



# Greater Lincolnshire LEP Energy Council

**Teams Meeting – LEP Energy Council Meeting**

**Time: 10<sup>th</sup> March 2021 2:00 PM London**

**Join Teams Meeting**

# Paper 0 - Agenda

Time	Item and brief description	Lead	Status
14.00	Welcome and Formal Introductions	Duncan Botting	Verbal
14.10	Determination of three GL LEP Energy needs - Recovery/Transition and the future - three commitments - Introduction	Duncan Botting/All	Presentation/Discussion
14.50	Discussions around the opportunities - Please see discussion details below	All	Paper/Discussion
15.10	Local Area Energy Planning - Update on plans from LCC/GLLEP/UoL and determination of next steps	Andrew Brooks/All	Verbal/Discussion
16.00	Way forward to articulate future focus of Energy Council - Please see discussion details below	All	Verbal/Discussion
16.15	AOB	Duncan Botting/All	Verbal
16.30	Meeting Close		

**Attendees:** Duncan Botting, Justin Brown, Cllr Barry Dobson, John Henry Looney, Simon Green, Marie Harley, Sally Brewis, Juergen Schaper, Emma Bridge, Martin Haworth, Lea James, Alex Riley, Robert Rowan

**Apologies:**

**Tentative:** Jacqui Bunce

**Officers:** Ruth Carver, Andrew Brooks

## **Future focus of Energy Council - *Pre meeting action***

This section will be looking to focus on targeting for the main LEP Board a series of three elements that will show both the gaps and opportunity for growth and productivity.

These would include but not exclusive to the following areas:

- **South Humberside and North Lincs** - so what impact could this addition deliver for the energy landscape for the rest of the GL LEP area
- **Digital connections** - what are the most important digital datasets missing from WPD, NpG and Cadent to allow GL LEP to enable recovery/growth?
- **Clean Growth Strategy** - what are the most pressing needs of residential, industrial, commerce, agriculture and food processing/logistics?

## **Local Area Energy Planning - *Pre meeting action***

There have been two papers written for the main LEP Board, which are attached to this agenda for information.

In addition to these papers, there has been a Lincolnshire County Council proposal developed through the Infrastructure Group, which is looking at the following questions, and looking to secure funding to support.

These are:

- To challenge whether the provision of energy genuinely affects viability - a decision to implement a local innovative solution could deliver requirements;
- To identify how authorities could work together to build the scale to make an alternative energy offer attractive to the private sector;
- To strengthen the connection between energy and other utility provision - notably digital infrastructure and the internet of things;
- To provide a forum for the private sector and public sector to collaborate on specific schemes, creating the environment for a strong dialogue that leads to investment in our priority sites;

# GLLEP Energy Council

## Discussion Paper on Anaerobic Digestion

November 2020

### Executive Summary

Anaerobic Digestion is a relatively new renewable energy technology to the UK. There are a significant number of operational AD facilities within the GLLEP area with more planned for the future. The GLLEP area is well placed to see this sector thrive as it provides an ideal environment for AD due to feed stock availability, suitable sites, and large land bank for digestate spreading.

New AD developments in the GLLEP area are likely to be Bio-methane to grid facilities operating on food waste or agricultural by-products with a proportion of crops.

### Anaerobic Digestion

Anaerobic Digestion (AD) is the process of breaking down biomass in the absence of oxygen, through the action of microbes, to produce a mixture of methane and carbon dioxide, called Biogas. The Biogas can then be combusted in gas engines to produce renewable electricity and heat, or the Biogas can be cleaned up and the carbon dioxide removed to produce bio-methane. The bio-methane is injected into the national gas grid, or compressed for use in freight vehicles.

There are three main sub sectors of the anaerobic digestion industry in the UK, based on the feedstock used.

1. Sewage gas AD
2. Agricultural Crop AD
3. Food waste and industrial waste AD

There is some cross over between the agricultural and food waste sectors. AD has been in use in the sewage sector for many years, but only really became prominent in the agriculture and food waste sectors around 10 years ago when AD became an eligible technology under Government subsidy schemes such as the Feed in Tariff (FIT) and the Renewable Heat Incentive (RHI).

There are currently around 700 Anaerobic Digestion plants in the UK and over 40 in the GLLEP area. The majority of the plants in the GLLEP area use agricultural feed-stock and produce electricity to the grid. There are a small number of installations that produce bio-methane and inject into the gas grid, some of these are fed with agricultural feedstock and some with food waste.

The current main subsidy regime is the Renewable Heat Incentive, but this will close to new accreditation on 31<sup>st</sup> March 2021. Any future AD plants will obtain subsidies through a proposed Green Gas Support Scheme (GGSS), scheduled to launch in autumn 2021, or through the Renewable Transport Fuel Obligation (RTFO), which is already operating. The current RHI requires at least 50% of the feedstock to a facility to be non-crop; also, any crop feedstock has to meet sustainability criteria. The replacement subsidy regime, the GGSS, will also require at least 50% no-crop and possibly a higher percentage.

The AD industry will continue to require Government subsidies in the future to be viable but has a number of significant advantages:

- It can produce bio-methane or renewable electricity when the sun does not shine and the wind does not blow.
- It can process a number of very difficult wastes such as food waste and animal manures, which can otherwise produce significant un-controlled greenhouse gases.
- It provides an opportunity for skilled employment in rural areas
- It allows farmers to diversify their business into renewables
- It produces an organic fertiliser by-product

Undoubtedly, the future direction of travel for the AD industry in the UK is larger facilities, producing bio-methane for injection into the grid or for freight, and these plants will increasingly use food waste, industrial wastes, sewage sludge or agricultural residues.

#### Anaerobic Digestion in the GLLEP area

There are over 40 operational AD plants in the GLLEP, with the majority being agricultural plants using crops or agricultural residues as feedstock. There is also a small but significant number of plants using waste feedstocks, and these tend to be the larger facilities.

There are no accurate figures published for employment in the AD industry in the GLLEP area, but it does provide significant employment both directly at the facilities and also in support sectors such as engineering, consultancy, agricultural contracting. Direct and indirect AD Sector employment in the GLLEP area is likely to be of the order of 1000 full time personnel.

The GLLEP area is ideal for future AD projects. The main criteria for an AD location are:

- Rural setting, as the planning process requires separation from dwellings.
- Access to feed stock, either food wastes, agricultural wastes or crops.
- Access to a suitable land bank for spreading the resulting digestate (fertiliser by-product).

#### Further considerations

Although Government regulation and policy is pushing more towards food waste into AD, it is not always a straight-forward situation. Food waste tends to be more difficult to process in AD due to its variable nature, and the subsequent digestate by-product produced is also more problematic to spread to land as it may be contaminated with small plastic and is subject to tight regulation.

Separate household food waste collection is expensive and the collected waste tends to be highly contaminated with plastic and other contaminants.

Currently within the GLLEP area most of the food waste is in household black bag waste and processed at the energy from waste facility at North Hykeham to produce renewable electricity. Separate food waste collections would make this available for AD but would remove it from the waste being processed at North Hykeham. The knock on effect could create a shift in calorific value, if unmitigated, for the existing energy from waste facility causing a potential reduction of waste process capacity of the facility. A coordinated approach for feedstock change would need to happen between LCC and the operator to ensure that there are no unwanted, environmentally negative, effects.

Another source of food waste is from food processing factories or agricultural growers. These waste sources tend to be more controlled, less contaminated and cheap to collect.

There are AD facilities operating in the GLLEP area on food processing wastes such as potato peelings, reject vegetables, dairy by-products and sugar industry by-products.

### Conclusions

Anaerobic Digestion plays an important role in the renewables mix, with the strength of providing renewable electricity and heat 24/7/365. It can process difficult wastes such as manures, agricultural residues and food wastes.

The GLLEP area has an established AD industry and this is likely to expand in the future. The ideal feedstock for future facilities in the area are agricultural residues and manures, and food waste from the food-processing sector.