



SOLAR ENERGY TO HEAT HOT WATER (SOLAR THERMAL)

You could save up to half of your hot water heating costs with solar thermal. This can heat your water throughout the year (mainly in the summer), although your existing system would be required to top this up at times of less sun.

This could be suitable if your household uses a lot of hot water for baths and/or showers, currently heated from your main central heating boiler (not instant electric showers) and if you have a southerly facing roof with little or no shade. Most modern washing machines and dishwashers are cold fill, so would not benefit from having solar hot water.

Solar thermal systems can help to prolong the life of your boiler by reducing maintenance requirements. Where an existing boiler is due for replacement, a solar thermal system can reduce the size of the new boiler required. Solar thermal systems are generally very low maintenance. Typical installation costs are around £4000 to £4500 for a 4m² flat plate panel system and £5000 to £5,500 for a 3m² evacuated tube collector system.

Funding, Loans and the Renewable Heat Incentive

Interest free Loans are available for 30 % of the total cost of the installation, up to a maximum of £2,000 while funds last. There is also financial help of £300 voucher from **The Renewable Heat Premium Payment (R.H.P.P.)** if you are prepared to be involved in research into how this technology works in practice, prior to the expansion of the Renewable Heat Incentive to the household sector.

You can apply online by going to the Energy Saving Trust website www.energysavingtrust.org.uk/RHPP. Please read the eligibility criteria listed on this website to make sure you are eligible for the scheme before making an application. Your home needs to have basic insulation installed and the renewables installer has to be MCS accredited.

How the R.H.P.P. scheme works

You will be able to apply for a voucher which can be exchanged for grant money once the solar thermal has been installed. If you are issued with a voucher this is a promise that you will receive the appropriate grant once your equipment has been installed and as long as the relevant conditions of the voucher are met. Vouchers are valid for 3 months and none can be redeemed after 31st March 2012

The Renewable Heat Incentive (RHI)

This will be similar to the Feed-in-Tariff but for heat and hot water instead of electricity generation. The RHI will provide payments over a set period of time to generators of renewable heat. The payment amounts are still to be decided. The Government has announced its intention to make support under the scheme available to households from Autumn 2012.

The Government has confirmed that renewable heat installations installed in homes since 15 July 2009 will get the Renewable Heat Incentive once it comes in, provided they meet the eligibility criteria. They have also confirmed that this will include those who receive support under the RHPP scheme. However, the Government has not yet published its proposals for how the RHI will work in the domestic sector. The E.S.T. cannot *guarantee* that those eligible for an RHPP grant will also be eligible for the RHI.

Roof orientation: Unshaded roofs facing anywhere from southeast to southwest are ideal. North facing roofs are not suitable. Panels are usually pitched at 30° to 45°. They can also be mounted relatively close to the cylinder (around 10 metres) on suitable garage or shed roofs.

Space: Around 4m² of roof space is usually required. Also space for an additional or a larger hot water cylinder. Larger cylinders collect more available solar energy but they also require more space.

Types of Solar Collector : There are two main types of solar collector, flat plate collectors and evacuated tube collectors. Evacuated tube collectors are more effective throughout the year than flat plate panels but tend to be more expensive and less robust.

Integrating with existing heating systems

If your home has a conventional boiler and a hot water cylinder

Installing a solar system is usually just a case of fitting the panels and associated pipe-work and then replacing the existing hot water cylinder or adding another one.

If your home has a combination ('combi') boiler

You will not currently have a hot water cylinder. Your combi boiler might be designed to just take in cold water. If so, this will make it incompatible with a solar water heating system. In this case you should consider installing your solar water heating system with a new conventional boiler, when your combi boiler is due to be replaced. Ask us for further technical information about the option of an in-direct fed solar system and other ways to increase the efficiency of the solar system.

Planning permission is not needed unless it is in a conservation area or on a listed building , as installations are now classed as permitted development. However it is still best to check with the planning department at Aberdeenshire Council to ask if planning permission and/or a building warrant is required.

Maintenance

Solar hot water systems should require very little maintenance. You can expect them to operate for twenty years or more before they need replacing. Once fitted, your installer should leave written details of any maintenance checks that you can carry out to ensure everything is working properly. Solar systems generally come with a 10 year warranty. A yearly check by you and a more detailed check by a professional installer every three to five years should be sufficient. Consult your supplier for exact maintenance requirements before you commit to the installation.

Solar hot water systems are generally very quiet in operation. Typically the only noise is from the small circulation pump which, if audible at all, should be no louder than a modern central heating pump.

The Energy Saving Trust has **renewables advisors** who can provide a site visit and assessment report on the suitability of renewable technologies for your home. They can also tell you if the interest free loans for renewable energy are still available and help answer queries about the R.H.P.P. For details phone 0800 512 012.

If you would like to visit a local example of solar thermal technology contact

<http://www.energysavingtrust.org.uk/scotland/Generate-your-own-energy/Welcome-to-the-Green-Homes-Network>

Here is the website link for MCS accredited installers. This is updated monthly.

<http://www.energysavingtrust.org.uk/scotland/Scotland-Welcome-page/At-Home/Generate-your-own-energy/Installing-home-renewables/List-of-certificated-installers-in-Scotland>

Banchory Energy Reduction Initiative (B.E.R.I.) is a local community organisation funded by the Scottish Government's Climate Challenge Fund until March 2012 and run by volunteers and part time staff. B.E.R.I. Online information at www.banchory.org see link to community projects. For more information tel 077 697 125 20 e mail beri.banchory@hotmail.co.uk Drop in advice sessions at Banchory Town Hall Mondays and Fridays 10.30 – 12.30

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