

Aged care facility

The Queensland Murray-Darling Committee QMDC completed an energy audit on an Aged Care facility near Warwick, Queensland. The retirement home consists of single level accommodation buildings and the capacity to accommodate 40 residents. The site is split into two original buildings, with a newer multi-purpose building to the rear.

Background

The facility requested an energy audit to determine existing energy usage and used the results to reduce power use.

During the financial year 2012-13, the facility consumed 114,467kWh of electricity, emitting 98 tonnes of carbon. An Energy Audit identified potential energy efficiency cost savings worth approximately \$4257 per year with an average payback period of 3.1 years. These savings represent approximately 10% of the energy currently used by the audited buildings.

Hot water is a significant headache and opportunity on the site. The facility has a separate account using Non-Domestic Heating - Time of use Tariff 37, which is more expensive than the regular Tariff 22. A simple part of the solution is to install a Valvecosy™ (\$17.00) and pipe lagging.

The centre boasts a large kitchen to accommodate a significant amount of catering and features a commercial electric oven. It is recommended this be replaced with an induction stove at the end of its useful life. Induction stoves are around 10% more efficient than conventional radiant electric stoves, 50% more efficient at heating pots, are reducing in price and reduce heat loads (and therefore air conditioning demand) in commercial kitchens (Source: BZE). They are also responsive to changing temperature controls (a common complaint against electric stoves when compared to gas). They do, however, require specialised cookware to work.

It is suggested that the current 36W fluorescent lighting are upgraded to 20W LED tubes. The implementation of LED lights can achieve a substantial saving of up to 60% of the current consumption of the existing tubes. While LED lighting has improved significantly in the last few years, it is important that only good quality lighting be used.

Outcome

With the cost of electricity rising, management can look forward to energy and cost savings in the near future.

Other recommendations:

| Current | Proposed measure |
|-------------------------------------|--|
| Old refrigerator | Replace refrigerator |
| Older delivery fridge | Replace delivery fridge (with an energy efficient mini fridge) |
| General area (100 lights, 12hr/day) | Replace with 20W LED |