

# BUILDING-INTEGRATED SOLAR HOT WATER SYSTEMS

## LEAD ORGANISATION

Viridian Concepts Ltd  
Low Farm  
Brook Road  
Bassingbourn  
Herts  
SG8 5NT  
Contact: Stuart Elmes  
Tel: 01763 853007  
E-mail: stuart.elmes@viridianconcepts.com  
www.viridianconcepts.com

## COST AND DURATION

The Carbon Trust contribution towards this project is £213,608. The project started in May 2005 and is due for completion in March 2007.

## PROJECT REFERENCE NUMBER

2004-11-2035



Building integration for improved aesthetics and lower cost

## OBJECTIVES

The aims of the project are to develop an innovative, low-cost design for a solar thermal system and demonstrate it to a sceptical building industry.

## SUMMARY

Solar thermal systems are efficient, but the economic payback is too long for all but the 'greenest' consumer. Previous work has focused on chasing ever smaller increases in efficiency, rather than developing measures to reduce production and installation costs. The radical improvement in payback required to make these systems attractive to a larger market will not be achieved by pursuing diminishing returns in the energy collected, but by innovation in design for manufacture and installation.

With support from the DTI, and in partnership with a group of housing developers, Viridian invented a design of solar thermal system that slots into the build programme for new houses at a total fitted cost which is less than a quarter of

that for current systems. Performance models developed by Viridian predict that the new design will have an efficiency which is at least that of currently available systems.

The solar panel integrates into the roof covering providing much improved aesthetics (i.e. it looks as though it was meant to be there, rather than being added as an afterthought).

At the end of the project, the product will have accreditation, and independent test results confirming its energy performance in real-life situations, its 'buildability' and its robustness. In addition, a final design will be ready to move forward to manufacture and commercialisation.

Viridian's product will displace the use of carbon fuels or electricity to heat water in the new homes in which it is installed.

