



## A Dunsley Farm



### Information on this farm

This is a 370 acre mixed arable and beef farm.

A 45 kW wood pellet boiler heats the farmhouse and neighbouring second house on the farm. Each house has its own 4kW photovoltaic systems.



### Renewables: heat

**Boiler:-** Windhager BioWIN wood pellet boiler 45 kW, provides heating and domestic hot water for the two houses. The farmhouse has 17 radiators. The other house has underfloor heating downstairs and nine radiators upstairs.

Hot water is stored in a 1500 litre thermal store adjacent to the boiler and is then piped underground.



**Installed:-** December 2012

**Cost:-** £31,000

**Installer:-** Life's Energy, Scarborough,  
<http://lifesenergy.co.uk/>

**Financial support:-** Commercial Renewable Heat Incentive will be paid at a rate of about £5,000 per year for 20 years. Exact payment is linked to heat generated that is metered, but it approximately covers the fuel costs for this system.

**Fuel use:** Fuel use is approximately 25 tonnes per year. The wood pellets are delivered in bulk by tanker from Forever Fuels, <http://www.forever-fuels.com>

Current cost is around £205 per tonne including VAT.



**Issues to consider:-** The wood pellet tankers carry 14 tonnes. The cost per tonne may be more for a part load, unless the rest of the load can be delivered to somewhere else nearby. The pellet store was planned to contain 14 tonnes but this was reduced by the addition of a sloping floor to aid flow. An additional 1.7 m<sup>3</sup> would allow storage of a full load if the store was empty.

### **Renewables: electricity**

**Solar Photovoltaic Panels:** Two separate systems each of 16 panels with peak output of 4 kW. One is on the roof of a house and the other on a barn roof, so requiring extra expenditure on armoured cable. Both systems face WSW and are not visible from roads or footpaths.

**Installed:-** July 2011

**Cost:-** £9,250 and £9,750

**Installer:-** Life's Energy, Scarborough, <http://lifesenergy.co.uk/>

**Financial support and savings:-** Feed in Tariff (FIT) payment began at 43.3 p per kWh giving an income of about £1,400 in the first year for each system. There are also some savings through reduced domestic electricity bills but these are very hard to estimate.



**Issues to consider:-** The system on the barn roof has two inverters, each for 8 panels. Any difference in output will indicate a likely fault. The inverter in the house is in a cupboard and a fault was not spotted for a while. A Bluetooth monitoring system is worth considering.

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