Leominster Anaerobic Digester – Project LeAD

Overview

The outline principals of an AD system are to breakdown organic wastes and / or agricultural crops to produce methane gas which can be used to fuel a gas-engine, boiler or be injected into the natural gas network. An engine can be used to power a generator to produce electricity and heat from the cooling system and exhaust of the engine can be utilised for space or water heating. If the heat can be gainfully utilised the overall energy efficiency of the system is improved and the plant can be termed a combined heat and power (CHP) system.

Project LeAD was started in 2008 by two individuals who both had the same idea about community-owned AD and who came together with Towards Transition Leominster to form a steering group. The original aim was to build a 20,000 tonne a year plant on the Leominster Enterprise Park that would deal with animal slurries and commercial food waste. The project has developed through a combination of volunteer time and practical and financial support from Sharenergy. As soon as the Sharenergy project officer was in post (July 2008) he engaged with the group to help develop the project.

Project LeAD initially decided to pursue AD as a project, as opposed to any other renewable technology, because of the rural nature of the county. The aim was to develop a community renewables project that could support the local economy and act as a catalyst for other new ventures. Herefordshire has a successful agricultural sector and a vibrant small food producer economy. Community AD could support both of these by providing a local and cost-effective route for waste from both industries. In addition, the close relationship with local farmers and food producers could be promoted to remind locals about the things they can buy that are produced locally. The by-product of AD, digestate, is a valuable alternative to commercial fertiliser and could help lower farmers' costs.

In 2008 when the first work began on the project there was excitement about the proposed Feed-In Tariffs (FIT) and the stability they could bring to the finances of an AD facility. The 2007 Waste Strategy had highlighted AD as a win-win technology and subsequent work from the NFU suggested that 1000 new facilities could be built by 2020. The assumption was that the industry was on the cusp of large-scale expansion.

In addition, the expected nutrient value of digestate was thought to be easily translatable into a financial value.

Diary of progress with Sharenergy

By December 2008 Sharenergy had tendered for and, with the agreement of Project LeAD, appointed an expert consultant to carry out scoping work for the project. Sharenergy provided a qualified link between the consultant and the members of Project LeAD while the study was carried out.

In April 2009 the expert study had been completed and it provided vital information including suggestions for a potential site for the plant and possible heat customers. Other potential AD projects were gaining interest and, with the portfolio of Sharenergy projects growing rapidly, there was pressure on the available resources of Sharenergy.

During the summer of 2009 the feedstock resource and business model were tested and analysed further and the feedstock assumptions in particular were found to be over-stated. It also became clear that Project LeAD either did not have the expertise or the time to maintain momentum. Sharenergy itself was struggling to keep all projects heading in the right direction and by September 2009 it was apparent that, although LeAD had strong prospects, it was in real need of more dedicated support.

A new Technical Consultant was appointed to Sharenergy during October 2009 with a remit biased toward the support of AD projects generally but problems within the Project LeAD group resulted in delays with decision making. However, with the extra resource in place, a decision to procure a full technical feasibility study was taken in January 2010. To be more cost-effective the study would examine the case for two of the Sharenergy AD projects; LeAD and Cleobury.

Project LeAD was officially 'launched' at a public meeting in January 2010. The meeting was advertised in leaflets distributed throughout the town and local shops, and by email. 80 people attended this first meeting, with many signing up to either invest or offer practical support to the project. There was not a single objection voiced about the project during this meeting.

In March 2010 Project LeAD made an application for funding to the LEADER Programme, a source of European funding to assist the development of rural areas and part of the Rural Development Programme for England (RDPE). Some of the costs, such as planning, were not eligible for support under RDPE rules so LeAD would be reliant on several funding streams if it were to proceed.

Sharenergy continued to work with LeAD by supporting the feasibility study, funding planning advice, sourcing alternative funding and helping their deliberations over which legal structure best suited them. LeAD were also being supported by Community First from the Co-operative Enterprise Hub and it became clear that the structure of the Sharenergy model, although suitable for a 'stand-alone' community AD project, would not be appropriate for the wider aspirations of LeAD. However, in order for LeAD to apply for funding from other sources they needed to be incorporated and have a legal structure. Sharenergy funded the drafting of the rules and registration to keep the project moving forward and to insure against the possible loss of its investment of staff time and feasibility studies Sharenergy had already committed.

By July 2010 it was also clear that the complexity and, therefore, long lead time for AD projects meant they would only come to fruition (make a share

offer) beyond the remaining eight month timeframe that Sharenergy had to work to.
In the autumn of 2010 the application for LEADER funding was turned down partly because of the lack of clarity of LeAD's organisational structure at the time and the need for LEADER to have more confidence in the business plan. The LEADER programme itself was facing cuts and uncertainty.

The network of individuals, organisations and communities investigating AD in the Marches area have been brought together and Marches Anaerobic Digester CIC was incorporated on the 18th October 2010. Sharenergy has played no small part in this process and Sharenergy's AD specialist and a member of the Management Group are two of the Directors of this new company.

Community Interest Companies (CIC) are limited companies, with special additional features, created for the use of people who want to conduct a business or other activity for community benefit, and not purely for private advantage. This is achieved by a "community interest test" and "asset lock", which ensures that the CIC is established for community purposes and the assets and profits are dedicated to these purposes. Registration of a company as a CIC has to be approved by the Regulator who also has a continuing monitoring and enforcement role.

The objects of Marches Anaerobic Digester CIC are to carry on activities that benefit the community. In particular, to determine whether there is scope for a community owned AD plant within the Marches, which can be sufficiently viable to make it suitable for investment in, and ownership by, the community. The aim is to achieve the objective by aggregating the resources of organisations in the Marches with similar aspirations.

In March 2011, Philippa Roberts (one of the drivers behind LeAD) produced 'Community Anaerobic Digestion: The Stages and Barriers to Success'[1]. This publication was funded by WRAP and is destined to be a crucial reference for any community hoping to develop a community owned AD plant.

Lessons learnt

Project LeAD was one of the first projects that Sharenergy got involved with at a time when Sharenergy itself was discovering the restrictions it had to work within and the gaps in knowledge that needed to be addressed in order to transpose Energy4All's wind model to other technologies and scales.

A large amount of work had to be carried out on the assumption that the FIT would be sufficient to make the project viable but when final calculations were made it fell short. Project LeAD, and others, have convinced the Government to reconsider the situation; the early FIT review should address this issue for small AD projects.

[1] Community Anaerobic Digestion: The Stages and Barriers to Success, Roberts, P. Marches Anaerobic Digester CIC. 2011.

An explanation of the revolving investment fund, so critical to Sharenergy's future, was not made early enough and this caused some disruption that could have been avoided.

All parties have learned how complex an AD development is; the pitfalls and essential stages have been exposed such that many others can benefit from the experience and knowledge propagated by Sharenergy and LeAD. Community Anaerobic Digestion: The Stages and Barriers to Success draws heavily on work funded by Sharenergy and could not have been written so accurately without the real world know-how Sharenergy nurtured.

Sharenergy has also shared their knowledge *via* various Government consultations to help inform the development of more appropriate policy to encourage viable community AD projects.