

Bonar Bridge Community Hall Energy Efficiency Project

Introduction

Bonar Bridge Community Hall was built over 100 years ago and has an average usage rate of 500 people per month.

In 2009 the hall underwent a successful kitchen renovation which included the installation of double glazed windows and the insulation of the walls and roof.

Equipment

Energy Efficiency measures

The hall has recently undergone an energy efficiency project, supported by Community Energy Scotland, Awards for All and the Achany Wind Farm Community Benefit Fund. This project was completed in March 2011 and included extending the insulation benefits to the main hall, committee room and tea room, and a new insulated profiled roof over the kitchen and store rooms. The hall committee decided on these actions after an energy audit was carried out which concluded that these improvements would significantly reduce the heating requirement in the building.

The upstairs committee room of the hall saw three single glazed windows replaced with triple glazed units, external walls lined and insulated, and ceiling lowered and insulated. The room has been transformed from a cold room where condensation streamed down the windows to a cosy environment where film shows and meetings are held, and it can be offered as a training facility for hire with computers and Wi-Fi available.

The rear hall and stairway had single glazed windows replaced with a triple glazed unit, and the old draughty fire door replaced by a new double glazed unit. Roof insulation was applied above the main hall and in the eaves at the junction with the committee room. The balcony wall was extended to the ceiling creating an enclosed room above the main hall and preventing heat leaking from the main hall, as demonstrated by the energy audit "heat gun". A thermostat was also fitted to the main hall heaters. All these enhancements will lead to a reduced heat requirement in the main hall.

The tea room – which is between the kitchen and main hall downstairs, had the floor level raised and insulation applied in the gap, and the walls were framed and insulated.

Two areas of flat roof, one above the kitchen and one above the stores, were upgraded by fitting insulated profiled sheets. In particular the store area had previously been damp, with the playgroup being forced to store many items elsewhere due to mould forming. The new roof has solved this problem and the stores feel warmer and smell better. Finally, energy efficient lights were fitted in all rooms to reduce fuel costs, and draught excluders fitted to doors where appropriate.

Cost and Grant Funding

Total project cost	£29,271.40	The remaining funding was obtained through: Awards for All £9927.75 Achany Wind Farm Trust £7000 Own funds £300
CARES grant	£12,044	
CARES grant percentage	41%	

Fuel Bill Savings

- Jan – July 2010: 5,153 day units, 4,334 evening and weekend units, cost £1,092 with associated let income of £2,297, so a net gain £1,205



- Jan – July 2011: 5,495 day units, 4,011 evening and weekend units, cost £1,167 with associated let income of £3,580, so a net gain £2,412

The improved hall has attracted more bookings, and as a result electricity consumption has actually gone up, but as the income has also increased the net gain has doubled for comparative seven month period. The group are saving the gains for phase three of the renovation – new toilets.

Emission Savings

Estimated kWh savings p.a.	6,507
Annual Co2 savings (kg)	3,500

Project Monitoring

No project monitoring equipment as such was installed.

Local Impact

The upgrading has been much commented on by users of the hall. They have attracted extra bookings - both on a regular and occasional basis. Regular bookings include weekly pilates and kick boxing and occasional bookings include: spinning weekend workshops, RAF mountain rescue weekend training, and Women @ Work lunch training sessions. In 2012 the hall hosted two weddings and a conference on "Making your Asset more Sustainable" - a true testimony to the appeal of the enhanced hall! They are also attracting weddings and conferences.



Lessons Learned

The thermostatic control of the heating has been partially successful in that heaters switch off, but unless users remember to turn off at main switch when they leave, they come back on again.

Joan Bishop, Hall Secretary, said:

"The energy efficiency project supported by Community Energy Scotland, Awards For All and the Achany Wind Farm Community Benefit Fund has turned Bonar Bridge Community Hall from a cold and damp building into a warmer and more pleasant environment. As a result bookings have increased, there are more activities for the community to enjoy and the sustainability of the hall has been improved"

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