

# CASE STUDY: RENEWABLE ENERGY AT DEVON COTTAGES



**Audit Year:** 2010

**GTBS Award:** GOLD

**Business Name:** Millbrook Cottages

**Business Type:** Self Catering Cottages

**Location:** Devon, ENGLAND

**Website:** [www.millbrookcottages.co.uk](http://www.millbrookcottages.co.uk)

Millbrook Cottages have retained a GOLD award since they entered the scheme in 2007. The owners are committed to sustainable business practices as demonstrated by the many measures adopted to reduce the business' impact on the environment. This case study focuses on their commitment to reduce dependency on fossil fuels by installing a number of different renewable technologies onsite. The estate on which the cottages are situated are very nearly self sufficient for their electricity thanks to a 5kW wind turbine, 2.2kW array of photovoltaic panels, 750W hydro system, four air-to-air source heat pumps and a biomass boiler.

## Environmental Benefits

Various renewable technologies have been installed over the last three years:

### Wind Turbine

Power output: 5kW  
Cost of installation: £22,000  
Payback Period: 8 years

### Solar Photovoltaic Panels

Power output: 2.2kW  
Cost of Installation: £9,000

### Hydro System

Power output: 750W  
Cost of installation: £700

### Air to Air Heat Pumps

Coefficient of Performance: 1:6 i.e. 1 unit of electricity generates 6 unit of heat output  
Cost of installation: £700 per unit.

### Biomass Boiler

Cost of installation: £18,000  
Payback period: 10 years.  
Power output range: 0-40kW

## Economic Benefits

Millbrook Estate is enjoying the benefits of Feed-In Tariffs (FITs) from the energy produced from the wind turbine. With the Feed in Tariffs included, Millbrook estate is making enough financially to cover the cost of the site's electricity.

FITs are payments to ordinary energy users for the renewable electricity they generate. They were introduced in Britain on the 1<sup>st</sup> April 2010 to encourage an increase in the level of renewable energy generated in the UK and to meet the nation's legally binding target of producing 15% renewable energy by 2020. Regular payments are made to householders, communities or businesses that generate their own electricity from renewable resources.

### Where next?

The owners are currently applying for planning permission to develop a further 8kW photovoltaic stand alone array. Its efficiency will be improved with the installation of a solar tracking device and micro inverters.

## Web Links

Feed-In Tariffs: [www.fitariffs.co.uk](http://www.fitariffs.co.uk)  
Energy Saving Trust: [www.energysavingtrust.org.uk](http://www.energysavingtrust.org.uk)