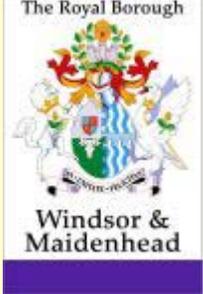


Domestic PV Systems – Greenfields Development, Maidenhead

Existing or Proposed Project:	COMMISSIONED JUNE 2002	
Location:	Alpine Close, Greenfields, Maidenhead	
Project Leader:	Royal Borough of Windsor and Maidenhead	
Description:	A 20 kWp PV installation on 15 social housing properties as part of the DTI 100 roofs domestic field trial and in conjunction with Maidenhead & District Housing Association's INTEGER housing scheme.	



The Greenfields Development

Maidenhead & District Housing Association's (MDHA) Greenfields development has been designed to include a full range of environmental technologies, such as sedum roofing, passive stack ventilation and solar water heating. Each home is extremely energy efficient. PV was included in the brief when the first round of DTI field trial funding was announced, with the local council leading the bid.

The Technology

272 x AstroPower 75W mono-crystalline modules with a total surface area of 172m² have been installed. These feed electricity to Scottish and Southern Energy's DNO network with the DC current being converted to AC via 8 Sunny Boy SWR 1100E and 7 Sunny Boy SWR 2500 inverters.

Each home has a power rating of between 1kWp and 1.8kWp totaling 20kWp. This is predicted to generate 16MWh per annum.



The Installation

The PV modules have been integrated into a specifically constructed, south westerly facing up-stand that forms part of the roof and is optimal for solar gain.

Installation was undertaken by normal electrical and roofing contractors, with training and supervision from Solar Century. Complete installation took an average of 1 day per home.

The PV installation was carefully integrated into the building program by Solar Century in close collaboration with the client, architect and main contractor.

Maintenance and monitoring can be carried out remotely via a dial-up connection to each inverter.

The cost of the PV systems for all 15 homes was £110,000.

Importance to the Thames Valley

The Greenfields development as a whole demonstrates cutting edge sustainable building techniques and should serve as a stimulus to other social housing providers when it comes to specifying for new build homes. Excluding the PV, costs were only 10% higher than for conventional build and it is felt that these would reduce the costs, thanks to the experience gained with this development. All the techniques are readily replicable within the Thames Valley.



The PV was installed after the initial INTEGER project was conceived, and it is to the credit of MDHA and the architect, Bree Day Partnership, that the design of the homes was prepared in such a way that PV could be incorporated at a later date, when it

became affordable. The scheme is a good example of linking energy efficiency with renewable energy.

Partner Organisations

Royal Borough of Windsor and Maidenhead – local authority and PV project lead (www.rbwm.gov.uk)

MDHA – social housing provider and INTEGER project lead (www.mdha.co.uk)

Solar Century – PV design, supply and installation company (www.solarcentury.co.uk)

Bree Day Partnership – architects for whole project (www.architech.co.uk)

