



## Case Study: Bournville Trust, Shenley Redevelopment, Birmingham

The Shenley redevelopment project utilised part of the original Bournville estate and involved the demolition of unsuitable, energy inefficient three storey blocks of flats. The initial phase of the redevelopment was completed in early 2005 and provided the community with 54 new homes, shops and a large medical centre, in a landscaped environment.

We were approached by Bournville Village Trust in 2003 who asked us to design a suitable solar water heating system, which would also be eligible for a Clear Skies Community grant. 16 properties were designated to have solar thermal installations, each of which houses a minimum of 5 tenants.

### The installation.

Panels were fixed above existing tiled roof surface on a mixture of two & three storey properties. Panels were painted to match the chocolate coloured roof tiles.

CHN construction, the mechanical and electrical contractor for the project, carried out the installation of the Solartwin systems. Their engineers and management staff attended a one day installation training course.



The collectors are connected to a Gledhill Boilermate open vented thermal store unit and direct SolarPod, which acts as a separate solar store below the primary heated Boilermate ensuring the coolest water is drawn up into the panels. The thermal stores provide mains pressure hot water to the taps.

### Performance

The panels are mounted 45 degrees from horizontal. Each Solartwin system is generating approx. 1000kwh per annum (net) to the taps. As mains gas is the primary heating fuel being displaced, the total CO<sub>2</sub> saving for the 16 solar systems at Shenley will be approx. 4000kg/annum.



Client:



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Main Contractor:



M&E  
Contractor:



### BVT, Shenley Redevelopment Renewable Energy Technology Datasheet:

Renewable energy type: Solar thermal  
Application: Domestic hot water  
Number of collectors: 16  
Orientation: South  
Angle of tilt: 45 degrees  
Collector total aperture: 44.8 sqm  
Panel type: freeze-tolerant

Pump type: 24V variable speed  
Power supply: 5 Watt PV cell (x16)  
Calorifiers: Boilermate 2000 thermal store (x16)  
& 120 litre direct SolarPods (x16)  
Backup fuel: Gas  
Global warming target: save 4000 kg CO<sub>2</sub> p.a.  
Manufactured in: England