

# Renewable Energy and Environmentally Sustainable Design Case Studies

## Living & Learning in Cardinia

**Site:** Pakenham

**Dates:**

- Design Phase Commencement: February 2005
- General Report Supplied: March 2005

**Client:** Living & Learning in Cardinia

**Project Goals:**

- Recommend passive design techniques and innovative technologies that demonstrate the principles of good design, energy efficiency and renewable technology.
- Identify best practice methods for water and energy use.
- Demonstrate the client's commitment to the implementation of sustainable practices.

**Project Features:**

The Living and Learning in Cardinia (LLINC) centre at Pakenham, offers considerable potential for improved energy management and energy efficiency. This will mean corresponding greenhouse gas and financial savings and improved levels of comfort for those using the building.

Problems were identified with the space occupied by LLINC – being a converted basketball stadium – including unwanted heat loss and gain, ventilation and air quality, energy and water efficiency, and acoustic comfort.

The solutions proposed by Going Solar ranged from simple behavioural changes to modest renovations and equipment upgrades. Poor insulation and airflow, low thermal mass and energy inefficiencies were all addressed. The overall health of the building's occupants was considered in recommendations on indoor environment. Where appropriate, a range of options was presented, with varying impact and expense. Supporting data and sample prices rounded out a detailed investigation and holistic set of recommendations.

**Project Team:**

- Stephen Ingrouille, General Manager, Going Solar
- Elisa Cañamero, Intern, Going Solar

**Further Information:**

- [steve@goingsolar.com.au](mailto:steve@goingsolar.com.au)
- [www.goingsolar.com.au](http://www.goingsolar.com.au)



Poor ventilation & artificial lighting



High ceilings and heating problems  
(Note the lights on in the daytime)



Heating problems on the mezzanine



Protection needed from the sun on  
the north-facing windows & walls