

## Climate Change

Climate Change is one of the most serious environmental threats facing the world today. For the UK, climate change means hotter, drier summers (more heat waves), milder, wetter winters, higher sea levels and increased flood risk to coastal areas. It is now widely recognised that human activity is the primary driver of the observed changes in climate.

Under the Kyoto Protocol the UK is obligated to reducing its greenhouse gas emissions to 12.5% below 1990 levels by the year 2012.

## Introduction

Each year, every square metre of the British Isles receives 60% of the solar radiation found at the equator. Solar collectors do not require direct sunshine to work, but use radiated light.

Solar water heating absorbs the sun's energy and converts it to heating hot water. The system works alongside your existing water heating system. During summer months the system can provide all the hot water needed by a household. It can also be used to heat larger applications including swimming pools.

## How it works

The main component in a domestic solar water heating system is the **collector**.

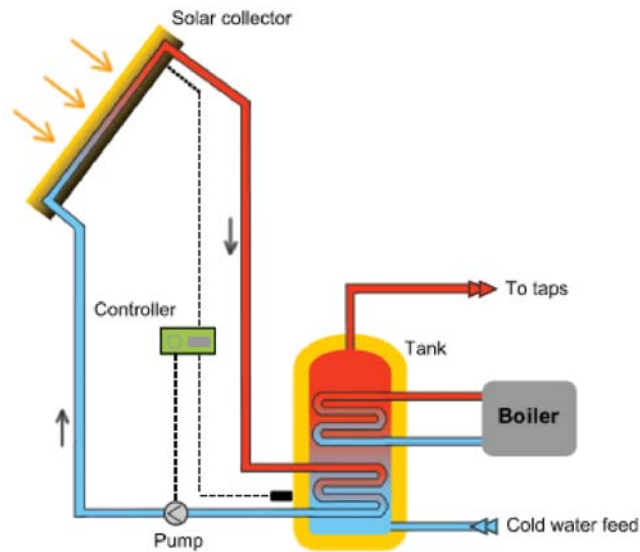
The two basic types of collector are *flat plate* and *evacuated tube*. Flat plate collectors are the simplest and cheapest form of panel, they have a larger surface area to compensate for their lower efficiencies.

Evacuated tubes are more efficient because they operate in a vacuum and are not affected by air temperature and are therefore slightly more expensive.

A **heat transfer system** then moves the heated fluid around the system usually via a pump or sometimes by natural convective force.

The hot water is then stored in a new larger capacity twin-coiled **hot water cylinder**.

## Typical solar hot water installation



## Costs Involved

Each household will have different requirements for hot water, which will govern the type of collector chosen and collector area required. Installed prices for evacuated tubes are typically between £3,500 - £5,000, flat plate £2,000 - £3,000.

A Building Notice is required for systems which replace the hot water cylinder, the fee is currently £109. This is addition to Planning Permission if you live within or immediately next to a Conservation Area or in a Listed Building.

## Maintenance

Solar hot water systems generally come with a 10-year warranty and require very little maintenance. A yearly check by the householder and a more detailed check by a professional installer every 3-5 years should be sufficient (although exact maintenance requirements will vary and should be checked with the supplier). The lifetime of a system should be around 25 years

## Grants

Braintree District Council offer £400 towards the installation costs of solar water heating.

Funding is also available from the Low Carbon Building Programme - 0800 915 0990, administered by the Energy Saving Trust.

They offer an overall maximum of £400 or 30% of the relevant costs, whichever is lower.

There are certain energy saving measures you must already have installed before applying for funding.

You are advised to check on grant availability before undertaking any works.

NB No works must commence prior to receiving written confirmation of grant approval.

Braintree District Council has produced a planning guide on installing wind turbines and solar panels.

Please call **01376 552525** or

email **planning@braintree.gov.uk** or

visit our **website [www.braintree.gov.uk](http://www.braintree.gov.uk)**



## Local Solar Installers who are Accredited to the Low Carbon Buildings Programme

Inclusion in this list does not imply recommendation by Braintree District Council. Neither does omission imply that other contractors may be unsuitable.

Solarworks Ltd  
Frogs Hall Farm  
Lavenham  
Sudbury  
Suffolk  
CO10 9QH  
(01787 247359)

H T Heating Co  
Prospective House  
Windham Road  
Sudbury  
Suffolk  
CO10 2XD  
(01787 376869)

Intelligent Energy  
Unit 2, The Sidings  
Wilford Bridge Road  
Melton  
Woodbridge  
Ipswich  
Suffolk  
IP12 1TB  
(01394 388900)

Ecowarm Solar Ltd  
Unit 9, Brickworks  
Old Stomarket Road  
Woolpit  
Suffolk  
IP30 9QS  
(0845 2309190)

Blueflame Services\*  
Commerce Park  
Whitehall Road  
Colchester  
Essex  
CO2 8HX  
(01206 799994)

SolarPower (UK) Ltd  
2 Tusser Close  
Rivenhall  
Witham  
Essex  
CM8 3PD  
(01376 500990)

\* This company also offers discounts with the installation of solar hot water together with a new high efficiency boiler

Unapproved installers will not be accepted for either Braintree District Council or Low Carbon Buildings Programme funding.

## Energy saving measures you can do now:

1. Turning down your thermostat by 1°C could cut your heating bills by up to 10% and save around £30 per year.
2. Close your curtains at dusk to stop heat escaping through the windows.
3. Do not leave appliances on stand-by or on charge unnecessarily.
4. Only boil the amount of water you need in your kettle.
5. Always turn lights off when you leave a room.
6. Replace ordinary light bulbs for compact fluorescent lamps (energy saving bulbs). They use around one quarter of the electricity compared to ordinary bulbs.
7. When buying new appliances, look for the energy efficient logo, try to buy the most energy efficient model you can afford.
8. Only use your dishwasher and washing machine when you have a full load, you'll save money and water.
9. Whenever and wherever possible hang your clothes out to dry.
10. Avoid short journeys, a cold engine uses almost twice as much fuel.

Further sources of information are available from:

Energy Saving Trust  
0800 512 012 [www.est.org](http://www.est.org)  
Solar Trade Association - 01908 442290  
[www.solartradeassociation.org.uk](http://www.solartradeassociation.org.uk)

If you would like to calculate your carbon footprint and find simple ways of reducing it visit: [actonco2.direct.gov.uk](http://actonco2.direct.gov.uk)

**For further information or advice,  
please contact Anna Billings or Wanda Smith on  
01376 552525 extension 2778/2255  
or email [beat@braintree.gov.uk](mailto:beat@braintree.gov.uk)**

Alternative leaflets are available on other types of renewable technologies from Braintree District Council.



**Braintree Energy Advice Team**

# Solar Water Heating

