

Renewable Energy and Environmentally Sustainable Design Case Studies

Urban Camp – ESD, PV and SHW

Site:

Royal Park, Melbourne, Victoria

Dates:

- ESD Option Study: December 2007
- PV/SHW System Design: July 2009
- PV/SHW System Installation: December 2009
- PV/SHW System Commissioned: December 2009

Client:

City of Melbourne

Project Goals:

Assist City of Melbourne in introducing Renewable Energy Technologies in Urban Camp as a part of an environmental sustainable design policy to reduce the carbon footprint of the centre and educate visitors about the renewable energy technology. Going Solar's 2007 study on sustainable use of resources at Urban Camp recommended solar electricity, rain water harvesting and solar hot water.

ESD Consulting Team:

- Stephen Ingrouille, Principal, Going Solar
- Suraj Neupane, Design Engineer, Going Solar

Project Features:

Solar Electricity

- System installed flat on 30 degree pitched and 30 degree west of north-facing roof.
- 24 Schott Poly 210W panels.
- Installed capacity of 5040Wp.
- Expected annual output 6,600kWh helping to eliminate the centre more than 161,000 black balloons per year.
- Integrated with an IG60 inverter and a display system.
- Interpretive wall mounted solar display was customised and designed specifically for the client in Germany. This allows staff and visitors to the site to engage with the installation and observe system information in real time.

PV Project Team:

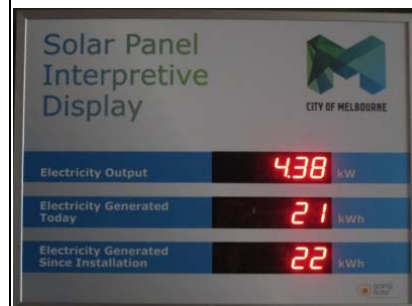
- Jo Bradley, Project Manager, Going Solar
- Narayan Kafle, Design Engineer, Going Solar
- Duncan McGregor, Installer, Going Solar
- Nathan Martin, Installer, Going Solar
- Glenn Robertson, Electrician



PV and SHW Panels



Detail of PV Panels



PV Display

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"The installation of the photovoltaic system has generated a great deal of interest from groups staying at the Camp. The interpretive system is in a central location and provides a great opportunity for students to see first hand the amount of instantaneous power generated, along with the energy generated on any given day. The location of the photovoltaic cells on the roof in the courtyard has also ensured that students can see the cells from the top floor of the Camp. The photovoltaic system can also be seen from a number of vantage points within Royal Park, which enhances sustainable practices within the Park. As many schools and community groups are also looking at implementing 'clean energy' in their local area, the Urban Camp photovoltaic system has been a positive example of clean energy at work in the not-for profit sector."

**Geraldine Davis, Acting Manager,
Urban Camp, 1/7/10**

Solar Hot Water

- 19 kW system capable of replacing approximately 90 GJ of natural gas consumption per year.
- Integrated with 12 flat plate collectors installed on 30 degree pitched and 30 degree west of north-facing roof.
- Bank of four Rinnai commercial 315ltr stainless steel pre-heat tanks.
- 12 Rinnai Excelsior premium copper flat plate solar collectors.
- Rinnai Demand Duo 2 Delivery Capacity/gas boosting.

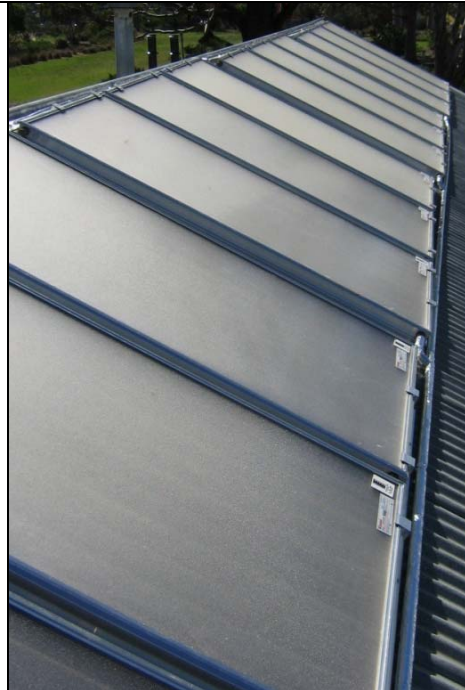
SHW Project Team:

- Mark Donaldson, Project Manager, Going Solar
- Matt Partridge, Plumber

Further Information:

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SHW Panels



Hot Water Storage Tanks