



COMMERCIAL SOLAR & GUARDIAN

PRESTONS LODGE AGED CARE



Prestons Lodge is a 132-bed aged care facility built in 2016 by Advantaged Care, a leading provider of aged care facilities in Sydney. JHA Consulting Engineers approached Rheem during the design stage to provide an energy efficient solar and warm water proposal that included budget estimates, STC rebates and pay pack periods. The large number of beds meant that capital and ongoing maintenance costs of providing safe tempered water needed to be considered. The challenge was to provide energy efficient, budget conscious options for the hot and warm water plant requirements.

Hot Water Requirements

The daily hot water load for the facility is 9175 litres. 38 NPT solar collectors would provide 50% of the total hot water load in December and 37% over the full year.

Warm Water Requirements

A study comparing the capital, installation and ongoing maintenance costs of TMV's versus a centralised Rheem Guardian solution was undertaken.

Solution

- 3 x Heavy duty gas 621275 water heaters
- 38 x NPT solar collectors
- 14 x 610430 storage tanks
- 1 x 940240 240L/min Guardian warm water
- 2 x 940002 250L/min ultraviolet disinfection



FACTS & FIGURES

Hot Water Running Costs

Estimated Annual Hot Water Consumption - Approximately 3,348,875 litres p.a. based on 100% occupancy. 2,479 MJ/day @ 2.5c per MJ

Average Annual Solar contribution:
37% or 888 MJ per day

Estimated Annual Running Cost*
Gas Only: \$22,618 p.a. Gas and Solar: \$14,515 p.a.
Estimated Savings: \$8,103 p.a.

Warm Water Costs*
Estimated capital and installation costs -
TMV = \$42,773;
Guardian and UV disinfection = \$23,980

* Data correct as at January 2017. Natural Gas estimated at 2.5 cents/MJ

