



Case study Ocombe Farm Paignton

RENEWABLE ENERGY 4
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Introduction

The Trust has an educational ethos and caters for regular school visits, with an education centre. Ocombe Farm is owned by Torbay Council and managed by Torbay Coast and Countryside Trust (TCCT). The 150 acre organic farm opened to the public in March 2006, aiming to reconnect people with the countryside, farming and food production.

Project development

- TCCT has high environmental standards so when planning began for a new building they wanted to make it as sustainable as possible.
- The decision to use solar photovoltaics (PV) was made by the Education and Community Manager with support from Devon Association for Renewable Energy, but without 100% funding the system could not have gone ahead.
- A quote was obtained from local installer, Becosolar, and funding applications were made to Clear Skies and to EDF Energy. Both were successful so the order was placed in February 2006 and the system was installed three months later in May.
- As well as generating electricity TCCT knew that the PV could be a valuable educational resource and opted for a real-time display unit showing electrical production and CO₂ savings which has been extremely important in achieving that potential.

How the system works

Solar PV converts sunlight into electricity; this system uses polycrystalline cells, made from two thin wafers of doped silicon which is a semi conductor. Sunlight causes electrons to move across creating an electric current. The array at Ocombe Farm is on a cattle barn. Inverters connect the system to the grid allowing TCCT to sell any surplus electricity back to an electricity supply company.

Costs and benefits

- The total cost for the installation was £25,961, and grants of £12,000 and £13,961 were received from Clear Skies and EDF Energy's Green Fund respectively.
- The system produced 4,718kWh in its first year, saving 2,028 kg of CO₂ including the use of renewable energy.
- If Ocombe Farm had only been able to secure 50% of the funding, the simple payback period could have been up to 22 years (based on electricity prices at Jan 2008).

Technical details

Solar PV (4.8kWp)

60 x 80w BP-380U polycrystalline modules

Inverters

Sunny-Boy - 2 x SB-1700E and 1 x SB-1100E

Installer company

Beco Solar

Wider benefits

As part of their overall commitment to sustainability TCCT incorporated a variety of energy efficiency measures, rainwater harvesting (for toilet flushing etc), and use of their own timber in the construction of the main building.

A network of local farmers supplies the farm shop, bakery, butchery and café to ensure good quality food with a lower carbon footprint.

The PV has been very successful and TCCT is looking into the possibility of a 20kW wind turbine at the farm as well as renewable energy options for their nearby Cockington Court sites.

The pv has a digital read out panel showing the energy generated which is used widely during school visits to educate children on renewable energy

The Education and Community Manager – Julian Cornell – said “we found the installer very helpful and supportive. They helped us apply for grants, as without total funding, the installation wouldn’t have taken place. The simple presentation of the data makes for fascinating viewing and really brings home how much power we need to generate to meet our energy needs. In return we hope this will encourage people to reduce their energy consumption and consider introducing sustainable technologies into their homes.”

Further information

- The site can be visited at any time, and more information can be obtained by calling 01803 520022.
- www.countryside-trust.org.uk/occombe
- www.becosolar.com 01803 886329

Contact RE4D

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For independent advice and support

Image gallery

