

Midland Nursing Home

Midland Nursing Home, Getting Respite from Electricity Costs with PV Solar

Customer: Midland Nursing Home
Customer Size: 110 Aged Care Beds (3 Respite Beds)
Country or Region: Perth, WA
Industry: Health & Aged Care
Savings: \$24,000 +PA

Customer Profile

Midland Nursing Home has been a specialist provider of residential, high-care for the aged since 1972. They cater for all individuals and backgrounds, with 46 standard service, 29 secure dementia and 35 extra services places. The facility provides nursing and personal care support 24 hours a day to help with activities of daily living and the symptoms of age-related conditions.

Solution Spotlight

- 30kW Solar PV System
- \$97,000 savings in 3 years
- 26% ROI (IRR 41%)



Overview

The unit price of electricity for Midland Nursing Home has been rising significantly in recent years, with the average cost per kWhr (peak) increased by 18% from 2010 to 2012. Average electricity expenses calculated from 2011 Accounts confirmed the electricity usage at the Midland Nursing Home was costing in excess \$9,000 per month.

In order to reduce these costs, a Solar PV System was deemed a serious option and so Carbon Footie was engaged to undertake a Feasibility Study and to report, after a thorough investigation, the usage, costs, savings and the Solar PV options that would best suit their needs.

The Feasibility Study Objectives

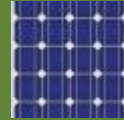
- Determine the current, annual electricity costs of the Midland Nursing Home.
- Determine the minimum daily electricity consumption each month during the peak solar hours of 9:00am to 4:00pm.
- Conclude available rebates that will offset the cost of installing PV Solar
- Develop a 7 year savings matrix
- Perform a cost-benefit analysis and illustrate cash-flows for a 20 year period.
- Conclude the net financial benefits of PV Solar

Carbon Footie's Solar Feasibility Study included all the on-site assessments, which concluded the suitability and integrity of the roof area. An overall site analysis and of course electricity consumption and usage patterns were then completed. This information provided the data required to conclude the optimum Solar PV System which would meet all requirements of the Midland Nursing Home.





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The Solar Solution

The Coordination, design and installation of a 30kWp Solar Generation System with a total generation capacity of 30.00kilowatt was the answer. The proposed Solar System will generate approximately 60,230 kWh's per annum while reducing carbon emissions by quite incredible 49.38 tonnes each year.

In 2011, Midland Nursing Home spent \$112,000 on electricity to power their facilities and with an expectation of further tariff increases their interest in acquiring a solar photovoltaic system was acute. To determine the extent of electricity cost reductions a cost-benefit

analysis was performed. The installation of solar in the short-term would reduce annual costs by at least \$24,000 and generate a payback on the investment in 2.9 years. To put it another way, the savings generated by having solar, will after 2.9 years, be equivalent to the cost of installing the system. The cash-flow benefit after this time will be positive for the life of the system.

The 30kWp Solar PV System installed and commissioned in November 2012 will meet as a minimum 60% of Nursing Home's electricity consumption during peak (9:00am – 4:00pm) solar time. However, the roof-top size and its tilt

means it has the capacity to accommodate a 75kwp system in the future if they decide to go for more solar.

Benefits

At the discount rate of 6%, the Net present Value over 20 years is a approximately \$ 378,000, with an internal rate of return or IRR is 40%.

Positive cash-flows after 2.9 years

Annual Base Electricity Cost reduction of a minimum of \$24,000

Carbon emissions reduction of 49.38 tonnes per annum.

For more information about other Carbon Footie customer successes please visit

www.carbonfootie.com.au/commercial/casestudies

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