

DOOMADGEE STORE

ENERGY EFFICIENCY AUDIT, LIGHTING, HEATING
VENTILATION AND AIR-CONDITIONING,
REFRIGERATION



Sustainable Focus has been working with Ergon Energy to facilitate energy audits in remote area general convenience stores located in North Queensland. The findings from an audit at the Doomadgee Retail Store were implemented in 2013 by Sustainable Focus through the Ergon Energy *powersavvy* program. The energy efficiency upgrades have provided large energy savings and many other benefits.

OUR PEOPLE

Rob Smith,
Technical Director & Project
Manager

Rob has extensive experience in the Heating, Ventilation and Air Conditioning (HVAC) industry with expertise in energy efficiency, control system strategy, passive building design and solar heating systems.

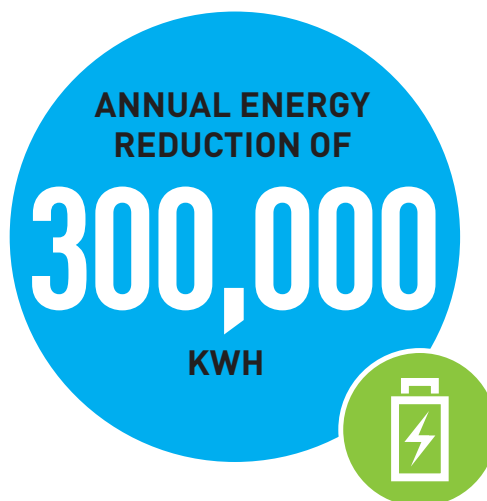
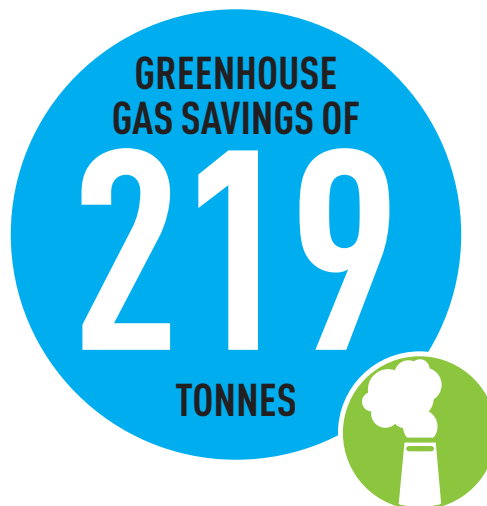
His comprehensive knowledge of these fields enables him to effectively evaluate the functionality of active and passive systems and implement site specific strategies to improve overall efficiency. Rob has many years' experience with governments and industry both within Australia and overseas and is a Certified Energy Manager with the Association of Energy Engineers.

CLIENT FEEDBACK

Sustainable Focus were engaged to deliver a complicated multi technology project, the outcome has met all of our expectations

Des Jackson, Energy Conservation Advisor
Ergon Energy

KEY OUTCOMES



SUSTAINABLE FOCUS WAS ENGAGED TO REVIEW AND IMPLEMENT ENERGY EFFICIENCY OPPORTUNITIES AT THE DOOMADGEE STORE



SURVEY RESULTS

An energy audit of the Doomadgee Store identified opportunities for energy efficiency improvements, particularly in relation to airconditioning and refrigeration. Airconditioning is important for the indoor comfort of customers and staff, while refrigeration is important for maintaining stock.

The baseline electricity consumption of the Doomadgee Store was approximately 733,000 kWh per annum. Airconditioning and refrigeration accounted for 75% of total consumption.

SAVINGS

Since implementing the recommended energy efficiency measures, the Doomadgee Store has reduced its annual electricity consumption by about 300,000 kWh. This is saving around \$60,000 per year in energy costs and reducing annual greenhouse gas emissions by 219 tonnes.

OPPORTUNITIES

The following energy efficiency improvements were implemented at the Doomadgee Store:-

Air-conditioning

A new control system was installed to regulate the air-conditioning system. This initiative has reduced running costs by approximately 35%.

Refrigeration

The refrigeration and freezer systems were consolidated and improved controls have also improved efficiency.

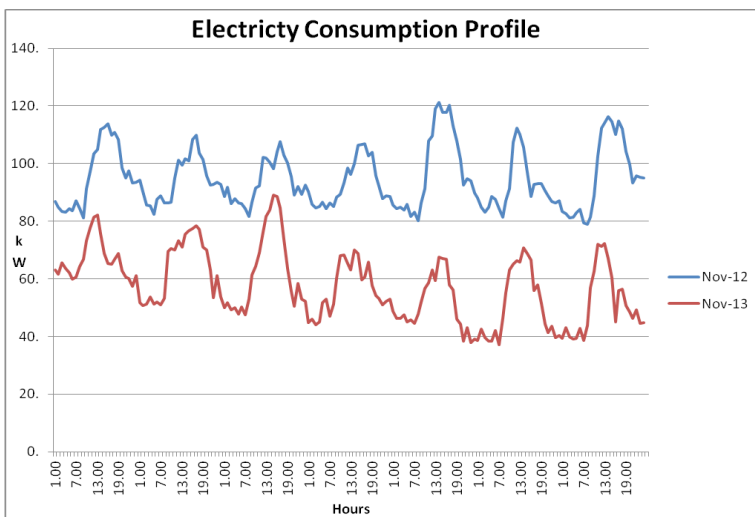
An existing freezer was converted into two high temperature rooms. A control system was fitted to regulate refrigeration and variable frequency drives were installed for the evaporator, condenser fans, and the freezer compressor. The installation of door heater controls has also improved efficiency.

Lighting

Lighting costs were reduced by approximately 50% by installing high efficiency fluorescent and LED lights. Timers were also fitted to lighting circuits and the alarm system so lights are switched off at the close of business.

Investment

Ergon Energy's *powersavvy* program contributed towards the overall project cost, ensuring the store was energy efficient and deferring expensive network infrastructure costs. The life cycle of the new equipment is expected to be more than 10 years.



A comparison of electricity consumption before and after the energy efficiency upgrade works at Doomadgee Store shows an average demand reduction of about 40 kW has been achieved.

MORE THAN JUST SAVING POWER

The investment provided by Ergon Energy through the *powersavvy* program has resulted in innovative solutions and widespread benefits.

As well as saving energy, the project has provided many other benefits, including:

- improved product storage and handling
- reduced product waste
- improved power factor
- reduced maintenance requirements
- reduced heat load on the air-conditioning system
- upgraded community infrastructure
- improved lighting levels

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