

# Hempcrete House

Case Study



## PROJECT

Hempcrete Home  
[www.ecolibrium.com.au](http://www.ecolibrium.com.au)

## BUILDING TYPE

Residential

## LOCATION

Eerwah Vale QLD 4562

**BACKGROUND:** This project has very much been an exercise in getting the solid beginnings of an ecologically sustainable, long-term, off-grid family home from a tight budget in a sub-tropical climate. The earthy rendered form of the building emerges from the site, complementing and embracing it's natural setting. Thick hempcrete walls encompass the home providing a sense of solidity and a serene interior atmosphere. Timber weather boards, doors and windows all contribute to the natural warmth of this country home. A French, country home feel is created by the rendered and raw-finish hempcrete walls and stone floor tiles. Timber doors and windows, raked ceilings with exposed timber structure and a country style kitchen add to the welcoming winter warmth or cool summer retreat of this home. Glazed elements to the north, south, east and even west down the wide hallway allow for visual and physical connection to all aspects of the external environment, and provide control of breezes and natural light throughout the home.

“Providing a solar roof ventilator to remove air in excess of 28° from the roof cavity adds to the performance of this highly sustainable 8.9 Star home. The performance, aesthetics and simplicity of the RM1600 Solar Star proved it to be the best outcome for our Clients and their forever home.”

The house site sits to the southern edge of a cleared slope that gently falls to the north-east of the base of a broad valley. The striking form of Mt Eerwah to the east provides a focal point for the site, while the broad clearing is ringed with forested gullies and creeks. Prevailing breezes are predominantly from the east and south-east; with hot summer breezes from the north-west; and cold winter breezes from the south-west.



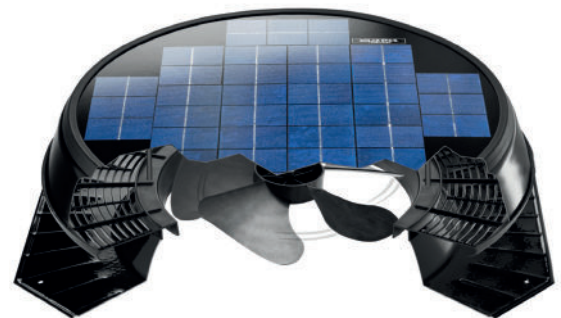
**MAIN AIM:** The main living/dining/kitchen area had to be designed to be well ventilated. Louvres have been used on the northern and southern sides of the lounge and dining rooms respectively to allow good cross ventilation through the middle of the house. The central hallway servicing the bedrooms and bathroom has an external door to allow breezes to pass the entire length of the home. The main bedroom and second bedroom have two and three external walls to give opposing windows. The wall between the entry and the kitchen is not full height, allowing easy mixing of air.



The ventilation of the home pivots around the centralised Lounge & Dining area which features a high set raked ceiling that follows the semi-exposed roof structure. As the home was designed to operate completely off grid a reversible ceiling fan has been provided to circulate air that rises into the space. Then the question was raised about the best solution would be to purge air within the roof cavity in the warmer months.



**SOLUTION:** The Solatube RM1600 Solar Star was selected due to the fact the aesthetic and performance matched the design intent and requirements perfectly. Coupled with the ease of installation and convenience of a built-in power supply which allows separation from the off-grid power system, it was an easy choice. During construction the builders commented on how much cooler the house became when the roof ventilator automatically kicked in.



Solatube RM1600 Solar Star

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