



Case Study: Burnley Youth Theatre, Burnley, Lancashire

Designed specifically for young people, Burnley Youth Theatre was developed with funding from a number of different contributors including the NW Development Agency, Arts Council England Lottery, the Lancashire Environmental Fund and Lancashire County Council. The project has been shortlisted for the Community Benefit category of RICS Awards 2006.

Solar Twin were approached by the architectural consultancy manager to provide solar thermal panels for integration into the building to preheat to the primary domestic hot water calorifier.

The installation

4 Solartwin panels were fixed to wall mounted A frames set at 45 degrees from horizontal. The 4 collectors each have their own solar pumping station and connect to an 800 litre thermal store. Solar Twin pipework was run to and from the store through soil pipe, within Armaflex HT pipe insulation.

The connection to the thermal store was direct rather than through a heat exchanger, providing a number of advantages, including:

- Stratified delivery of hot water to the top of the cylinder
- Mains pressure hot water at flow rates comparable to un-vented cylinders but without the annual maintenance requirement and associated costs.



Performance & Grants

The panels are mounted at 45 degrees facing South. The 45 degree angle increases winter collection, and there is some reflective gain from the light coloured flat roof surface in front of the collectors. With each Solartwin panel generating approximately 1000kwh per annum, at the point of delivery, totalling 1000 kg/annum in saved CO₂.

We helped the client win a Clear Skies community grant which provided 50% match funding towards the cost of the Solartwin installation.



Client:



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M & E Contractor:



Burnley Youth Theatre Renewable Energy Technology Datasheet:

Renewable energy type: Solar thermal
Application: Domestic hot water
Number of collectors: 4
Orientation: South
Angle of tilt: 45 degrees on A frames
Collector total aperture: 11.2 sqm
Panel type: freeze-tolerant

Pump type: 24V variable speed
Power supply: 5 Watt PV cell (x4)
Calorifiers: 800 litre preheat thermal store (x1)
Backup fuel: Gas
Global warming target: save 1000 kg CO₂ p.a.
Manufactured in: England