

Prior to applying for the Low Carbon Buildings Grant, you must undertake energy efficiency measures to ensure that you are minimising your energy requirements. Specifically,

- Insulate loft to 270mm
- Install cavity wall insulation
- Fit low energy light bulbs
- Install basic controls for your heating system.

Details on micro-generation certification on products and technology for the assurance of consumers can be found at:

<http://www.greenbooklive.com/page.jsp?id=4>

For more details on solar thermal heating, please visit:

www.tvenergy.org or call 01635
817420

http://www.energysavingtrust.org.uk/generate_your_own_energy/types_of_renewables/solar_water_heating

<http://www.dti.gov.uk/energy/sources/renewables/index.html>

**To obtain a copy of this leaflet on
tape or in large print please
telephone (01296) 585112**



Photograph Courtesy of TV Energy
For information regards solar thermal in conservation areas:

http://www.helm.org.uk/upload/pdf/17999-SolarThermal_08.pdf



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Renewable Energy: Installing Solar Thermal – A guide for Householders

Introduction to Solar Thermal

Solar water heating systems use heat from the sun to work alongside your conventional water heater. The technology is well developed with a large choice of equipment to suit many applications.

There are three main components:

1. Solar panels or collectors are fitted to your roof collecting heat from the sun. There are two main types:
 - Flat plate – comprising absorber plate with a transparent cover.
 - Evacuated tube – composed of a row of tubes with an absorber plate.
2. A special closed fluid system transfers the heat from the collector to a hot water cylinder when required by the automatic controls.
3. The hot water cylinder which is connected to your plumbing system stores it for use.

Requirements

The technology can operate in daylight only and does not require direct sunlight.

What design best suits your needs depends on a range of factors, including the area of south facing roof available, the existing water heating system (e.g. some combi' boilers aren't suitable) and your budget.

Greater solar heat levels lead to more heat collected, so shaded roofs should be avoided. Due south orientation is best (not north), ideally at a pitch of around 30 degrees) to collect optimal solar heat and allow rainwater to wash the surface.

Solar hot water systems generally come with a 10-year warranty and require very little maintenance. An occasional system check and top-up of the transfer fluid, for example some weeks after first use, should suffice.

Consult your system supplier before purchasing to ascertain the extent of their free maintenance service. Tube systems are more advanced in design than flat plate, and so tend to be more expensive.

Planning

From 6 April 2008, domestic solar thermal technologies will not require planning permission, unless prominent within a Conservation Area or AONB or on a Listed Building. Roof-mounted and stand-alone systems are subject to size criteria. Contact AVDC Planning on 01296 585431 or TV Energy on 01635 817420 for more details or visit:

http://www.energysavingtrust.org.uk/generate_your_own_energy/planning_permission_for_renewable_energy_technologies

AVDC's Historic Buildings Officers can be contacted on 01296 585383 or 01296 585888 for advice regarding the installation of renewable energy systems in Listed Buildings and Conservation Areas.

Considerations

A typical family of 4 will need 3-4m² of southeast to southwest facing roof receiving direct sunlight for the main part of the day. You'll also need space to locate an additional water cylinder if deemed necessary.

If mounted at a minimum angle, solar thermal units are self cleaning. There are minimal maintenance costs as the only moving parts are in the pump, which will need replacing every 5-10 years. Evacuated tubes may eventually need seals replacing. The systems have a practical life expectancy of over 30 years.

Benefits

Solar thermal can provide you with around half to two-thirds of your hot water (but not central heating) needs. It also reduces your impact on the environment - the average domestic system reduces carbon dioxide emissions by around 330 to 350kg per year, depending on the fuel replaced.

Payback

The typical installation cost for a domestic system is £3,000 - £4,500. A domestic system typically reduces gas heating costs by around £150 a year. At current prices this would mean a payback of around 25 years, but this will be greatly reduced with changing gas prices. This would also be reduced in houses that are off mains gas. With Energy Performance Certificates now a required component of house sales, the value of your solar energy system should be realised.

Household Grants

An overall maximum of £400 or 30% of the relevant eligible costs, whichever is the lower.

Householder grants are available until June 2010 on a first come first served basis from:

<http://www.lowcarbonbuildings.org.uk/how/householders/>