

Case Study

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Up to **100% funding** is available for energy efficiency measures such as: Biomass, Solar Photo Voltaic Panels, Anaerobic Digestion, Combined Heat and Power, LED Lighting. **Interest-free loans** are also currently available to fund up to 50% of the capital cost of a project. **Call us for more information: 0870 710 7560**

Organic Dairy Farm

The Problem

An organic dairy farm and environmental education charity located in South East England. At the centre of the farm is a Grade II listed manor house dating from the 17th Century. The Trust who ran the farm and charity expressed a wish to reduce their carbon footprint and were keen developing renewable energy projects as a way of doing this.

The Solution

A biomass feasibility study was conducted resulting in a wood chip boiler being specified to heat the manor house. The Trust were advised on the sizing, design, layout, fuel store and procurement including establishing local fuel supplies. Grant funding was identified and secured to enable the installation to take place. The Trust initially purchased wood chip from another local farmer but after further research, were able to develop their own supply by adjusting the management of their own woodland.

Broader energy efficiency and renewable energy studies were undertaken and anemometry to assess for the feasibility of wind power has been carried out, with a PowerPredictor unit mounted on a 15m mast. The Trust have applied for a number of grants, including for capital towards their 11kW wind turbine installation and for further project development money from the Local Energy Assessment Fund. Support provided to the Trust includes financial modelling, planning applications, tendering and project management.

A detailed zero fossil fuel strategy was developed for the site including all aspects of energy efficiency, renewable energy, heat networks, sustainable transport, water consumption and waste minimisation. The site currently uses 10 different fuels but by the end of the study a viable strategy had been developed to eliminate the use of all fossil fuel. Recommendations ranged from improving lighting control and topping up loft insulation to the application of variable speed drives and installing a new anaerobic digester. Central to the strategy was the development of a site-wide biomass heat network to integrate the existing chip and pellet boilers with additional biomass capacity.

The Outcome

The Trust have installed one chip boiler, two pellet boilers (with the beginnings of a site heat network), a solar thermal system, a 50kWp solar PV system, (optimally sized to benefit from the Feed in Tariff) a wind turbine and a small bio-diesel production plant, as well as numerous energy efficiency measures. The farm's old anaerobic digester has been out of use for some time now but installing a new, more efficient system is an important strand of the overall "Zero Fossil Fuel" strategy.

The Trust now cut and season a sustainable quantity of their own woodland before chipping the logs the following year. This process enables the charity to fill a barn with wood chip providing them with enough fuel for a whole year.



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