



Jingaloo

The Setting

This Fact Sheet provides information about the Bushlight Household System installed at Jingaloo community. The system provides power to one new house. The system was commissioned on 31st May 2006.

Background

Jingaloo is approximately 65km north west of Elliott in the NT. Prior to the Bushlight system being installed, the community used a small portable generator to provide electricity for about an hour a day to three small tin sheds.

Community Energy Planning Process

Bushlight has developed a participative approach to energy planning called the Community Energy Planning Model. Facilitated by regional Bushlight staff, this process assists householders to make informed decisions about their specific energy needs, including generation and consumption, which ultimately influences the most appropriate energy service options.

Basic Technical Information

The maximum daily AC load is 4.6kWh/day. There are no DC loads. The system comprises the following major components:

- Roof mounted PV arrays of 2.64 kWp (32 x 80W panels).
- Battery bank – 1200Ah @ 24VDC each providing 2 days of storage at a 19% average daily depth of discharge.
- Inverter – 1.5kW @ 40°C. The expected peak and surge loads are 1.4kW and 3.8kVA respectively.
- The total project cost was approximately \$89,857. This included system installations, data logging equipment, two service visits in the first year and additional works such as reticulation and new light fittings. The Northern Territory Government Renewable Energy Rebate Program provided a rebate of approximately \$41,387 on the total cost.

Monthly Load Variations

The design load takes into account an increased use of ceiling fans and greater refrigeration load during the summer months.

Technical Demand Side Management

To minimise the risk of excessive power usage the following strategies have been implemented in consultation with the community:

- Low amp circuit breakers have been installed to prevent the usage of high power demand appliances.
- Centrally controlled timers have been fitted to certain light, fan and power circuits.
- Individual device timers have been fitted to certain lights.

In addition to the technical demand side management measures, Bushlight staff have facilitated a range of education and training activities to assist the residents to manage their power consumption appropriately.

Appliance Replacement

As part of the overall approach to demand side energy management, Bushlight assists the community with identifying inefficient appliances, which can be replaced as funds become available.

At Jingaloo, an old, inefficient fridge/freezer was replaced with an appropriately sized, energy efficient model.

Agreed Deferred Loads

During the Community Energy Planning process it was agreed with the householders that some specific appliances would be treated as deferred loads. This means the appliances will only be used during those periods when the batteries are fully charged and excess power is being generated. In the case of Jingaloo, it was agreed that the use of the washing machine would be deferred until excess power is available.

Generator Use

The following situations where the generator may need to be run have been identified:

- During extended periods of cloud cover and when there are many visitors.
- When the community wants to use power tools, air conditioners or kitchen appliances

Other Energy Services

In addition to the energy being supplied by the Bushlight Systems, the community continues to rely on the following additional energy source:

- Firewood for warmth and cooking
- Solar hot water heater
- Gas for cooking



Contact Bushlight

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Energy Management Unit

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