

Great Barton Village Hall Case Study



Ground Source Heat Pump

The challenge

Great Barton village hall was built in 1952 as a memorial to local men and women who served in the Second World War. The hall was cold and damp with minimal wall, ceiling and floor insulation in place and the doors and windows were mainly single glazed.

As the hall provides a public venue for local residents the Trustees of the management committee decided to make some changes to make the village hall a nicer social environment and to reduce the halls energy bills and carbon dioxide (CO₂) emissions.

The trustees are not only committed to reducing the village halls energy costs and carbon footprint but also to working with the local community to reduce energy usage and CO₂ emissions from their homes. The Trustees organised for an energy feasibility study to be carried on the village hall out in October 2008 to highlight potential areas of improvement.

A ground source heat pump and solar PV were recommended to significantly reduce the halls energy costs and CO₂ emissions. The annual energy consumption and carbon emissions resulting from these technologies were expected to reduce by around 7,800 KWh of electricity, saving around £950 and around 3.4 tonnes of CO₂ every year.

Community engagement

The Parish Council, as custodian trustees of the village hall, were fully supportive of the project. A village hall survey carried out in June 2008 and completed by 320 people showed 100% support in favour of heating the premises using renewable energy.

A well experienced and qualified project team of local volunteers managed the project throughout, including grant applications, financial control and reports.

The benefits

After taking into careful consideration the recommendations made within the feasibility study, the committee decided to install a ground source heat pump. This was installed in January 2010 at the cost of £45,315.

A committee member said “We installed a Dimplex 17kW output ground source heat pump. It was installed with a ground collector consisting of 4 bore holes, approximately 80 metres deep.”

The heat pump heats the hall annexe using under floor pipes and the hall, community meeting room, main toilets and changing rooms through a warm air system.

The heat pump is estimated to produce 3,913 kg CO2 per annum. Before the installation of the renewable technologies the village hall used to produce 6,000 kg CO2 every year costing around £1,700 on electricity. The ground source heat pump will save around £600 every year on electricity bills.

The second installation to take place was a Solar PV system installed during July 2010 at a cost of £30,610.

A committee member said "This scheme enables us to generate electricity during daylight hours from solar PV panels that are mounted on the south-west side of the main hall roof covering approximately 32 square meters. The maximum output is 4.68 kW. The electricity not being used at the time is fed back to the national grid." The solar PV system reduces CO2 emissions by around 1,250 kg and saves the village hall around £400 every year at current electricity prices.

During the period 2002 to 2009 the village hall has also undergone a number of building improvements including double glazing throughout and wall, ceiling and part floor insulation. All have made for a better constructed and energy efficient building that is now well used through out the year for a wide range of activities.

A range of electricity monitors have also been installed so the amount of electricity can be monitored for different parts of the building.

The solution Grant funding was provided by the Low Carbon Buildings Programme, Community Sustainable Energy Programme and Green Suffolk fund to cover the cost of the ground source heat pump and the solar PV.

The results achieved to date have been very satisfying, especially when taking into consideration the number of people who use the hall and the wide range of activities on offer. The village hall is now heated at minimal operating costs with lower carbon emissions. *"The measures taken in our community building ensure we are doing our best to keep carbon emissions low. In taking these measures we are promoting public awareness of carbon emission and what schemes are available for them to reduce their carbon footprint in their own homes."*

How the project was funded

Low Carbon Buildings Programme Phase 2 £36,155 Secured 48%
Big Lottery Community Sustainable Energy Programme £20,000 Secured 26%
Great Barton Parish Council £1,807 Secured 2%
Suffolk County Council Green Suffolk Fund £17,963 Secured 24%
TOTAL FUNDING £75,925 100%

Project recognition

The Great Barton Village Hall has been awarded the following awards:

- June 2007 'Havebury Community Investment Fund 2007 Award'
- Nov. 2007 'Winner of the Suffolk ACRE Village Hall of the Year Award 2007'
- Nov. 2009 'Second Place of the Suffolk ACRE Village Hall of the Year Award 2009'
- Nov. 2010 'Second Place of the Suffolk ACRE Village Hall of the Year Award 2010'





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