An anaerobic digester in Silloth, Cumbria

Keith Richardson is the chair of Community Renewable Energy North West

On the north Cumbrian coast lies the isolated rural community of Silloth. Comprising largely of farms, the community has, over recent years, felt the ups and downs of the farming industry, and locals are now looking for more stability.

Consequently, a number of farmers have joined forces to develop plans to build an **anaerobic digester**, which will be housed at one of the local farms. Supported by Community Renewable Energy, or CoRE, the eight local farms will supply **slurry and silage** to the proposed new plant, which has been under development for around two years.

Working all year round, the plant will produce a **combination of heat, electricity and digestate** – a liquid fertiliser which farmers can spread upon their land. Anaerobic digestion works much like a cow's stomach; using bacteria to break down the slurry and silage, creating methane – which is then used to create heat. As a greenhouse gas, methane is 23 times more powerful than CO_2, so it makes sense to capture and use as much of this as possible.

The process has numerous benefits for farmers. To begin it provides them with somewhere to dispose of their slurry rather than needing costly storage space. It also provides a **steady income**. The digestate, too, is a healthier fertiliser for the soil. This is not to mention the heat that can be used locally, and the electricity which can be sold to the electricity grid for a profit.

But developing the anaerobic digester is a lengthy and costly process for CoRE and the local farmers. Planning permission, grid connection and an array of reports and studies are all required. Diverse issues such as noise, smell, visual impact, transport, ground water contamination, flood risk, the environment and archaeological issues all need to be assessed.

Total costs for the project are expected to be around £3.7million, with money coming from a range of sources, such as grants, loans, private equity investments, and investments from the farmers.

The community has been very supportive of the scheme, with many letters of support received. There were some initial concerns from the immediate neighbours to the site over the potential noise and smell – but evidence from other sites suggests that neither of these factors will be an issue.

CoRE is a social enterprise aiming to help communities set up and run renewable energy projects and the Silloth plant is to be their first anaerobic digester.

www.corecoop.net

In brief …

- Eight farms in Cumbria have joined forces with CoRE to progress plans for a 1,000kW anaerobic digester to be located at one farm in the area
- The farms are all located within 2.5 kilometres of the site
- The famers will deliver around 30,000 tonnes of slurry and silage each year – producing around 26,000 tonnes of digestate
- For every tonne they put in, they will receive back about 0.8 of a tonne of digestate – this is worth about £4 a tonne
- The plant should produce around 7 million kW hours per annum – enough to power about 1,500 homes
- The total cost of the project is expected to be around £3.7million
- The scheme has received funding in the form of bank loans, investment from the farmers, private equity investments and a grant from the North West Development Agency
- In Germany, there are already about 4,000 farm-based anaerobic digesters, whilst in this country there are only about four or five similar systems
- The system will last for at least 25 years and in that time it should save between 130,000 and 140,000 tonnes of CO_2