Morvoren Solar Photovoltaic (PV) System – information for guests

Morvoren has had a Solar PV System installed on its south-facing roof. Here is some information about the system:

- It is a Photovoltaic or PV system, producing electricity
- The electricity is used in the house first, but then, if there is surplus, it is 'exported' to the grid for use by others
- There are no batteries involved as it is grid connected, and is configured to stop working if there is a grid power-cut (to stop any grid engineers being electrocuted!)
- It was commissioned and started producing on Tuesday May 17th 2011 at around 5:30pm.

- The system is a 3.995 kWp (3995 Wp) system, meaning that, any given moment, the maximum power it can produce is just less than 4 kW. There are 17 panels, each producing a maximum of 235 Watts.
- Over a year, such a system is predicted to produce 4,200 units (kWhs) of electricity. This calculation is made taking into account Morvoren's location, the orientation (South) and the inclination of the roof (30 degrees).
- Cornwall is the best location in the UK for PV systems – with a house such as Morvoren producing over 1050 units per kW installed per year. Contrary to what you may sometimes hear, the UK is perfect for PV electricity production – with peak power being produced in strong sun but cold conditions. Also don't believe those who suggest the carbon/CO2 payback from the panel's manufacture is too long – not true at all.
- The current is produced in DC, which is then converted to AC by an inverter. The inverter is installed in the outside cupboard and should be left alone except in an emergency.
- Both the panels and the inverter at Morvoren are German manufactured - the PV panels were made by Schott, and the inverter by Diehl Ako. Germany is the largest PV market in the world – driven by their Government Feed-In tariff.

- The UK Government Feed-In Tariff scheme helps to make Morvoren's system cost effective. Every unit of electricity produced by the system raises 43.3p, index-linked and guaranteed for 25 years from point of installation. Then, if the unit of electricity is used at the house, a unit that would have been purchased is avoided – effectively saving Morvoren 12-14p. And if the unit is exported instead, the grid will pay 3p for it on top!
- 4 kWp is the effective maximum sized system. Above this the FiT drops, meaning that it's only worth going bigger if you can fit a system larger than 6 or 7 kWp.
- A 4 kWp system costs around £15,000 on a slate roof, with Payback being around 7 years. Systems are available and cost-effective from about £7,000 and 1.5 kWp.

- PV systems are very safe and very reliable. There are no moving parts, and very little maintenance (unless seagulls decide to make them their perch)

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- This system has 2 AC isolators and 1 DC isolator – big switches that will stop all the current from the roof. These should not be needed except in an emergency or for system repairs or changes. One AC isolator is located in the hall cupboard near the consumer unit, while the other AC and the DC isolator can be found in the locked PV cupboard. A key to access the cupboard if there is an emergency can be found in the property.

- The system was installed by It Won't Cost The Earth Ltd, a company who install PV all over the UK. They are different to other providers in that they ask customers to complete 2 Surveys online, providing their own measurements and photos. This allows them to provide the best quality PV equipment installed by the best local installers at the best price.
- Visit their website at www.itwontcosttheearth.co.uk or email enquiries@itwontcosttheearth.co.uk or call Patrick on 07973 136398 with any questions or enquiries.
- It Won't Cost The Earth is a sister company to Raintree House Holidays and is hoping to install plenty more systems in sunny North Cornwall.

Enjoy your free electricity!

3.995
kWp

Latitude:	50°31'27" North,
Longitude:	5°1'21" West
Nominal power of the PV system:	3.995kWp
Inclination of modules:	30deg.
Orientation (azimuth) of modules:	0deg.

Month	Daily	Monthly
Jan	4.73	147
Feb	7.41	207
Mar	12.1	374
Apr	16.4	492
May	17.2	532
June	17.6	528
July	15.6	485
Aug	15.2	472
Sept	13.8	413
Oct	8.59	266
Nov	5.44	163
Dec	4.03	125
Average	**11.5**	**350**
Total Estimated Annual Production		**4200**