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GENERATING YOUR OWN ENERGY SOLAR WATER



2C



Helpu Cymru i leihau
ei Hôl Troed Carbon
Help Wales reduce
its Carbon Footprint

A planning guide for
householders, communities
and businesses

What is solar water?

Solar water heating systems gather the sun's free energy and convert it into hot water alongside a conventional water heater. They do this by retaining the heat from the sun's rays and transfer this heat to a fluid, in order to preheat water for use in sinks, showers and other hot water applications.

What is a solar water collector?

- Solar water systems (also known as solar thermal) comprise three main components
 - Solar collectors – which collect the sun's rays so that when the light shines on the panel it heats up the water
 - Hot water cylinder – to store the water that is heated up during the day and supplies it for use later
 - Plumbing system – piping to move the fluid around the system
- **Type:** - There are two different tubes of solar collectors with different characteristics: flat plate and evacuated tubes. These different types will have different efficiencies and will come in different sizes.
- **Location:** - Solar collectors are usually placed on the roof of a building, but can also be wall mounted or stand alone (free standing) structures.



- **Performance:** - For best performance solar collectors will need to face between southeast and southwest and be clear of the shade of trees and buildings. East or west installations can also provide good performance and can be used for a building with a roof or wall that faces within 90 degrees of south.
- **Weight:** – The roof where the solar collectors are to be installed should be strong enough to support the weight and prevent any safety issues arising.
- **Maintenance:** - Solar collectors are considered to have low maintenance if they are installed correctly.



(Credit: Amgen Renewables)



(Credit: Amgen Renewables)

Do I need planning permission for solar water equipment?

Details of the current planning regulations for the installation of solar thermal equipment can be found in Leaflet **3 Generating Your Own Energy - The Current Planning Regulations** that accompanies this pack.

What planning issues should I be aware of when considering installing solar water equipment?

- There are economic, social and environmental impacts that should be considered when installing solar water equipment. Some of these impacts arise during the installation and construction phases, and there are a number of ways in which the design, location and installation of solar thermal can minimise these impacts.
- The checklist below provides some of these impacts and ways in which you can minimise them.

Solar water impact checklist

Issue	Impact	Ways to minimise the impact
Landscape and visual	Visual impacts of solar panels on roof tops.	<ul style="list-style-type: none">• Sensitive design (including colour and appearance) and siting of panels to minimise visual impacts.• Integrate into existing building design features.• If possible, panels should be installed on unobtrusive areas of a roof, such as the inner slopes of a roof valley, or where a flat roof is obscured by a parapet.



Solar water impact checklist (cont.)

Issue	Impact	Ways to minimise the impact
Landscape and visual	Shading.	<ul style="list-style-type: none">• Care should be taken to make sure that the panels are not shaded for long periods of the day, as they will not function when overshadowed.
Historic Environment	Visual impacts on the setting of historic features and damage to structure of listed building.	<ul style="list-style-type: none">• Sensitive design (including colour and appearance) and siting of panels to minimise visual impacts on character and appearance of heritage features.• If possible, panels should be installed on unobtrusive areas of a roof, such as the inner slopes of a roof valley, or where a flat roof is obscured by a parapet.• Installation of solar panels should avoid cutting through structural timber if installed on a listed building.

Solar water impact checklist (cont.)

Issue	Impact	Ways to minimise the impact
Historic Environment		<ul style="list-style-type: none">• Panels need to be installed sensitively when located on lead roofs.• Panels should be mounted over existing slates, rather than replacing the historic fabric with PV roof shingles, to protect the integrity of the building.• Seek advice of a structural engineer before mounting solar units on the roof of a building, where there is any doubt regarding its structural integrity.



Explanation of terms

Landscape	Landscape includes the statutory landscape designations which are National Parks and Areas of Outstanding Natural Beauty.
Ecology	Ecology includes the statutory nature conservation designations of Sites of Special Scientific Interest (SSSIs), sites designated under the Ramsar Convention, Special Protection Areas (SPAs) or Special Areas of Conservation (SACs).
Historic Environment	Historic environment includes archaeology and ancient monuments, listed buildings, conservation areas and historic parks, gardens and landscapes.

Other approvals

There may be other kinds of approval that you may need such as:

- Listed Building consent if a building is listed.
- Conservation area consent if the development is in a conservation area.
- Trees – Many trees are protected by tree preservation orders which mean you need the council's consent to prune or fell them.
- Building Regulations – New building work will often need to comply with Building Regulations.
- Wildlife – Some buildings may hold roosts of bats or provide a refuge for other protected species – these are given special protection.
- Environment Agency licences.

Please check with your local planning authority whether any of these apply to your site or your proposal.

Sources of further information

Welsh Assembly Government	www.wales.gov.uk www.walescarbonfootprint.gov.uk
Environment Agency Wales	www.environment-agency.gov.uk
Countryside Council for Wales	www.ccw.gov.uk
Cadw	www.cadw.wales.gov.uk
Energy Saving Trust	www.est.org.uk Tel : 0800 512 012
Carbon Trust	www.carbontrust.co.uk Tel : 0800 085 2005
Microgeneration Certification Scheme	www.microgenerationcertification.org
Department for Energy and Climate Change	www.decc.gov.uk
Solar Trade Association	www.solar-trade.org.uk
Micropower Council	www.micropower.co.uk
Renewable Energy Association	www.r-e-a.net



Publications available in this series

1	Generating Your Own Energy – A Planning Guide for Homes, Communities and Businesses
2A	Wind
2B	Solar Electricity
2C	Solar Water
2D	Hydropower
2E	Biomass
2F	Biomass (Anaerobic Digestion)
2G	Micro-CHP
2H	Heat Pumps
3	Generating Your Own Energy – The Current Planning Regulations

These documents can be found on our website at:

www.wales.gov.uk/planning



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