

## Great Barton Village Hall, IP31 2NR

Great Barton Village Hall provides a public venue for the residents of Great Barton and the surrounding area. It was built in 1952 as a memorial to local men and women who served in the Second World War. Before refurbishment work commenced in 2002 the hall was cold and damp because there was very little insulation in the building's fabric and external windows and doors were mainly single glazed and draughty. During recent years the hall has been extended and refurbished during which time opportunity has been taken to provide a well insulated and energy saving building that is heated 24/7 throughout the winter months and well used throughout the year for a wide range of activities. Electricity is used throughout the entire building.

The Trustees of the Management Committee are committed to:-

- Providing a Safe, Healthy and Inclusive Community
- Reducing the hall's energy costs and carbon footprint.
- Working with the community to reduce energy usage and CO<sub>2</sub> emissions.
- Working in Partnership with Local and County Authorities to help make Suffolk the Greenest County.
- Promoting energy efficient measures in our Village Hall as an example to others throughout Suffolk.

### Overview

**Age, Type:** Village Hall: main hall 1952, extensions 2002 – 2013.

**Walls, Floor area:** Cavity brick walls, 494sq.m

#### Cost of measures:

Total building works: £470,000 (local fundraising & grant funded) including  
Renewable Schemes: £75,900 (grant funded)

**Energy use, cost:** 41 kWh per sq m pa, £3.84p per sq m pa

### Future Schemes

A main entrance foyer is planned that will include an air source heat pump to heat and cool the extension, LED and low energy lighting, natural daylight and ventilation.

It is also necessary to install a mechanical ventilation system in the main hall that will incorporate a heat recovery feature to minimize the amount of heat lost to the outside atmosphere when the system operates.



After seeking professional advice in 2008 it was concluded that the upgraded building was suitable for the installation of renewable energy schemes to further reduce energy costs and carbon emissions.

A sustainable energy feasibility study was therefore carried out and a number of measures considered and implemented to significantly reduce the hall's energy costs and CO<sub>2</sub> emissions.

### Key features

- Cavity, floor & roof insulation
- Roof lighting: natural lighting, Velux windows & sun tube
- Windows: UPVC double glazed
- Ground source heat pump: 17kw Dimplex with 4 x 80m deep boreholes
- Solar PV: 4kW located on SW side of main hall roof
- A range of electric meters recorded daily

### Village Hall Location and Contacts

Great Barton Village Hall, Elms Close, Great Barton, IP31 2NR

[www.greatbartonvh.onesuffolk.net](http://www.greatbartonvh.onesuffolk.net)

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If you have any specific questions about this case study, these can be directed to the building owner via the website

[www.greensuffolk.org/sgbn](http://www.greensuffolk.org/sgbn)

## Low Energy Measures

Since 2003 ongoing building work has incorporated a high level of insulation in walls, floors and roof voids, in some cases exceeding the minimum requirements for Building Control Standards. All external windows and doors are double glazed.

A GSHP was installed in January 2010 with a ground collector consisting of 4 bore holes, approximately 80m deep located on the playing field adjacent to the hall. This provides heat to most parts of the building using fan assisted wall mounted heaters and under floor heating.

A 4kw Solar PV Scheme was installed in July 2010 that enables us to generate electricity during daylight hours.

A range of electrical meters are installed to monitor the electrical energy used in different parts of the building.

### Professional Contacts

- ❖ M A Johnston (Architect)  
Telephone: 01284 787 275
- ❖ Copec Building Contractors  
[www.copec.co.uk](http://www.copec.co.uk)  
Telephone: 01359 240912
- ❖ SECELEC Electrical Services  
Telephone: 01359 235295
- ❖ Econic Ltd  
<http://www.myriadceg.com/>  
Telephone: 01603 277040
- ❖ Dabbrook Services  
[www.dabbrook.com](http://www.dabbrook.com)  
Telephone: 01493 441711
- ❖ Thermalair Ltd.  
[www.thermalair.co.uk](http://www.thermalair.co.uk)  
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## Conclusions

- ❖ The annual energy consumption and carbon emission was reduced to 10, 140KWh saving 4.36 tonnes of CO<sub>2</sub>.  
The hall now costs just £ 3.84p of electricity per squared metre of floor space per annum to heat and power.
- ❖ Using grid electricity alone without the GSHP and Solar PV is estimated to have cost at least £1400 per year more.
- ❖ Hall user groups now enjoy a comfortable public venue that is heated 24 hours a day during winter months and which is protected from relentless charges in energy prices.
- ❖ Taking into account the low heat loss of the building, the efficiency of the GSHP and the income from Feed-in-tariffs of the Solar PV, the annual energy cost of the entire building is now less than £500.
- ❖ In providing a village hall within the community for local residents and the surrounding area, the need for people to travel long distance has been greatly reduced. The hall is easily approached by foot and the number arriving by cycle is increasing
- ❖ The measures used in our building ensure that we are doing our best to keep carbon emissions low. We are promoting public awareness of carbon emission and what schemes are available for them to reduce their carbon footprint in their own homes.
- ❖ The results achieved to date have been very satisfying, measured by the number of groups and people using the premises and the wide range of activities on offer.
- ❖ We have a building that is effectively heated at minimal operating costs with low carbon emissions.

### Awards

June 07 **Winner** Havebury  
'Community Investment Fund Award'

Nov 07 **Winner** Suffolk ACRE  
'Village Hall of the Year Award'

Sept 09 **Second** Suffolk ACRE  
'Village Hall of the Year Award'

Nov 10 **Second** Suffolk ACRE  
'Village Hall of the Year Award'

Mar 11 **Winner** SCC  
'Creating the Greenest County Awards – Buildings'

Mar 13 **Finalist** SCC  
'Creating the Greenest County Awards – Champion of Champions'