

RACV Resort Case Study



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The redevelopment of the RACV Healesville Country Club, located in the foothills of the Great Dividing Range north of Melbourne, has been achieved with a strong environmental and energy efficiency focus. The redevelopment included the construction of a new clubhouse with recreational, conference, and retail areas, and accommodation wings built over 2 levels.

The Project

The development integrates renewable energy infrastructure with intelligent passive design strategies to minimize the energy consumption requirements of the buildings.

Central to the environmental design solution for the redevelopment is a landscaped ornamental lake that is utilized as a heat source and sink for the Bosch FHP Geothermal Heat Pumps that provide heated or cooled water to radiant floor heating and cooling systems and to air handling units for air conditioning.

The Geothermal heat pumps circulate a heat exchange fluid (water) through a network of plastic pipes (Pond loops) that are located in the ornamental lake. As the water temperature of the lake is more stable than the ambient air

temperature, heat can either be transferred to, or extracted from the pond water.

The Pond Loop heat exchange network is a particularly cost effective solution compared to alternative installations requiring excavation.

Benefits

The RACV Healesville Resort is an outstanding example of a holistic environmental solution, incorporating passive design concepts with renewable energy infrastructure.

Excellent indoor air quality and thermal comfort has been achieved, in a building with exceptionally low energy costs.



Geothermal Installation Healesville, Victoria

Background

RACV Country Club located at Healesville, Victoria, Australia

Solution

- > Installation of 7 by WW420 120KW Bosch FHP geothermal heat pumps
- > The heat pumps are served by a pond loop heat exchange field
- > Integration of renewable energy infrastructure with intelligent passive design concepts
- > Radiant floor heating and cooling, plus air heating and cooling via air handling units

Architect: SJB Architects

Building Services & ESD

Consultant: Meinhardt

Outcome

- > Comfortable heating and cooling
- > Energy cost reduction up 50% of conventional technologies
- > Exceptional indoor air quality

GeoExchange
Energy
Infrastructure

