

MEASUREMENT & Verification

CASE STUDY: Kith and Kin

M&V used in the not-for-profit sector.

The Project

The not-for-profit organisation Kith and Kin offers a diverse range of opportunities for people with psychiatric and physical disabilities, acquired brain injuries and people with intellectual disabilities.

Cost saved / yr:	45%
Energy saved / yr:	45%
Payback (yrs) :	3
M&V methodology:	Option A

Kith and Kin were pursuing a corporate policy to become carbon neutral. They already had installed a 6.6kW solar (PV) array on their roof, which was generating 234 kWh of electricity. While they had already benefited from lower energy bills as a result of that on-site generation, they had not instituted the energy-efficient behaviours that would drive down their demand on the network and produce sustainable benefits.

An energy evaluation identified four areas of opportunity to reduce energy demand, including:

- heat reflective roof paint
- high-efficiency LED lighting



Kith and Kin reception before the lighting upgrade.



Kith and Kin reception after the lighting upgrade.

- installing ceiling fans in strategic locations to create air movement and allow the air-conditioning plant temperature to be set at a higher temperature (25-26°C)
- installing baffles to air-conditioning unit condensers to prevent hot air discharge from being recirculated through the stacked units.

Kith and Kin operates from a 400 square metre office building at 711 Flinders Street, Townsville.

M&V Overview

All energy efficiency projects supported by Ergon Energy require Measurement and Verification (M&V). The minimum requirements for the M&V are set by the principles and guidelines from the international protocol IPMVP. The M&V auditor is selected from a Preferred Contractor Panel managed by Ergon Energy. A pre-requisite for M&V panel members is registration as a Certified Measurement and Verification Professional (CMVP).

M&V for the Kith and Kin project was undertaken by Energy Decisions, a CMVP. Option A was used to measure the improvement from the LED lighting upgrade. Option C could have been used to determine the savings from all of the ECMs but cost was a factor. Kith and Kin were keen to minimise cost so that they could maximise the funds allocated for the benefit of clients. The lowest cost option which still enabled accurate measurement was Option A.

Benefits of M & V for this project

M&V of the Kith and Kin project allowed the demand savings resulting from the ECMs implemented, to be calculated, while also enabling Kith and Kin to:

- have confidence that the actions it had taken to reduce its carbon footprint and be a responsible environmental citizen were working

- show the improved utilisation of donated funds for direct client benefit, and roll out the energy conservation and
- share demand management learnings with its client base, which traditionally is financially disadvantaged.

It also allowed Ergon Energy to:

- provide evidence of the deferred network value of demand management projects for the Asset Manager and wider business
- quantify the incentive payment for demand reduction to the customer, and
- promote it as a crucial point of difference in the energy conservation and demand management space.



Kith and Kin office before the lighting upgrade.



Kith and Kin office after the lighting upgrade.

M&V Methodology

The M&V option adopted for Kith and Kin was established through negotiation of the M&V Plan with all major parties, including Kith and Kin management, M&V auditor Energy Decisions and the party that undertook the initial Opportunity Evaluation, Queensland Energy Alliance Pty Ltd, with oversight by and approval from Ergon Energy.

The energy savings for the LED lighting upgrade were measured and verified using Option A, Retrofit Isolation: Key Parameter Measurement.

Energy Decisions agreed to accept the theoretical cooling demand modelling undertaken by Queensland Energy Alliance Pty Ltd, which noted that actual savings would be impacted by usage and climatic conditions. In this case cost was an important factor so the decision was made to balance the M&V costs and benefits, with the understanding that 'the estimated savings for a specific project places limits on the expenditure that can be justified for M&V'.

The parties involved and why they made the M&V decisions they did

The Kith and Kin project was part of Ergon Energy's Townsville Network Demand Management Pilot Project, sponsored by The Office of Clean Energy (OCE) within the Department of Employment, Economic Development and Innovation (DEEDI). OCE sponsorship was conditional on the results of each participant project being measured and verified by an independent third party.

M&V of the demand savings by an independent third party is part of the contractual agreement for participation between Ergon Energy and its customer.

More information

For more information on the Kith and Kin project contact Ergon Energy Development Manager Large Customer Demand, Ian McGregor by telephoning 0418 664 140 or emailing ian.mcgregor@ergon.com.au or visit www.ergon.com.au.

