



## Guisborough – 1980s Home



### Information on this home

This home was built in 1989 with an efficient mains gas boiler, cavity wall insulation, a well insulated loft space and double glazing (has since been replaced).

### Renewables:- electricity

#### Solar Photovoltaic system

**Installation:-** October 2011

**Installer:-** Minel, Newcastle

<http://minel-energy.com/>

**Technical details:-** 16 × 250 W panels giving total peak output of 4.0 kW.



The inverter is fitted in the loft space with the generation meter located next to the consumer unit under the stairs. This had to be replaced at a cost of ca £350 with a modern one with circuit breakers instead of fuses.

**Benefits:** Feed-in Tariff payments for generation and payments for deemed 50% electricity export (plus electricity off-set).

Installation costs are not relevant to today as they have changed considerably.

### Electricity Generation since installation

Year	Generation / kWh
2011 - 2012	3 700
2012 - 2013	3 600
2013 - 2014	3 800
Predicted for a typical year	3 550

Prediction from <http://re.jrc.ec.europa.eu/pvgis/>

### Personal insights

The home owner was wanting to generate green electricity and was not motivated by the Feed-in Tariff. However the proposed reduction in FiT in November 2011 provided an incentive to get on with installing the system.

To maximise the use of the solar generated electricity appliances such as the washing machine and dishwasher are used during the day. This is easier for retired people.

*Details of products and installers are provided for information only and cannot be considered as endorsements by Moor Sustainable*

## Renewables:- heat

### Solar PV to hot water Immersun

The Immersun is an automatic power controller that diverts surplus power, usually to an immersion heater. Any electricity that is not being used for other purposes within the house is diverted to the immersion heater until the thermostat records that the tank is full of hot water.

**Manufacturer:-** 4eco Ltd

[www.immersun.co.uk/](http://www.immersun.co.uk/)

**Installation:-** September 2013

**Installer:-** Aeris Solutions, Guisborough

<http://aeris-solutions.co.uk/>

Cost:- ca £400

### Electricity transfer

The ImmerSUN transferred 835 kWh to the immersion heater in the first 12 months of operation.



## Personal insights

Given that the south facing roof has the solar PV panels no space was available for a solar thermal system. The Immersun is not cost effective within a reasonable pay back period but it is not too expensive and does provide a reliable method of green water heating. If a PV system is being installed it is worth checking to see if installers will offer a package deal.

The Immersun is left to operate 24 hours a day but will only provide electricity to the immersion heater when the PV system generates a surplus. From March to October each year there is no need to use the gas boiler for water heating.

The home owner is waiting for battery storage technology to develop so that an economic solution is available to use more of the electricity generated by the PV system.

*Details of products and installers are provided for information only and cannot be considered as endorsements by Moor Sustainable*