



Solar Hot Water

Craig Lodge, Connel, Argyll

Why use green heat?

Craig Lodge is a property built in 1883, and was recently renovated by the owners as a family home. The property has 4 bedrooms as well as downstairs living room, dining room and large hallways typical of many 19th century homes in Argyll. With no mains gas in the village, the only option for central heating and hot water supply was an oil-fired boiler. During the renovation work, which required re-roofing of the entire property, a decision was taken to install a solar hot water panel in order to reduce oil use for heating hot water



"There seems to be an unlimited supply of hot water from the solar panels in the summer. If anyone is renovating their home or constructing a new build property, I would suggest installing solar hot water panels."

Key benefits of the solar hot water system

- Free source of hot water in summer and winter months
- Improved supply of hot water with new thermal storage tank
- No need to use the oil boiler in the summer
- Low carbon heating solution

System setup

The oil boiler provides heat for the central heating system in the winter months, and this is supplemented by the solar hot water panel. In the summer, the oil boiler is turned off, and the solar panels supply all the hot water which is needed. There is a connection for a wood burning system to provide additional hot water in the winter, with the aim of reducing oil usage to a complete minimum level. During the renovation work, the insulation in the property was upgraded in the roof space, and 300mm insulation used to insulate the external walls during the complete removal of old internal walls.

KEY FACTS

- Solar hot water panels provide hot water throughout the year, though a boiler or electric immersion heater is needed during the winter months
- Solar panels usually need a south facing, sunny roof space
- Once you have paid for the installation your hot water costs will be reduced
- Solar hot water is a renewable heating system and can reduce your carbon dioxide emissions

For more information
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Images supplied by
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System Specifications

The system includes two in-roof flat plate panels which are installed on the south facing roof of Craig Lodge. The thermal storage tank is a Gledhill model and the flat plate panels provide a direct supply of hot water which is heated when solar radiation heats up the water inside the panel, and this is pumped into the storage tank. The oil boiler provides hot water to the same thermal tank in the winter when the water temperature is below a certain temperature. When the temperature inside the thermal storage tank reaches 85°C, the system automatically shuts down and goes into a cool-down mode to avoid damage to the solar panel system.



Facts and Figures

FLAT PLATE SOLAR PANELS

Surface area: 4.8m²

Model: Grant UK

Output: Approx. 1,800 kW-h of heat per year

Installation date: October 2010

Installer: Renewables Now

Thermal storage tank: 330 litres

INSTALLATION COSTS

Solar system: £4,400 including storage tank

Funding source: Renewable Heat Incentive (RHI)

COST SAVING

Annual fuel cost saving: £300
(based on 2010/11 prices)

Payback period: 5 years

