

Joe Vella Insurance Brokers - Cairns

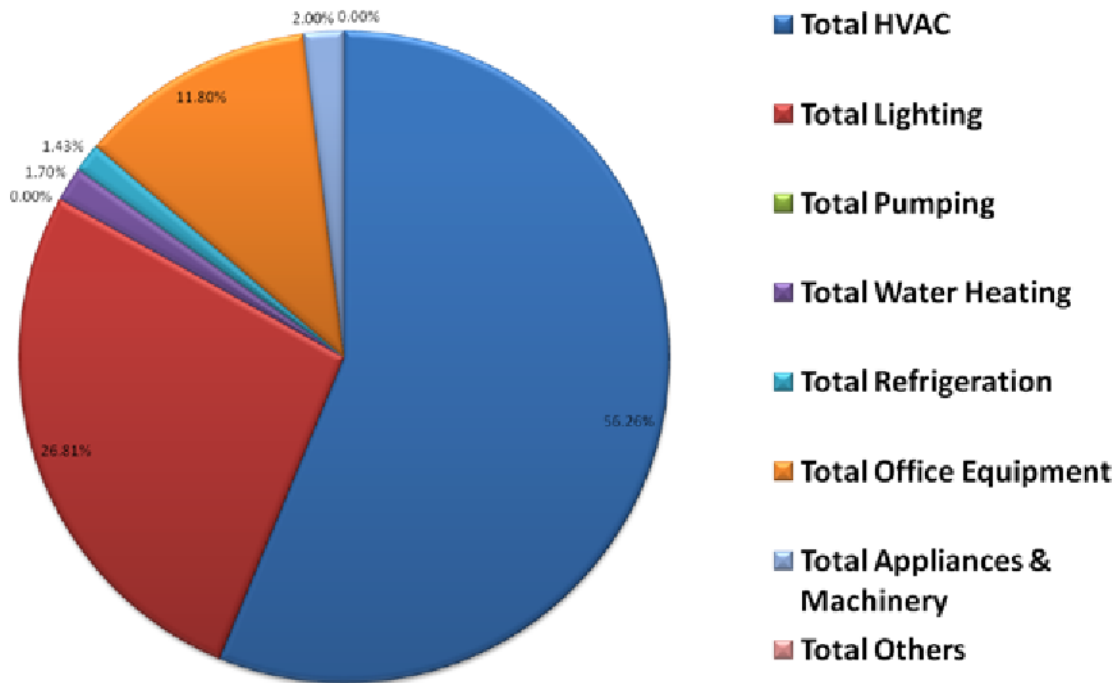
Case study level 2 audit

An Energy Assessment (Level 2 Energy Audit as per AS/NZs 3598;2000) was selected to obtain a comprehensive overview of all electrical load groups in operation and to identify appliance specific improvement opportunities were possible.

An analysis of all electricity accounts operated for the site was carried out as part of the assessment. It identified that one of the three accounts recorded an annual consumption close to the Tariff 20 General Supply for Small Business tariff limit of 100,000kWh/pa. Energy efficiency measures that ensure future consumption remains below the limit will allow the organisation to maintain access to the current, less costly small business tariff.

The daytime operating hours and the organisation's consumption profile also allows for a financially viable integration with a local PV solar system. The system should be connected to the account with the highest consumption which will not only reduce network consumption but further reduce the risk of the organisation exceeding the tariff limit.

The load inventory of the site revealed that air-conditioning and lighting represent more than 83% of the total site energy consumption. Especially during the summer months, the air-conditioning consumption exceeds the consumption of all other loads combined.



Load Group Consumption Details - JVIB

JVIB has 6" bulk insulation installed under the ceiling and the building was only recently renovated to a high standard. External heat loads can be primarily reduced through the use of insulation in walls and roof cavities.

A review of external and internal heat loads identified multiple opportunities for improvement. These include the external shading of sun-exposed windows by awnings or blinds, the application of reflective roof paint and a reduction in internal heat load via a modified lighting system.

A very short payback time on an energy efficiency investment was found in the external LED lighting banner. The use of a \$50.00 timer would allow savings of 2766kWh per year, resulting in a payback period of one month.

JVIB have immediately applied several recommendations from the audit report:

- A new company policy directs all team members to turn off computers and monitors at the end of the working day.
- A monthly report is submitted to management showing energy costs and historical trending.

- Reflective paint was applied to all external air-conditioning ventilation ducts to reduce cool air losses. At the same time leaks were identified and sealed.
- Quotations are currently being sourced from local contractors to replace all T8 fluorescent tubes with T5 fixtures and all halogen downlights with comparable output LED units.

Management has taken a proactive approach to realise the opportunities for lower operational expenses. Knowledge of the tariff opportunities and limitations has enabled JVIB to implement measures that assure the ongoing eligibility for the less costly small business tariffs.

Opportunities for further improvements have been identified and a strategic approach to energy management opportunities has been established.