

Pure Energy

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Renewable Energy Solutions

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Solar Water Heaters

Give You Free Hot Water

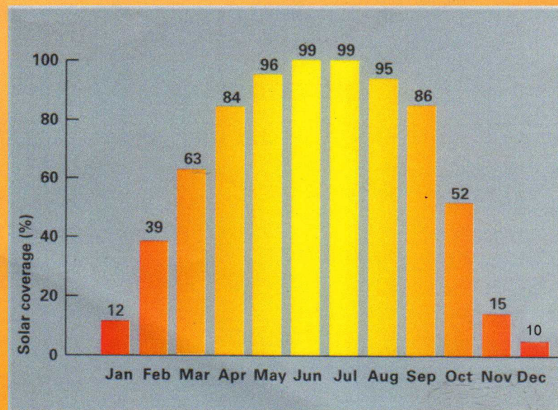
Solar Water Heaters can heat your domestic hot water up to and above 80°Celsius:- FREE OF CHARGE, and can continue to do so for many decades. The only running cost is a 50W pump which operates periodically at a cost of just a few cents per day.

Solar Energy in Ireland – Definitely not a myth

- Ireland's solar climate is as good as Paris and 70% of the solar climate on the Mediterranean coast. In Ireland a horizontal surface of 1 m² receives an average of approximately 1100 Kilowatt-hours (kWh) of solar energy per year (the equivalent of 120 litres of oil)
- Solar energy is provided by both direct sunlight (40%) and indirect sunlight (60%). So, even when the sky is overcast, its radiation (sunlight) is available at ground level and can be converted into useful heat by a solar water heater.
- A 7.5m² Flat Plate Solar Water Heater installation in Ireland can provide the energy equivalent of a 3KW immersion heater running for almost 3 hours on average, every day, 365 days per year.

Solar Coverage

Solar water heaters can produce up to 70% of a household's total annual hot water requirement. This typically equates to almost 100% in the summer, 50-70% in the spring and autumn and 10% in winter.



Money from the Sun!

Once installed, Solar Water Heaters will provide FREE energy virtually every day for decades to come, effectively putting money right back into your pocket.

Reliability and Longevity

The Solar Collectors available from Pure Energy Technology are manufactured by Viessmann GmbH of Germany, a worldwide company who have been dedicated to the production of top quality, innovative heating products for over three generations. The exclusive use of high quality corrosion resistant materials ensures reliability, operational safety, and durability. The glass used is borosilicate (similar to pyrex) which is noted not only for its strength, but also its superior chemical and heat resistance, and very low thermal expansion coefficient. The frames are powder coated aluminium; a process which heat fuses the paint into the metal and produces a completely corrosion resistant result. The fittings used are stainless steel or brass, both selected for their ruggedness and permanence. With a Solar Collector installed by Pure Energy, deterioration or maintenance are not issues.



Flat Plate Collectors

Unbeatable Appearance

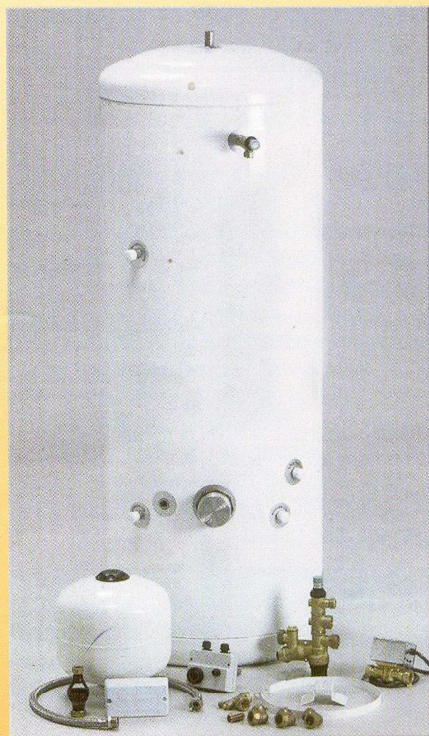
For many people the appearance of the Solar Panels on their roof is an important factor, particularly if the panels will be visible to neighbours or passers-by. The Panels supplied by Pure Energy Technology are out on their own in this regard. As the photo shows they blend in perfectly with the roof surface and with other roof features such as Velux windows and A-Roofs. Couple this with their long-term resistance to corrosion or damage and you have a solar installation to be proud of:- one that will add value to your property, for a long, long, time to come. They'll look like you've bought the best, and worth every penny of it.

Hot Water Cylinder

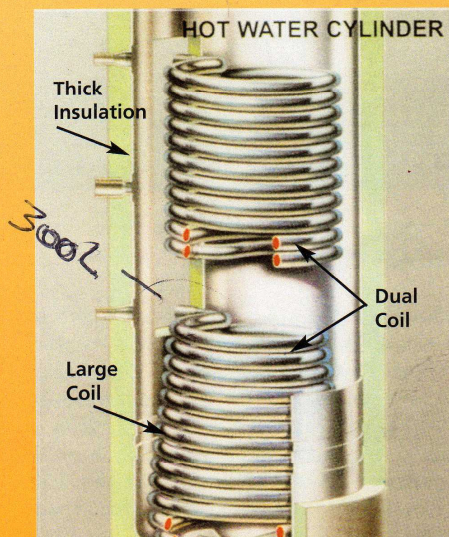
In order to maximise the utilisation of the solar water heater system the hot water cylinder should be chosen with the following characteristics.

Dual Coil – One coil is used for the solar water heater system and the other for the conventional heating system such as the geothermal heat pump.

Large – We recommend a 300 litre cylinder so that the energy from a good solar day can be stored for use in subsequent days.

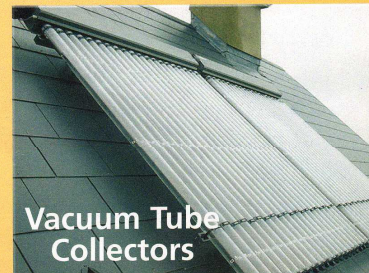
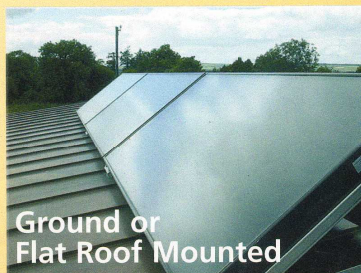


Well Insulated – The cylinder should be well insulated. This is the most critical characteristic of the hot water cylinder. The manufacturers specification should show heat loss characteristics.



Flexible Installation Options

Flat Plate Collectors, also known as Solar Panels, are the most cost effective and provide the best return on investment. They are normally installed on a pitched roof or they can be mounted on the ground or on a flat roof. The best pitch angle for our latitude is about 42° and the working range is between 30° and 65°. The best orientation is South-facing, but an orientation anywhere between South-East and South-West works well with very little loss of efficiency.



Vacuum Tube Collectors are more expensive to purchase than flat plate collectors when measured in potential units of energy acquired versus euros spent. However the Vacuum Tubes supplied by Pure Energy offer the advantage that they can be individually rotated and orientated towards the sun. Consequently they can be installed on roofs where the pitch is outside of the optimum range, or also on vertical walls. As they produce a higher yield per m² of collector area they are sometimes the preferred option when roof space is tight.

Full Range of Installation Services

Pure Energy Technology supplies all of the components necessary: the Solar System; the special fixing kits for a pitched roof; the customised mounting kit for ground installation; and the hot water cylinder. We offer this as a **full installation service** in which our experienced installers will: go to your site; fit the fixing kit to your roof battens or the mounting kit in its flat location; attach and interconnect your panels; install the pumping station, connect to your cylinder; test the safety systems, and commission the entire system. We can also run the flow and return from the panels to the pumping station using flexible stainless steel piping which is installed without joints and is therefore leak-proof. Alternatively we can work with your plumber on a **supply-only basis**, either with or without instruction as the case requires.

Installation in a new house is done when the roof battens have been put in place and before tiling, or slating, is commenced on the section of the roof where the panels are to be installed. In an existing house, some of the tiles, or slates, need to be removed so as to expose the battens where the panels are to be installed. The alternative is to opt for ground mounting of the panels. It is also probable that the existing hot water cylinder will need to be replaced by one having the characteristics described herein.

System Diagram

Solar Energy is collected by the solar collectors and pumped to the heat exchange coil in the hot water cylinder from where it passes to the domestic hot water as heat. The system uses an electronic controller to activate the circulation pump when solar energy is available in the fluid at the collectors.

A secondary heating system is connected to the second coil in the hot water cylinder for use at times when solar energy produces less than 100% of the required energy.

