March 2005 represents the end of CLAREN’s pilot phase, and what a three years it’s been! We’ve had an overwhelming demand for our services but have still managed to respond to over 350 project enquiries and have 100+ projects currently on the go.

Due to the success of the Community Renewables Initiative, the Countryside Agency is extending its support for at least one more year. Don’t forget that we have a whole range of leaflets, booklets, technology sheets, case studies etc – please call for a pack or visit www.claren.org.uk

The CLAREN Team
issue 3, April 2005

AD: Two problems, one solution

With animal and human waste identified as the likely source of pollution for the local lake, the community around Loweswater in Cumbria were looking for a new solution to an old problem…they found it in energy generation.

Loweswater is one of the smaller, most unspoilt lakes within the National Park. It is central to a small, dispersed community that has no mains sewerage and, in some cases, no mains water. A combination of factors - cattle slurry run-off, upland drainage and inefficient septic tank treatment - has led to an increase in nutrients in the lake and yearly algal blooms. This pollution, a problem for 20 years has forced the National Trust to close the lake when they occur.

With the lake closures, the community has recognised that the environmental changes are now impacting on their livelihoods, with many members of the community relying on tourism. This required radical action - the local farming and business community got together and set up the Loweswater Improvement Project to tackle the pollution.

With some prior knowledge, members of the group wanted to find out more about the opportunities associated with Anaerobic Digestion (AD) and called in CLAREN to assist. The need for a feasibility study was identified and CLAREN and Envirolink Northwest have provided funding for it to go ahead. A local consultancy, Scout Green Solutions, was appointed to take the study forward.

The study focused on the waste produced from Waterend, a settlement that includes a farm, cottage, camping barn, holiday cottage, ten bedroom hotel, 60 cattle and 200 sheep!

A plan was hatched - an underground AD facility, naturally insulated to maintain optimum temperatures and hidden by the earth, would be located close to the problem waste source. The waste would be digested naturally in its interior, away from the land and possibility of run off into the lake. The process would lead to emissions of methane (biogas) that, once collected, could be used to heat local buildings. A reed bed filter system would reduce the potency of liquids generated by the facility and by products used to fertilise the land.

A win win solution! Algal blooms would become a thing of the past, the community would benefit from low cost heating (thought to be equivalent to an annual saving of £2,500), the Environment Agency would leave farmers alone, the threat to the tourism industry is removed and the community can pride itself on its contribution to reducing emissions of greenhouse gases and pollution.

The community is now seeking funding to install the facility.

spotlight: anaerobic digestion

Tightening legislation is reducing the amount of waste reaching landfill sites and increasing the costs of disposal. Producers of organic waste in particular need to consider alternative solutions for the disposal of slurry, chicken litter, food processing waste, green waste etc.

Anaerobic Digestion (AD) is a relatively new option in the UK for dealing with this type of waste and interest in its use is growing.

AD is the breakdown of organic material by bacteria (anaerobes) in the absence of air. This natural process can be harnessed in an AD facility to produce biogas (methane) that can be used to generate heat and electricity. Valuable by-products, including a nutrient-rich liquor and solid fibrous material are also produced and these can be sold or used on local land.

A booklet introducing the technology is are available from CLAREN. (Go to www.claren.org.uk/downloads/ad.pdf or contact CLAREN for a hard copy.)
A Preston college takes energy seriously

Ashton Community Science College, a specialist science secondary school located in the centre of Preston, recently received funding from the Department for Education and Skills (DfES) to build a new science laboratory. This new facility will also provide ‘out of hours’ adult education classes.

The school is already committed to environmental improvement and education and decided that a hands-on ‘living’ laboratory was the way forward. Renewable energy was a natural choice for the development and several technologies fitted neatly into the design. The building will be heated by a ground source heat pump, and powered by solar electric photovoltaic panels and a 15kW wind turbine.

Visual units will display energy use and allow students to see exactly how much carbon and cash they are saving. This will offer a valuable lesson in science, environment and economics to all those that use the building, and provide ideas for putting this knowledge into practice in their own homes.

This type of initiative offers an ideal opportunity to engage communities, heighten awareness of climate change issues and encourage responsible energy use. Ashton Community Science College is not alone in tackling these issues and CLAREN is helping many schools across Lancashire and Cumbria to implement renewable energy initiatives.

Events

Planning for Renewables
May and June 2005
A series of workshops being delivered through RNW will update and inform councillors and Planning Officers about renewable energy technologies, planning issues and funding. Contact June Cunningham, 0161 236 7481, june.cunningham@renewablesnorthwest.co.uk

Renewable Energy & Community Involvement in the North West
20th May 2005, Lancaster
Planning Policy Statement PPS22: Renewable Energy identified a lack of community involvement in renewable energy schemes. The Environment Council will explore what this means for communities. Contact Eva Beresford, 020 7632 0145, evab@envcouncil.org.uk

The Opportunities of a Low Carbon Economy
10th May 2005, nr Kirkham, Preston
Half day conference run by the CBI, in conjunction with Sustainability NorthWest. Contact Jackie Thorpe, 0161 707 2190, jackie.thorpe@cbi.org.uk

Biomass heating at Wellfield High school

The Environmental Policy Team at Lancashire County Council recently requested the Centre for Sustainable Energy to investigate the environmental and economic feasibility of installing combined wood fuel/gas boilers at Wellfield High school. The school currently has an aging coal-fired boiler system, which is in need of replacement. Typically, the school uses energy primarily for space and water heating.

The study identified significant benefits to installing a wood fuel system. Government grants could help reduce capital costs by 50% and the projected savings on fuel and running costs are substantial - the preferred option has an estimated annual running cost of £5,850, compared to £9,370 for all gas.

This represents a payback period of 2 years (with grant assistance). As wood is carbon neutral (CO2 absorbed in growth= CO2 released in burning) and gas is more efficient, the facility would also emit 323 tonnes CO2 less than the existing boiler!

The Policy Team is currently engaging with the County Council Education and Social Services department and cabinet on how to take the project forward.

Funding in Focus

Triodos Bank. Offers loans (£20,000 to £10 million) to charitable projects with social, environmental and cultural objectives. 0117 973 9339, www.triodos.co.uk

Community Recycling and Economic Development (CRED) Programme: Issues grants (£50,000 to £300,000) for community based projects that contribute to a reduction in waste going to landfill. For example, community owned anaerobic digestion (AD). 0870 036 1000, http://cred.rswt.org

Co-operative Action. Offer grants and loans (£5,000 to £200,000) to organisations wishing to develop co-operative enterprises. This could apply to a co-operatively owned AD facility or wind turbine cluster. 0800 0886 727, www.co-operativeaction.coop

Contact CLAREN for more information. Also see www.renewablesnorthwest.co.uk/finance/finance.aspx