

Guide to Renewables



Solar Water Heating

How does it work?

Heat from the sun is captured and used to indirectly heat water. A solar thermal collector -either a flat plate or evacuated tube system – absorbs heat from the sun and transfers it to a heat transfer fluid, eg water with anti-freeze, which is circulated through a heat exchange coil in the hot water cylinder to heat the water. The water runs through the system either with the use of a small pump or by gravity.

A central heating boiler or immersion heater will operate alongside a solar water heating system (SWHS) as a back-up during the winter months.

What are the benefits?

- Source of energy is free and clean
- Can be blended into the fabric of the building, eg roof-mounted – no land take-up
- Well established and proven technology
- Low maintenance with a long lifespan
- Silent operation
- Significant potential – sun's energy can be harnessed on cloudy days
- Can help contribute to reducing Carbon Dioxide (CO₂) emissions from properties
- Can be used at various scales from domestic stand-alone schemes to larger projects such as swimming pools
- Often no need for a planning application for most microgeneration installations at a domestic-level¹ - please contact the Council's Development Control Section for further details (e-mail: planning.applications@tmbc.gov.uk Tel: 01732 876230)
- Government grants available

When and where is it suitable?

To optimise performance for a domestic system, you will need 3-4 sq. metres of a south facing roof angled at 30-40 degrees. A system can operate satisfactorily if the surface is orientated within 90 degrees of due south. Ideally the system needs to receive unobstructed sunlight so avoid locations where there are obstacles between the sun and solar roof, eg trees and other buildings. Please consult the Council's Landscape Officer before considering the lopping of any landscape features (Tel: 01732 876168).

Where a planning application is necessary, you need to take into account other considerations including your property (Listed and/or in a Conservation Area) and your neighbours. Please contact the Council's Development Control Section (e-mail: planning.applications@tmbc.gov.uk, Tel: 01732 876230) for further advice and also consult with the Council's Building Control Section (e-mail: building.control@tmbc.gov.uk Tel: 01732 876305).

Further detailed technical advice, including information on typical costs:

- **Centre for Alternative Technology**
http://www.cat.org.uk/information/info_content.tmp?sku=info_is_renewables/
Tel: 01654 705950
- An Eco-Centre providing practical advice and free information on SWHS technologies
- **Energy Saving Trust (EST)**
www.energysavingtrust.org.uk
Tel: 0800 512012
- a non-profit organisation providing general advice on SWHS (click on 'Generate your own energy' tab on their home page) and technical advice for the development industry professionals (type 'Planners Pack' in the search box)
- **Low Carbon Buildings Programme**
<http://www.lowcarbonbuildings.org.uk>
Tel: 0800 9150990
- find out about available grants
- **London Renewables Toolkit**
www.london.gov.uk
Tel: 0207 9834000
The Greater London Authority has produced a useful toolkit for planners, developers and consultants (type 'London Renewables' in the search box)
- **Creative Environmental Networks (CEN)**
www.cen.org.uk
Tel: 0208 6836694
- not for profit organisation providing technical advice on SWHS (click on 'Developer Support' and select 'Renewable Energy')
- **Kent Energy Centre**
www.kentenergycentre.org.uk
Tel: 0800 3586669
- not for profit organisation offering free and impartial advice on SWHS (click on 'renewable energy solutions')

If you have difficulty reading this leaflet and would like the information in another format, please call 01732 876266 or email ldf@tmbc.gov.uk.

¹Exceptions apply for Listed Buildings, and buildings in Conservation Areas
Image courtesy of Energy Saving Trust