Renewable Energy and Environmentally Sustainable Design

Case Studies

Mark Rooftop – Solar Hot Water

Site: Collins Street, Melbourne CBD

Dates:
- Design Phase Commencement: July 2004
- System Commissioning: April 2005

Client:
Airspace Developments

Project Goals:
Provide a central solar hot water system for 27 rooftop apartments.

Project Features:
The Mark Building is a prestigious Collins Street address and Mark Rooftop is three levels of apartments built on the roof space.

Initially the client requested both photovoltaic and solar hot water systems; however, significant shading from the adjoining buildings ruled out the photovoltiacs.

A centralised solar hot water system was selected, as this provides better economies – given that not all the apartments will be occupied all the time. The solar hot water panels were mounted on the new apartments' rooftop and positioned for maximum solar gain. Hot water from the solar panels is pumped to storage tanks mounted on the side of the building. Five solar storage tanks feed two gas boosted tanks, which in turn are connected to 27 apartments by a ring main. Each apartment has its own tempering valve to deliver water at safe temperatures.

The client has used the solar hot water system as a feature in marketing the apartments.

Project Team:
- Stephen Ingrouille, General Manager, Going Solar
- Lachlan Bateman, Project Engineer, Going Solar

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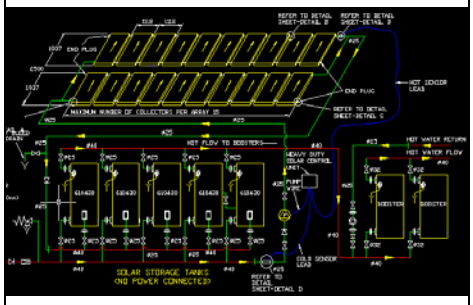
The Mark Building

Rooftop mounting frames

Solar hot water collectors

Solar and gas storage tanks



Schematic diagram

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