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**Solar Panel Mounting and Ventilation**

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**Solar Panel Mounting and Ventilation**

Sustainability at UWA

- Credit Jonathan Thwaites  
Original at [www.sustainability.ofm.uwa.edu.au](http://www.sustainability.ofm.uwa.edu.au)



**Course Info**

Living with Solar Course  
These courses are held regularly.

Next course is on the weekend 24th-25th March, 2007

**Registration by Friday 16th March, 2007**



**Important issues for mounting of panels**

- Credit Jonathan Thwaites UWA

- Direction
  - Angle of mounting
- Shadowing effects of nearby buildings and trees
  - Mechanical integrity
  - Natural convective cooling
- Collection of dirt on panel surfaces and frames
- Compatibility of roofing, panel, screws and framing materials

Panel temperature has a large effect on efficiency. A 20 oC increase in panel temperature can reduce efficiency by as much as 40%. Natural convective air cooling around the panels is essential to ensure efficiency losses are minimised. Shown below is how not to mount solar panels.



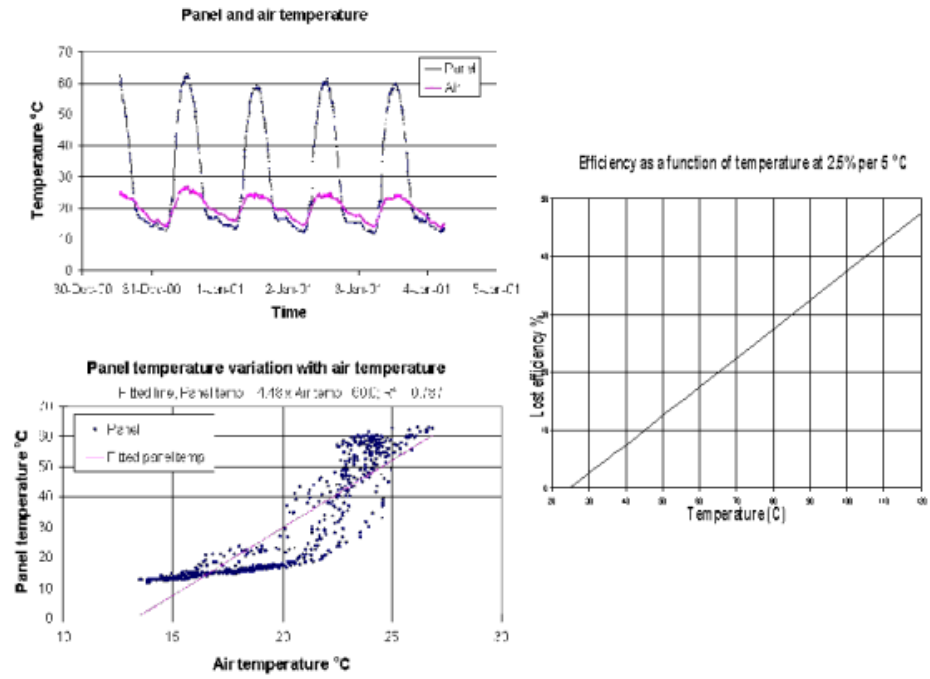
The old mounting system shown above and below left, provided inadequate ventilation for cooling and also lacked mechanical integrity. The mounting system was replaced with the Unistrut framing on the right below with the panels being 10 mm off the roof surface.



Old mounting - SEIA accredited

New Mounting DIY

Temperature data collected off the panels for the old mounting system is shown below together with weather data from the Murdoch University weather station some 15 km from the power station.



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# RAINBOW POWER COMPANY LTD

Manufacture, Sales and Installation of Renewable Energy Systems

1 Alternative Way, Nimbin NSW 2480, Australia.

Phone: (02) 6689 1430 - Fax: (02) 6689 1109

intn'l: +61 2 6689 1088 - Fax: +61 2 6689 1109

email: info@rpc.com.au

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