

Anaerobic Digesters otherwise known as AD

Energy production affects the countryside through its impacts on landscape, tranquillity, character and capacity to deliver other environmental goods such as food, clean water and functional habitats ...Inappropriately sited energy infrastructure, including for renewable or non-renewable generation, can also damage the landscape.

CPRE Policy Guidance Note

AD is a useful and powerful technology which deals with organic waste matter. AD prevents greenhouse gases from naturally decomposing waste entering the atmosphere.

The gases recouped from a digester can also be used to recoup a little energy. This gas can be used as a fuel on site, fed into the gas main or used to run electrical generators.

About 85% of the tonnage that goes into a digester comes out again as digestate.

Digestate is the spent liquid residue left at the end of the process. It is valuable as a non petroleum-derived agricultural fertiliser.

Digestate is stored in tanks or open lagoons.

It needs to cool and mature before being distributed for spreading at the right point in the crop cycle.

Liquid digestate can have a very powerful smell, especially if it has not been stored.

Types of Waste-Fed AD Plants

Agricultural

Non Agricultural

Agricultural

Typically on-farm digesters of modest size, fed with manure slurry or waste from on farm activities like cheese making are good for the environment, good for agriculture and able to provide small amounts of gas for heat or electricity. Sometimes a proportion of crop is used with the waste to provide the right mix of feedstock.

Non Agricultural

Larger digesters fed with food waste from the food industry and supermarkets or from urban recycling rounds are also useful green enterprises, but they don't have any particular need for a countryside location. They can be sited on brownfield areas or on edge-of-town commercial locations as per the Local Planning Authority's policy.

Traffic issues can arise from the final distribution of the digestate to be spread on farmland. The digestate is mainly water and is much more bulky to transport than the dry agricultural fertilisers that it replaces.

It isn't considered economical to transport it long distances.

Approximately 85% of the tonnage that goes into a digester is piped out into

storage tanks or lagoons as liquid digestate where it should cool and mature before being distributed for spreading.

In theory digestate can be separated into a dry fertiliser and waste water but it isn't often done in the UK.

Crop-fed AD plants

We are beginning to see proposals for new large scale, crop fed AD plants in rural locations around the country in rural locations. Some existing digesters, like those at Cannington Enterprises, in Somerset, for example an existing digester has abandoned food waste in favour of an input of energy crops!

Mis-directed Subsidies:

Given that they are so inefficient, one might wonder why large crop-fed biodigesters are built at all. They are highly profitable only because they exploit poorly drafted government programs to subsidise both agriculture and green energy generation.

First agriculture is subsidised with the intention of protecting food production and the rural environment, then gas and electricity are purchased at very generous prices with the intention of encouraging sustainable green energy generation.

None of these ends are achieved by crop-fed AD but the subsidy regime remains in place for the time being.

Investors are gambling that future governments will maintain these subsidies but the long term future of the business model is very doubtful.

LARGE AD PLANTS ARE DAMAGING TO REAL AGRICULTURE

The Tenant Farmers Association has several times issued warnings that farmers wanting to carry on with normal agriculture in the vicinity of an AD Plant are disadvantaged.

The price of land, labour and fodder crops is inflated by the demand from the AD Plant, increasing the difficulties in an already squeezed industry.

Where farms are supplying crops for AD and spreading the digestate, mixed farming is abandoned in favour of blanket intensive arable production.

The requirement is only for the highest yields not even to normal fodder crop quality so the tendency is to use plenty of chemicals and the simplest systems, all the worst practices for soil biota, wildlife, soil erosion and compaction and biodiversity.

Contract labour is favoured over permanent employment.

AD doesn't produce much power

Professor Sir David MacKay, one time Chief Scientific Adviser to the Department of Energy and Climate Change wrote in his book Sustainable Energy - Without the Hot Air:

“BIOFUELS CAN'T ADD UP ...Even leaving aside biofuels' main defects - that their production competes with food, and that the additional inputs required for farming and processing often cancel out most of the delivered energy - biofuels made from plants ... can deliver so little power, I think they are scarcely worth talking about.”

Effect on the Local Economy

Large AD Plants can provide some local employment, but they have an adverse effect on many other parts of the rural economy. Any business dependent on the peace and beauty of the countryside can be destroyed by an AD plant. Pubs, hotels, stables, shoots, B&Bs, campsites, wedding venues and any parts of the tourism sector are adversely effected by the smell, the unsightliness and the traffic of large scale AD

Large, on-farm AD plants cause extreme traffic problems

Normal agricultural activity has always involved moving crops, feeds and fertilisers across short distances from field to shed and back, some of it by road. With AD Plants the activity is not restricted to the farm.

Crops and digestate are moved in great quantity to and from fields which might be 15km or more from the plant.

This is done in many thousands of tractor and trailer loads of up to 20 tons each. This kind of transport is only economical because low-cost agricultural red diesel is used.

Most rural roads were designed for the horse and cart, and can hardly cope with a car and caravan in 2016!

The vehicles required to move crops and digestate are too slow for main roads and too big for country lanes. In rural lanes particularly they do great damage to verges, ditches, gateposts and the road surface, all of which are repaired at public expense. They drive pedestrians, cyclists and riders off the lanes and severely inconvenience the people who live in the surrounding villages.

Pollution Risks

There have already been many spillages of digestate in Somerset
60 tonnes of liquid digestate was discharged into the Cannington Brook in 2012 turning the stream black all the way to the river Parrett and killing everything in it.

We campaign to support sustainable energy, sustainable farming and adopt a common sense approach to our campaigns. In the case of a large scale anaerobic digester application - our first question must be - in whose interest is this application? People (human beings) of this generation and those of the future or a small group of people in this generation? Is this application really in the best interest of human beings who depend on our countryside for food, tranquillity, a sense of being, relaxation, tourism and the biodiversity superhighway to ensure a living breathing world for all?