

March 2010

Alice Springs Reptile Centre



Reptiles get a solar boost

Company profile

The Alice Springs Reptile Centre is a unique tourist attraction housing the largest display of reptiles in Central Australia, including Terry the saltwater crocodile. The business premises is housed within the heritage precinct in a weatherboard building and more than 100 reptiles are on display both outdoors, and indoors in specially heated cabinets.

The owner of the Centre approached Alice Solar City with the goal of installing solar power and reducing its overall energy consumption, which in turn will help the business in its pursuit for Eco-tourism Accreditation.

Energy survey results

The energy survey identified many opportunities to improve energy efficiency. So the reptiles can maintain optimum body temperature, the indoor displays are heated individually, and many of the outdoor display pits have in-ground electrical heating pads. Terry the crocodile lives in an outdoor heated pool with a combination of solar and gas heating.

The baseline energy consumption was calculated to be 46,500 kWh per annum, comparable to the energy use of 5.5 average Alice Springs households. Air-conditioning accounted for 41% of energy consumption, lighting 17%, pool pumps 15%, and the reptile heating mats contributed 10%.

ALICE SOLAR CITY RECOMMENDATIONS

Install a photovoltaic power system

An 11.4kW power system will be installed on the Centre's rooftops, which will provide around 40% of the current energy consumption.

Install replacement solar hot water service

Replacing and relocating the existing ineffective unit with a new smaller unit will provide an estimated saving of \$200 per annum, and also provides more space for the photovoltaic solar system.

Paint roofing white

This measure will reflect the sun's heat to improve visitor comfort and to reduce air-conditioning costs.

Install a more efficient pool pump and reduce run time

The pool for Terry the crocodile represents 14% of energy consumption. Every 10% reduction in run time will save \$130 per annum and 500kg of CO₂ emissions.

Remove soft-drink vending machine

The refrigerated drink machine costs around \$400 per annum to run, so removing it has meant an instant saving.

Install shading and/or tinting on sun exposed windows

This measure has significantly reduced summer sun access to walls and windows, allowing for a more comfortable experience for visitors and a reduction in air-conditioning costs.

Insulate roof spaces

Bulk insulation of the main building will reduce heating costs in winter and cooling costs in summer, saving up to 10% of total energy consumption.

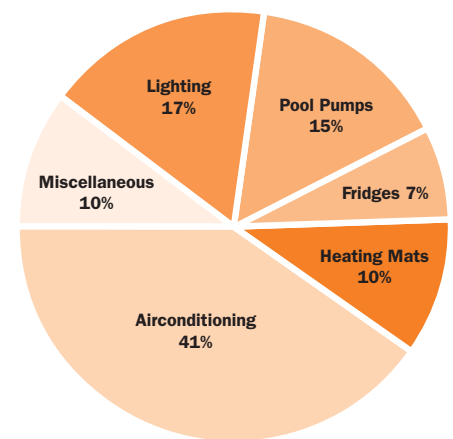
Upgrade lighting to more efficient options

Install high efficiency fluorescent and LED lighting in place of less efficient fluorescent and halogen lighting.

Install an 'airlock' front door

The Centre's open door policy may invite customers in, but also lets cool air out! A second internal door will prevent the loss of conditioned air, without sending a closed-door message.

Electricity Consumption Breakdown



Estimated savings

The combined energy efficiency measures are expected to save around 25% of baseline electricity consumption. Along with the solar power system, they should reduce power draw from the grid by 67%, saving over \$6,000 and 22 tonnes of greenhouse gases per annum.

Alice Solar City incentive value

The total incentive from Alice Solar City will be around \$48,000.

The Centre was also successful in obtaining additional funding from Tourism NT for their combined projects.

"Achieving eco accreditation is an important goal for our business, and Alice Solar City have been a big help in assisting us to achieve our goal – while saving money along the way!"

Rex Neindorf, Director,
Alice Springs Reptile Centre