village hall information sheet

16. How 'green' is your village hall?

Contents

1. Introduction

This information sheet is an introductory guide to environmental sustainability for village halls or similar community buildings (community centre, church hall, sports pavilion etc.). The aim of the information is to help people running such halls identify ways in which the buildings can use less energy, cause less pollution, create less waste and help reduce their communities contribution to climate change. It covers in brief the principle aspects which a management committee should consider and provides a signpost to further sources of specialist advice. Some examples of halls which have become energy efficient and/or adopted renewable (or "green") energy are given in Appendix 1.

A good first step for committees is to visit the National Energy Action (NEA) website and look at their "Energy Efficiency in Community Buildings" pack. This contains technical information about energy efficiency measures, heating systems and forms for carrying out a self survey of community buildings. See Section 8, Sources of advice, for details.

We are grateful to the following organisations for their assistance with the production of this information sheet: NEA, Tees Valley Rural Community Council, Community Action for Energy (CAfE).

2. Why should we consider making our hall 'eco-friendly'?

There are a number of reasons why trustees and others managing community buildings should consider this subject:

2.1 Climate change

It is now widely recognised that carbon emissions from burning fossil fuels (in power stations, homes, businesses, cars and aircraft) are leading to climate change and if this is not halted urgently, the consequences for communities around the world could be disastrous within this century. Whilst the presence of a local village hall or similar building helps reduce carbon emissions (through reducing car journeys), construction and management of such buildings does contribute to carbon emissions. Fuel used in heating and lighting is the primary source but transport of building materials, equipment and people to the hall also contribute. The Government campaign, "Every Action Counts", aims to reduce carbon emissions. There are approximately 19,000 community buildings in England and Wales and, collectively, their savings in carbon emissions could make a significant contribution to the UK's targets for reducing CO2 emissions. Reducing reliance on fossil fuels also reduces dependence on finite, dwindling reserves of oil, gas and coal.

2.2 To reduce running costs

Energy efficiency measures alone can reduce heating costs and make a significant difference to a hall's long term financial sustainability. Fuel prices rose dramatically in 2006 and many halls will notice the effect of the increase over the winter of 2006/7. Some energy suppliers are offering incentives to improve energy efficiency and websites such as www.uswitch.org.uk offer a facility for comparing energy tariffs between suppliers.

2.3 To encourage good use of the hall

If a hall is cold it will not be as well used as it should be and it will not fulfil its purpose. Frail, elderly people in particular cannot risk attending events if the hall has a reputation for being cold. This means that the very people who most need the social contact provided by the hall may be unable to use its facilities. Children, older people and activities at which people sit are likely to need a room temperature of 21ºC, whereas more active groups will be comfortable at 18ºC.

2.4 To set an example to the local community

Community buildings are used by, and have access to a broad sector of the community. Private hirings are available to everyone – young and old. Local organisations who hire the hall also reach numerous individuals in the services they provide. This provides an excellent opportunity to communicate important messages about the value of energy efficient behaviour. Everyday activities such as switching lights off, are positive steps towards tackling climate change. Involve members of the community in 'greener' choices that will benefit the environment and improve environmental sustainability (e.g. use of grey water). Communicating and getting people involved will hopefully have an impact on their behaviour; on the decisions they make at home and at work; producing a multiplier effect. Careful involvement of young people can inspire them. It can instil pride in a modern, "green" building and help reduce vandalism.

2.5 Personal satisfaction

Getting involved in community-based environmental improvement projects can create personal pride from the knowledge that something has been created of lasting benefit for generations to come.

2.6 Legislative requirements

Building regulations now require higher standards of insulation and glazing, for example, which means that modern buildings and extensions will be completed to a far higher standard of energy efficiency than older halls.

3. The role of trustees

Village hall trustees (usually members of the management committee) sometimes question whether they should spend charity resources on environmental improvements when the charitable objects of the hall do not include environmental issues. Clearly the prime role of a village hall management committee is to provide and manage a community building for the benefit of the local community, with the object of improving the quality of life of local people, and particularly disadvantaged people such as the elderly and young people who do not have their own private transport.

Ensuring a hall is warm, welcoming and financially sustainable helps meet these objects and making a hall more energy efficient is an important means of doing this. Therefore trustees can take advantage of every opportunity to invest in energy efficiency and this is compatible with the objects of a village hall.

In practice, however, the difficulty is that the priority for many trustees is often raising the funds for basic repair and maintenance of the hall, or improvements to meet legislative requirements such as the Disability Discrimination Act. This means that 'being green' can be seen as a bridge too far. It is often difficult to fund major repairs and improvements out of hiring income alone and therefore grant aid from external sources has to be sought. Lack of public funding for such work means that measures which would improve environmental sustainability do not even reach the builder or architect's brief, or are abandoned when they are found to be beyond the budget available. Each time this happens an opportunity is lost, which could benefit generations to come.

It can be difficult, in the absence of grant aid, to argue the financial case that renewable or 'green' energy will have a payback in the short-term (particularly if it would require taking a loan). However there are real benefits. Improved energy efficiency usually has a positive financial payback and results in a warmer hall. There are also sources of grant aid specifically for energy efficiency and renewable energy, such as the low carbon buildings programme, which can make a big difference to the economic arguments.

When considering building work (e.g. alterations, refurbishment, a new heating system or boiler, rewiring, plumbing, guttering or a new car park), the opportunity should be taken to explore the possibility of obtaining funding for other measures to improve sustainability, and introduce them if they can reasonably be afforded.

The tables in Appendix 3 should help identify the energy savings and relative costs from different energy efficiency measures.

4. Where to start?

4.1 Energy efficiency

Potentially, energy efficiency is where the greatest impact can be made and should therefore be the first priority. There are two approaches which could be used:

a) either have an energy efficiency audit carried out on the building to identify which measures will have the greatest impact and raise the funds for a package of energy efficiency measures

or

b) take every opportunity presented by building repairs and maintenance. For example:

- Install draught proofing in doors and windows. Gaps in doors and windows can be responsible for 15% heat loss in a hall. Gaps between walls and frames can be sealed with mastic. Doors should be draught proofed, but draught-proofing double entrance or fire exit doors requires specialist materials, rather than those available from DIY chains. See the NEA or Tees Valley RCC publications listed in Section 8 of this information sheet for further information and suppliers. Be careful not to block air vents in kitchens, toilets or boiler rooms.
- When replacing windows, install sealed unit windows.

- When replacing the roof, insulate in excess of building regulation standards, using at least 250 mm of insulation. Insulation and installation must comply with BS5803 and the roof space must be adequately ventilated after insulation. Environmentally friendly wool or recycled newspaper insulation products are available (see CAT address in Section 8.5). If the hall has a high pitched roof and the hall is not used for activities requiring height, such as badminton, a suspended ceiling can be installed.
- When replacing lighting consider installing PIR movement sensors and low-energy bulbs in suitable locations. Fluorescent tubes are energy efficient and further savings can be achieved by replacing 35 mm tubes with slim line, 26 mm tubes. Clean light fittings annually so that they retain their brightness.
- Monitor energy use and consider installing new heating controls. Energy is often wasted when hirers alter thermostats or programmers because the hall is too hot or cold for them. They need to be tamper-proof. Electronic controls are available for most types of heating systems. By programming the heating to match the hall's booking diary it should be possible to provide the right temperature for each room at different times of day. This can be done without heating spaces which are unused. A set-back thermostat (which is a specialist item that can be used in a community building), can allow users to boost temperature for a period of time, after which it will return to a lower temperature. Where storage heaters are fitted a 'weather-watcher' can reduce electricity use. See the NEA publication, 'Energy Efficiency in Community Buildings', for further information about heating and heat recovery systems. See Section 8.1.
- Replace appliances with more energy efficient ones: Appliances are graded from A (most efficient) to G (least efficient).
- Replace hot water cylinders with small 'point of use' heaters which operate at a safe temperature.

If designing a new hall or carrying out extension or major refurbishment work the architect can be briefed to design for maximum energy efficiency, rather than just meeting building regulations standards (for example, thickness of insulation, zoned heating, natural ventilation rather than mechanical). Architects can obtain the advice they need from the Building Research Establishment or the Association for Environmentally Conscious Building. (See Section 8 for details)

4.2 Accessibility of the hall

Community buildings should be ideally placed to help reduce pollution and CO2 emissions by reducing car journeys, because they provide local facilities to which people can walk or cycle. However, location, external design and frailty can still cause local people to drive to their hall. The sort of factors needed to reduce this are:

- ensure the front door can be reached from most of the village by a good footpath. It is virtually impossible to push a wheelchair, pram or buggy over gravel, and an old gravel surface can become waterlogged in winter, whereas a harder, level surface (not necessarily tarmac) is easier to use, especially for the less mobile. If there is no footpath or pavement to the hall, talk to the parish council and local highway authority about whether one could be provided

- outside security lighting which senses movement, so that it is not left on when the hall is not in use, which lights the paths and car park immediately outside. This can be coupled with low level photovoltaic lights along footpaths and in the car park further from the hall
- a cycle rack
- a porch, covered 'buggy park' or large foyer
- in urban areas – nearby location of bus stop with shelter, integration of activities with bus timetable and availability of bus details at the Centre
- in rural areas - (where public transport is very infrequent), a community transport scheme can enable elderly and disabled people living further from the hall to attend activities.

4.3 Recycling

Many local authorities have installed recycling banks in hall car parks, which makes it easy to encourage users to recycle waste bottles etc. However, broken glass etc. can be a hazard, especially where the hall is used regularly by young children so this may not be suitable at all halls. Most local authorities now have recycling schemes for domestic and commercial premises and users should be encouraged to either use the correct bins, if provided at the hall, or take their recyclables home for recycling.

4.4 Water use

The following measures can be considered:

- install a device (e.g. a Cistermiser - see Section 8.5) to control the automatic flushing of urinals and devices which reduce the amount of water used at each cistern flush
- if installing new toilets, provide dual flushing toilets
- if new toilets are to be built, "grey water" from gutters can be used for flushing
- installation of showers and taps serving hand wash basins which cut out automatically will ensure that taps are not left running
- provide a water butt so that outside flower beds or grass can be watered without using tap water.

4.5 Developing use of the hall

If the local authority, health and other services can be encouraged to use the hall this will save car journeys outside the village and will make services more accessible to those without cars, such as elderly people. There are many examples of halls which are used by visiting doctors and clinics, post offices, community shops, chiropody, hairdressing, farmer's markets, issuing bus passes etc.

4.6 Planting

Surroundings can be planted as wildlife habitat or with fruit trees, to create a community orchard.

4.7 Sourcing supplies

Use local building materials (brick, stone, wood etc.), local building firms and skills, and locally supplied goods wherever possible, to reduce fuel used in transport. For example, avoid tropical hardwoods from non-sustainable woodlands and use locally grown wood from a sustainable source. Woodfardisworthy Village Hall in Devon, for example, is clad in locally produced green oak. National Parks and Areas of Outstanding Natural Beauty have funds specifically to encourage use of local products and other means of improving environmental sustainability. Consider also the toxicity or impact of maintenance products: for example, leaving treated timber unpainted will reduce the need for repainting/ paint stripper; cleaning products can be purchased which are designed to be biodegradable (e.g. Ecover). The Centre for Alternative Energy supplies paints and other decorating products which are designed to be environmentally friendly (see Section 8.5 for contact details). They also offer a range of publications about sustainable forms of building, such as straw bales and timber frames.

4.8 Renewable energy

For most halls this is something that can only realistically be considered when building work is being carried out or new heating/lighting planned. There are a variety of forms of renewable energy which are suitable in different locations and these are described in Section 5. Alternatively consider switching to a supplier offering a "green" tariff from renewable energy sources.

4.9 Sewerage

If space permits, a reedbed sewerage treatment system could be installed to deal with sewerage effluent from the hall, and perhaps nearby buildings.

4.10 The 'whole village' approach

Ashton Hayes in Cheshire is trying to become the first "carbon neutral" village in the UK, through measures involving the whole community. Hoathly Hill, East Sussex, has installed a community biomass heating system. Village hall committees can play an important role as a lead partner in such initiatives.

5. Renewable energy

5.1 Solar energy

There are three types of solar energy which can be utilised in community buildings:

a) Passive solar energy

When a new hall or extension is planned, large south-facing windows will allow maximum use of the sun's heat and light to avoid use of artificial lighting and heating. This works best in buildings where the structure is heavyweight rather than timber, as the structure will absorb energy during the day and release it after dark.

b) Solar water heating

There are tried and tested systems which use the sun's energy to heat hot water in roof-mounted panels or collectors. There are two types of systems: flat plate or evacuated tube, the latter being more expensive and more efficient. For community buildings these have been most economical where there are showers (e.g. serving a playing field) or regular use for catering (e.g. by a nursery school, community café). The hot water cylinder needs to be replaced with a dual coil cylinder, where one coil acts as the heat exchanger for the solar collector. The system operates in association with a conventional water heating process, to top up the heat from the panels and provide hot water and space heating in winter, and may be either gravity fed or driven by a pump. The systems are generally low maintenance, with a lifespan of 20 to 30 years, and can operate all year round throughout England. They work best on a sloping roof with a south east to south west orientation, but can be mounted on a flat roof. Frost Protection is needed, either through antifreeze in the system or by using a drain back tank into which the fluid drains when the panel is not in use. Planning consent for installation is not normally needed, though 'Listed Building Consent' will usually be needed for listed buildings, if panels are to be mounted on the building.

c) Photovoltaic panels

Photovoltaic (PV) cells convert light into electricity. These are now commonly available at reasonable cost for low level lighting in car parks and along paths, using the sun's energy by day to power lighting at night. However, photovoltaic panels can also be used as a roofing material (either flat or sloping roofs) in which case significant levels of electricity can be generated and either stored in batteries for use when needed or surplus supplied to the national grid via a special meter. However, as panels are expensive to install it would not be economic to plan for a surplus, so the electricity demand for the building needs to be accurately calculated when planning installation. Panels are low maintenance and have a long lifespan of 20 to 30 years. The primary barrier to take-up has been economic but financial viability is improving. New build, refurbishment or re-roofing work is the time to consider this. Southerly orientation is needed, as for solar panels.

5.2 Wind power

Wind turbines need uninterrupted wind flow for maximum electricity generation. They can be purchased in a variety of outputs, designs and blade diameters, and either mounted on a building (prices start at around £600) or free standing. Turbines typically start operating at wind speeds of 4-5m/s, reaching a maximum level at 15 m/s (10 to 33 miles an hour). There are times when wind speed is too low to generate electricity so a mains or battery back-up is needed. Performance is affected by factors such as average wind speed, variation in wind speed, size of blade, and height of turbine. The estimated lifespan is approximately 25 years.

A village hall could invest in a small scale (micro) turbine to contribute towards its own power consumption, providing the wind conditions and location are suitable, in which case a stand alone turbine, 15m high with a 6m diameter blade generating 5kW, or a roof top turbine generating 1-1.5 kW might be

suitable. Alternatively a hall could work with the parish council and other community organisations to install a larger turbine which is capable of providing energy to a number of locations/homes and/or the national grid. Whilst there is public resistance to large scale wind farms in sensitive locations, the installation of a single community wind turbine may meet local support. Planning consent is usually necessary and the local planning authority should be consulted early on.

5.3 Ground source heat pumps

Heat pumps take low temperature heat from water, the ground or industrial waste and upgrade it to a higher, more useful temperature. Ground Source Heat Pumps (GSHPs) supply more energy than they consume, by extracting heat from their surroundings, providing as much as 3kW of heat output for 1kW of energy input.

A GSHP consists of a ground source heat exchanger, which consists of pipes installed either vertically or horizontally in the ground, and a heat pump, which is connected to a heat distribution system. The water temperature in the pipes is lower than that in the surrounding ground, which warms the water in the pipes. This low grade heat is transferred to a heat pump, where it is used to heat up a refrigerant. The temperature raised for space heating is typically 45-50ºC and up to 55ºC for hot water. Whilst this may not raise the temperature of a community building sufficiently for seated activities attended by elderly people in winter it will reduce the energy required from other sources, so that another heating system (such as overhead radiant heaters) is only used to boost the temperature at particular times, particularly if the building is well insulated.

GSHPs are well suited to new buildings as they are efficient when supplying low temperature distribution systems such as underfloor heating. They can also be provided as part of refurbishment projects, with the heat exchanger laid under an outside area such as a car park. (See Gamblesby Village Hall example in Appendix 1)

5.4 Air source heat pumps

Air source heat pumps (ASHPs) work on the same principle as GSHPs, upgrading the temperature of the air to a higher, more useable temperature. The heat energy released can be up to four times the energy required to power the equipment. They are particularly suitable for village halls on restricted sites, where lack of external space prevents use of a GSHP, or for new build, where an under floor heating system can be installed.

An ASHP system consists of a compressor, evaporator coil and heat exchanger. The temperature of the refrigerant liquid can be raised to around 75ºC, and heat can be extracted from air temperatures as low as minus 15ºC. Standard units are 8kW, but several can be linked together and a prototype 12kW unit is currently on trial at High Wray Village Hall, Cumbria, where it powers convector heaters. (See Appendix 1)

5.5 Wood fuel heating (Biomass or Biofuel)

Automated wood chip or wood pellet boilers come in a range of designs and sizes and could be used for heating not only village halls but also adjacent buildings. Larger systems can also generate electricity or be part of a combined

heat and power (CHP) plant. They are particularly appropriate for locations fairly near to woodland or forest, where there is a good supply chain and they can support the local forestry industry; also, for well used halls with sufficient space for trucks to deliver chips/pellets, storage of chips/pellets and a boiler to be housed.

Wood chips or pellets are delivered to a receiving area and conveyed by a screw to the boiler. Boilers also contain an ash collection system, pollution control device and chimney. They can be used to supply underfloor heating or radiators. Ash produced can be used as a fertiliser. Wood chip systems tend to be more bulky whereas wood pellet systems can be smaller.

These systems can have a number of wider benefits: They are carbon neutral, given the life cycle of timber, and can potentially revitalise local forestry industry, leading to better woodland management and possible wildlife benefits, as well as benefits to the rural economy. The Sustainable Development Funds offered by National Parks and AoNBs may therefore assist the provision of such systems both inside and outside their boundaries if products from their areas will be used.

6. VAT

The question of whether or not VAT will be payable on the supply and installation of energy-saving materials will depend on which of the following apply:

- If supplied and installed as part of a refurbishment, improvement or extension project, or maintenance work, VAT will apply at the reduced rate of 5%
- If seen as building materials and supplied and installed as part of the approved alterations to a listed village hall or similar building, VAT should apply at zero-rate unless the work is essentially maintenance or repair work
- If seen as building materials and supplied and installed as part of the construction of a new charitable village hall or similar charitable multi-purpose community building, VAT should apply at zero-rate
- If seen as building materials and supplied and installed as part of the construction of a charity annexe, VAT should apply at zero-rate.

Please note that the materials must be supplied and installed by the contractor concerned. A supply of materials alone is always liable to VAT at 17.5%.

See HMRC Notice 708/6 for what energy-saving materials are eligible for the reduced rate**.** These include renewable energy sources described above, insulation materials and some forms of heating, including control systems, but not double glazing.

See HMRC Notice 708 for what energy-saving materials can be seen as building materials and are therefore eligible for the zero-rate. See Notice 708 for definitions and further information, including certification for zero-rate supplies.

7. Sources of funding

For guidance about sources of funding which may be available to your project and advice on preparing funding applications, contact the village halls adviser at your local Rural Community Council. The Rural Community Council websites can be accessed by clicking on 'About ACRE' at www.acre.org.uk and following the links. Funding advice can also be sought from the funding advice line at CAfE (see Section 8.2 for details). See also ACRE Village Halls Information Sheet 28 – Business Plan.

Appendix 4 gives information on possible sources of funding, the projects they fund and contact details. It includes some general funding streams and grant sources which are specifically for, or include, environmental sustainability.

8. Sources of advice

There are a number of sources of advice and the following represent a selection of key organisations who may be able to assist with energy efficiency audits, working out which renewable energy source would be most appropriate in a given location and identifying sources of funding. The village halls adviser at your local Rural Community Council may be able to help you identify which of these to approach for your project.

Ask about charges/fees when you enquire. Some of these agencies can provide advice free of charge. Whilst others may charge for detailed work, they do understand the difficulty of funding community based energy projects. They will help with funding applications, which may cover fees, and are usually willing to enter into some kind of arrangement e.g. paying the fee when funding is awarded.

8.1 National Energy Action (NEA)

NEA is a charity whose mission is to eradicate fuel poverty. It promotes energy efficiency, insulation and renewables as a means of achieving this. It works primarily for low income households but has also carried out energy surveys for community buildings throughout the country. NEA charges for its services but is willing to work with village hall committees to identify appropriate funds and help prepare funding applications which would cover these costs. NEA can work with a group of village halls in an area. Its publication 'Energy Efficiency in Community Buildings' is comprehensive and is a first step for any committee considering energy efficiency. It covers renewables, energy supply tariffs and technical aspects of installing insulation, new heating, ventilation, draught-proofing etc. This is only available through their website www.nea.org.uk, click on publications.

Contact NEA at: St. Andrew's House, 90-92 Pilgrim St., Newcastle Upon Tyne, NE1 6SG. Tel: 0191 261 5677 Fax: 0191 261 6496
Email: John.Cullerton@nea.org.uk

8.2 Community Action for Energy (CAfE)

CAfE is funded by the Energy Saving Trust and provides a network for the exchange of information about community-based sustainable energy initiatives.

It runs a helpline for queries relating to community-based energy initiatives, including advice on sources of funding, and provides a website through which members can get in touch with others working on community-based energy projects and identify funding. Travel bursaries are available to those wishing to visit other members' projects to gain first hand knowledge. 1.5 days of free advice is available per project. Membership is free. Training courses and conferences are also available.

Contact CAfE at: CREATE Centre, Smeaton Road, Bristol, BS1 6XN
Tel: 08701 261 444 Fax: 0117 929 9114 Email: cafe@est.org.uk
Website: www.est.org.uk/cafe

8.3 The Community Renewables Initiative/Regional Energy Advice Services

The Community Renewables Initiative (CRI) runs until April 2007 and is co-ordinated on behalf of government funders (DTI, Defra, Natural England and the Forestry Commission) by Severn Wye Energy Agency (SWEA). It is a charity set up to stimulate the development of sustainable energy. It is delivered through ten local support teams based in regional agencies, listed below, who can give specialist technical advice about energy efficiency and renewables, carry out feasibility studies for community buildings and provide funding information. Enquirers from outside these areas should contact SWEA, who will refer them to an appropriate agency.

South West/Midlands: Severn Wye Energy Agency (SWEA), Unit 6/15, The Mews, Brook Street, Micheldean, Gloucestershire, GL17 OWB
Tel: 01594 545360

Region	Regional Agencies	Telephone & email contact	Name
Devon & Cornwall	DARE	01837 89200 info@devondare.org	Paul Baker
Gloucestershire, South Gloucestershire & Wiltshire	Severn Wye Energy Agency	01594 545360 kierson@swea.co.uk	Kierson Wise
Oxfordshire Berkshire Buckinghamshire & North Hampshire	TV Energy	01635 817420 ian.bacon@tvenergy.org	Ian Bacon
East Sussex Kent & Croydon	Kent County Council	01622 221352 neil.hilkene@kent.gov.uk	Neil Hilkene
East of England	Renewables East	01733 566910 carole.randall@writtle.ac.uk	Carole Randall
East Midlands	East Midlands Regional Assembly	01664 502563 helen.chadwick@emra.gov.uk	Helen Chadwick
Herefordshire & Shropshire	Marches Energy Agency	01743 246007 richard@mea.org.uk	Richard Davies
Cumbria & Lancashire	Sustainability North West	0845 601 8874 e.bruce@snw.org.uk	Elizabeth Bruce
Yorkshire & The Humber	YREN	01422 846648 info@yren.org.uk	Barnaby Fryer
Durham & Northumberland	REALL	01670 517178 david.francis@ccn.org.uk	David Francis

8.4 South East/ National: Energy Centre for Sustainable Communities (ECSC)
A charity providing advisory services for the Community Renewables Initiative.
Tel: 020 7922 1662 Website: www.ecsc.org.uk

8.5 Other useful contacts

Every Action Counts
Every Action Counts (EAC) is an initiative for voluntary and community sector organisations. It aims to help build a sustainable future and provides ideas advice and support about 'environmentally friendly' choices.
Every Action Counts, 33 Corsham Street, London N1 6DR
Tel: 0845 241095 Website: www.everyactioncounts.org.uk

The Centre for Alternative Technology (CAT)
CAT is a research and demonstration centre for ecological technologies and lifestyles, established in 1975 and based at Machynlleth, Wales. The 'Buy Green By Mail' catalogue can be obtained from CAT on Tel: 0845 330 4592.

For other enquiries Tel: 0845 330 8355 Website: www.cat.org.uk

Building Research Establishment
BRE offers a free environmentally sustainable design service for buildings over 500m2, for which several halls clubbing together could qualify.
Tel: 01903 664 258

Association for Environment Conscious Building
AECB offers advice and information on products, methods and projects which enhance the environment. AECB, PO Box 32, Llandysul, SA44 5ZA
Tel: 0845 4566773 Website: www.aecb.net

Tees Valley Rural Community Council
Publication 'Village Halls – Warm and Welcoming - Without Costing the Earth', Price £5.00. Contains information about energy efficiency, renewables and case studies. Queensway House, Queensway, Middlesbrough TS3 8TF.
Tel: 01642 213852 Website: www.teesvalleyrcc.org.uk

Trade Associations etc.
Check that installers are members of a regulating body:

- The Heat Pump Association: www.feta.co.uk
- The UK Heat Pump Network: www.heatpumpnet.org.uk
- British Photovoltaic Association: www.pv-uk.org.uk
- British Wind Energy Association: www.britishwindenergy.co.uk
- The Solar Trade Association: www.solartradeassociation.org.uk
- National Energy Foundation: www.greenenergy.org.uk (provides an advisory service and link to Ground Source Heat Pump Association: www.gshp.org.uk)
- British Biogen: www.britishbiogen.co.uk

Supplies: (Note – this list is kindly supplied by Tees Valley RCC and does not imply endorsement)

- Thermostats and Control Devices, including auto set-back thermostats: MiniSpecialists Ltd. Tel: 01353 861195 Website: www.minispecialists.co.uk

- Draught-proof seals to BS 7386 from trade suppliers and from www.schlegel.co.uk or www.new-esimo.co.uk Tel: 01457 854918
- Flow control devices for water: Cistermiser Ltd. www.cistermiser.co.uk Tel: 0118 969 1611.

Appendix 1: Examples of energy efficiency in village halls

Gamblesby Village Hall, Cumbria – Ground source heat pump and wind turbine

Gamblesby Village Hall is a 150 year old stone building which was badly in need of renovation. The committee investigated both energy efficiency and renewal energy measures and found that a ground source heat pump would be the ideal option for several reasons: it was less expensive than solar PV panels; digging up the grounds to bury the pipework fitted in with plans to renovate the car park and the underfloor heating that the pump would supply could be fitted at the same time as the renewal of the hall's rotting timber floor. Energy efficiency was improved by installing low-energy lighting and using locally-sourced sheep wool insulation for the walls and roof.

The pump's pipework was buried in two-metre deep trenches in the car park, leading to a small stone hut housing the heat exchanger, from which the underfloor heating is powered. Significant costs were saved by the hall committee and local farmers, who gave their time and machinery to dig trenches, carrying out the work.

The system became operational in November 2003 and the heat pump has been emitting heat up to 40ºC, which is more than expected. The hall has reduced its electrical heating requirement from around 12kW (four electric bar heaters) to just 3kW, which is the pump's running requirement. The four overhead heaters have been kept as back up but the pump is also efficiently serving an extension too.

In 2006 construction of Phase 2 began. This provides a new kitchen and toilets, incorporating recycled newspaper insulation, local plasterboard, ballast and reclaimed slates and a 6 kW wind turbine to take advantage of the local Helm Wind. The turbine cost £28,000, including electrical and plumbing installations to provide hot water for the extension and the underfloor heating system, as well as power for the heat pump, so that this is now a totally renewable energy source. There was an unexpected cost of £230 to register micro-generation with PowerGen, so that the hall can sell excess energy to the grid. The committee are currently looking into the sale of energy as ROCs (Renewable Obligations Certificates), which can be floated on a market or sold at £34 each. (One ROC equals one megawatt hour.)

As well as having a warmer, better used hall, spin offs have been a much greater interest in green issues among local people, and the bringing together of the community, local and newcomers, young and old. The committee have given 22 presentations and case studies about their project in 12 months!

High Wray Village Hall, Cumbria – Air source heat pump

High Wray Village Hall is a small stone building on a small site, serving a small village. The village hall was draughty, cold and damp and had electric heaters. It has no car park and no south facing aspect, so choice of renewable energy was limited.

NEA assisted the hall to provide the first air sourced heat pump in a community building in England, together with insulation and draught proofing, to ensure efficient operation of the heat pump. A prototype Heatking 12kW air source heat pump has been installed, together with slimline fan convector heaters and controls. The pump is very quiet, roughly the size of a fridge, and situated outside and adjacent to the rear wall of the hall. Within the first six months it had been found to be very effective at providing economical warmth and comfort.

Hinderwell Village Hall, North Yorkshire

This is a purpose built village hall and sports centre, opened in 2004 at a cost of £550,000, replacing an old hall and designed to incorporate environmentally sustainable features. It incorporates the following features:

- roof lights make good use of natural light and there are low energy light fittings
- solar panels provide water heating
- photovoltaic cells contribute towards electricity use.
- a gas condensing boiler supplies low temperature radiators
- waterless urinals conserve water and rainwater is harvested for watering planted areas
- ventilation in toilets, showers and changing areas is passive
- double glazed low E glass has been installed in timber framed windows
- presence sensors are installed in all occupied areas, so that lights go out when unoccupied.

Liverton Village Hall, Tees Valley

The hall is a former school built in 1850 of solid stone under a pitched tiled roof and full refurbishment was carried out in 2004 at a cost of £136,000. NEA were commissioned to carry out a full energy needs survey to guide both energy efficiency and choice of heating. The survey was considered to be a very good investment.

Insulation of the floor, walls and roof has improved energy efficiency and some loss of space in each room by dry lining the walls has been countered by better sound insulation, which helped secure the hall's premises licence. A new oil fired combi boiler provides heating and hot water, with fan assisted convector heaters giving rapid warm up. Heating is separately zoned for the main hall and small hall and controlled by a programmer and room thermostats, with frost protection over-ride. A small cistern has been installed for urinal flushing and recycled paper towels are used for hand drying.

Carterton Village Hall, Oxfordshire

NEA carried out energy efficiency audits at a group of halls in Oxfordshire. Carterton Village Hall is a large community centre with three meeting rooms and bar lounge and is used seven days a week. The prefabricated structure and flat roof were contributory factors to the very high energy costs of over £7,000 per annum.

Two of the problems that the energy survey identified were that the boilers had few controls and there were over 60 standard light bulbs. As a result, the boilers were fitted with boiler managers, the radiators fitted with reflective panels, washbasins with water saving controls and light bulbs with low energy bulbs. Energy costs were reduced by over 20% in the first year, saving £1,500.

Appendix 2: End of session checklist

END OF SESSION CHECK LIST

1. Search for smouldering fires or cigarettes left burning, and clear waste paper.

2. Check that heaters and cookers are turned off.

3. Check that all electrical appliances are turned off and unplugged.

4. Turn out all lights not required for security purposes.

5. Close all internal doors.

6. Secure all outside doors and windows.

Appendix 3: Energy efficiency – potential energy savings and costs

Heating Systems			
	Improvements	**Energy Saving**	**Cost**
Boilers	Replace with high efficiency boiler	25%	£3,000
	Fit optimisers	10 - 20%	£200
	Improve room thermostats with electronic controls	8 - 10%	£150
Radiators	Fit thermostatic radiator valves	5% for total system	£25 each
	Fit reflective panels behind radiators	10%	£10 each
Storage heaters	Fit weather watcher to heating circuit	15%	£200
	Replace old storage heaters with modern fan-assisted heaters	10%	£400 per heater
Heat recovery/solar gain	Install heat recovery systems or HR ventilation systems	25%	£2,000

Lighting			
	Improvements	**Energy Saving**	**Cost**
Reduce costs improve efficiency	Replace 38mm diameter tube with 26 mm tube	10 - 14%	£1.50 per tube
	Replace fittings with high frequency fittings	35%	£60 per fitting
	Replace all standard bulbs with low energy bulbs	80%	£3 - £4 per bulb

Hot Water			
	Improvements	**Energy Saving**	**Cost**
From central heating boiler	Split water and heating	50% in summer	£100 - £200
Boiler (electric)	Set thermostat to between 55ºC - 60ºC	15%	£10
	Change to point of use heaters	40%	£100 per unit
Boiler (gas) or instantaneous heater	None		

Insulation			
	Improvements	**Savings**	**Cost**
Lofts	Fit 150mm of loft insulation	10 -15%	£3/4 per m
Walls	Fit cavity wall insulation	10 -12%	£3/4 per m
	Fit internal wall insulation	10 -12%	£40 per m, £6 per m DIY
	Fit external wall insulation	10 -12%	£40/50 per m
Floors	Insulate under floors	5 -10%	£20 per m
Windows	Double glaze windows	2 - 5%	£300/£400 per m

Draught-proofing			
	Improvements	**Energy Saving**	**Cost**
Draught proof doors and windows leading outside or to unheated spaces	Draught-proof double doors	5 -15% in total	£30 per door
	Draught-proof single doors	5 -15% in total	£20 per door
	Draught-proof windows	5 -15% in total	£15 per window
Seal gaps in brickwork	Use quality silicone sealant	2%	£5 per door £2 per window

The tables above are taken from 'Energy Efficiency in Community Buildings' and reproduced with kind permission of NEA.

Appendix 4: Sources of funding

Grant sources for or specifically including environmental sustainability

Name of fund/funder	Areas funded	Contact details
DTI - Low Carbon Buildings Programme (replaced Clear Skies): Managed by the Energy Savings Trust	Grants for charities, schools, non profit making groups. Stream 1 (the community stream) offers up to 50% funding, to a £30,000 maximum grant for not for profit groups providing micro-generation schemes which also involve energy efficiency work. Stream 2 offers larger grants but in competitive bidding rounds, up to 40%.	Website: www.lowcarbonbuildings.org.uk/how/communities or Tel: 0800 915 7722 Apply online by completing an online pre-registration form.
Sustainable Development Funds (National Parks and AoNBs)	Support for projects that bring about sustainable, social, environmental and economic benefits to their areas.	National Parks or AoNB offices
Big Lottery Fund Community Buildings programme – closes April 2007.	Building or improving community buildings, including those designed to be environmentally sustainable.	Website: www.biglotteryfund.org.uk or the Big Advice Line on 0845 410 2030
The Naturesave Trust	Small grants for specific initiatives to promote sustainable development (e.g. energy efficiency surveys, solar panels).	Website: www.naturesave.co.uk. Email: mail@naturesave.co.uk. Tel: 01803 864390 A proposal is available online. Alternatively applications can be made by email.
Scottishpower Green Energy Trust	Renewable energy	The Secretary, ScottishPower Green Energy Trust 3rd Floor, Main Building, Cathcart Business Park, Spean St. Glasgow G44 4BE Tel: 0141 568 3492 Email: greenenergytrust@scottishpower.com
PowerGen GreenPlan Fund	Renewable energy sources for local community groups and not for profit organisations. The next deadline is March 2007.	Powergen Community Relations Team The Green Plan Fund Committee 1st Floor, Newstead Court, Little Oak Drive, Sherwood Park Annesley NG15 ODR. Email greenplanfund@powergen.co.uk
Shell Better Britain Campaign	Grants up to £2,000 for projects that benefit communities and the environment.	Website: www.sbbc.co.uk, Email: info@sbbc.co.uk. Tel: 0121 212 9221

General sources of funding

Name of fund/funder	Areas funded	Contact details
Landfill Tax Credit Scheme. Operators include: **WREN** **Onyx** **Biffaward** **Viridor** **Sita**	Improving public amenities, including community buildings, and historic buildings, regeneration, recycling and renewables. Within ten miles of site operator only.	To find out whether this is available in your area visit: www.environment-agency.gov.uk, look for 'what's in your backyard' and enter postcode. www.wren.org.uk www.onyxenvtrust.org www.biffaward.org www.sitatrust.org.uk www.Viridor-Credits.co.uk
Big Lottery Fund – Awards for All Reaching Communities (both operate without deadlines)	Improving involvement in, provision of and access to local activities; improving people's opportunities, health, welfare, environment or local facilities. **Awards for All** grants to £10,000. **Reaching Communities** grants to £50,000 for capital projects costing up to £200,000.	www.biglotteryfund.org.uk or the Big Advice Line on 0845 410 2030. Awards for All: www.awardsforall.org.uk or 0845 4 10 20 30
Local Authorities	Many county, district and unitary councils have grant schemes which can assist community buildings with capital works. Budgets, timetables and procedures vary.	Contact the village halls adviser at your local Rural Community Council for further information. See also ACRE Village Halls Information Sheet 23: Village Halls and Community Centres – funding their provision.
Parish Councils	Can provide grant aid by raising a precept and/or by obtaining borrowing approval (for larger amounts).	Contact either the Village Halls Adviser or the Secretary of the county Association of Parish and Town Councils for further information. (See also ACRE Village Halls Information Sheet 2: Parish Council help for Village Halls.
Heritage Lottery Fund	Grants available for approved refurbishment of listed and memorial buildings.	www.hlf.org.uk.
Charitable Trusts	There are a small number of charitable trusts and companies which assist capital works and/or environmental projects to community buildings. It is important to tailor any application to the specific objects or causes a trust will support. Examples include banks/building societies, B & Q Better Neighbourhood grants.	Many local authorities have 'GrantFinder' software which is available for public use. See ACRE Village Halls Information Sheet 4: Funding Trusts for Village Halls, or funders database on CAfE website. Directory of Social Change publications (e.g. Directory of Grant Making Trusts) in library reference sections or visit www.dsc.org.uk
National Village Halls Loan Fund: Defra funding administered by ACRE.	Loans up to £20,000 for capital work to charitable village halls. (More in certain cases). Interest rate set by Treasury, currently 8%. No further charges.	Contact the village halls adviser in your local Rural Community Council for an application pack or visit the ACRE Website: www.acre.org.uk