. They expected the lower wattage LED lights would save energy and money. But they didn't expect the quality of light to improve. In each carport, by replacing six dazzlingly bright lights with 11 dimmer ones, the light has become more consistent.

The success of this project has been a catalyst for residents to embrace further energy saving improvements.

Walkway LED trial

Saxon's latest project is a trial to test the benefits of replacing existing 600mm fluorescent walkway lighting with LED tubes.

An electrician has switched 12 tubes on one floor of the rear building at an initial cost of \$600. The new LED lighting uses 60 per cent less energy, and if proven effective, it should pay for itself within 18 months of installation.

So far, the trial has been a great success. The new lights consume 50 watts less electricity per light fitting, saving \$400 on the complex's annual energy bill.

Energy and money savings

Since the upgrades began in 2011, the complex has saved a total of \$5300 on electricity bills for common areas, plus reduced ongoing maintenance costs. Once the buy-back periods pass, the savings will increase.

Saxon Mailey's top tips

- **Install an energy-tracking device** to monitor your electricity use minute by minute. The data is invaluable and really convincing.
- **Communicate with the owners committee.** Measure the energy use and explain the savings – graphs and number crunching really helps!
- **Research all of your options**, but be mindful that advice is not always unbiased or accurate. Some of the electricians he spoke to didn't know much about energy efficient products, while others seemed to be pushing particular products for personal gain.



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