

## **SOLAR WATER HEATING**

### **What is solar water heating?**

Solar water heating systems trap the sun's heat in panels or tubes for use in homes, other buildings and swimming pools. Here in Britain (yes, even here in Yorkshire!), solar water heating can provide 50 to 70% of the hot water for a home. Hot water bills are reduced by at least half and nearly all of the hot water required during the summer is provided. Solar systems usually give at least 20 to 30 years useful service, during which time the money saved can more than repay the initial cost. They need a hot water tank to store the heated water. Because of this there are only a small number of combination (combi) boilers that can be used with this technology, and they can be more expensive.

### **How does solar water heating work?**

A typical system consists of a heat collector, usually mounted on a roof. It needs to face as near to south as possible (SE to SW is ideal). Water is forced through the collector where it is heated by the sun, then through a coil in the hot water cylinder to transfer its heat to the surrounding water, ready for use. The solar panels are not obtrusive (it's similar to having a Velux skylight on your roof) and can either sit on an existing roof or can be built into it. They can either be professionally installed or you can do the work yourself. Most modern systems are manufactured to ISO: 9002 quality standards, and come with a warranty of up to 10 years.

### **How hot does the water get?**

On sunny days, temperatures of 70 to 85 degrees are common. Even on cloudy days in winter some hot water will be produced.

### **How many panels will I need?**

A typical installation for a family of four would need about 4 square metres of panels (usually two standard panels).

### **Are there many solar systems in Britain?**

Current estimates suggest that there are more than 100,000 domestic solar water heating systems installed in the UK and there are a growing number of commercial buildings with larger systems.

### **Where else is solar water heating used?**

Solar panels are cost effective for heating swimming pools and some industrial and agricultural use, particularly where other energy sources are not available (warm water facilities on allotments for example).

# Renewable Energy Information sheet



## **Will I need planning permission?**

Not usually, unless you live in a Listed Building or Conservation Area. Contact your local authority planning department for advice and also check if building regulations might apply. If there are problems installing the panels on the roof, it may be possible to put a system in the grounds of your house.

## **How much does it cost?**

The cost of a professionally installed system can vary from £3,000 to £5,000 depending on the size and type of system. A DIY installation would reduce this cost to a minimum of £1,200. See [www.greenbooklive.com](http://www.greenbooklive.com) for a list of all installers, products and other information.

## **Are there any grants or incentives available to help with the costs?**

The new Renewable Heat Incentive (RHI) was introduced in 2011 for non-domestic installations and is expected to be extended to domestic installations later in 2012. This scheme pays a fixed rate per kilowatt hour of heat generated for qualifying technologies. Up until 31<sup>st</sup> March 2012 there is the Renewable Heat Premium Payment (RHPP) which gives a voucher for towards the cost of an installation. For details of these schemes, download the **Financial Incentives information sheet** from our website.

## **Where can I find an installer.**

For information about accredited installers within the Yorkshire and Humber area visit [www.yhmp.org](http://www.yhmp.org)

## **Trade Association**

The Solar Trade Association Ltd. (STA) serves as a focal point for organizations with business interests in the Solar Energy industry. The members are made up of the producers of solar collectors and associated equipment and the installers of systems which cover the thermal solar business in the United Kingdom. More details and a full membership directory can be found on their website: [www.solar-trade.org.uk](http://www.solar-trade.org.uk).

A variety of low carbon energy calculators, which can help you calculate everything from your carbon footprint to the wind power and solar potentials of your home or workplace can be found at [www.energysavingtrust.co.uk](http://www.energysavingtrust.co.uk). These are free and easy to use.

**The ATC promotes energy efficiency – it is cheaper to save energy than produce it.**