Acorn Bioenergy

Anaerobic Digestion plant at Spring Grove Farm

Statement of Community Involvement

February 2023

The purpose of this report

1.1. This report details the scope and methods used for the pre-application consultation and engagement with local communities and stakeholders regarding Acorn Bioenergy's development proposals for an anaerobic digestion plant on land to the north of Spring Grove Farm off the A1307 near Hanchet End.

1.2. The report also provides details of the outcomes of the consultations and how the proposed development has been influenced through community and stakeholder feedback.

The structure of this report

This report is set out in the following sections:

Page 3 - Section 2 introduces the background of the application;
Page 3 - Section 3 sets out the policy context;
Page 4 - Section 4 describes the approach to community and stakeholder engagement;
Page 7 - Section 5 outlines the community and stakeholder feedback;
Page 8 - Section 6 outlines Acorn Bioenergy's responses to key feedback received;
Page 9 - Section 7 sets out the next steps.

2.0 Introduction

2.1. This Statement of Community Involvement (SCI) is submitted to Suffolk County Council, on behalf of Acorn Bioenergy as part of a planning application for a new anaerobic digestion plant on land to the north of Spring Grove Farm off the A1307 near Hanchet End which will produce biomethane, digestate and CO2.

2.2. The proposals are for the construction of an anaerobic digestion plant on land to the north of Spring Grove Farm off the A1307 near Hanchet End. The plant will provide renewable, carbon negative energy for the UK by producing biomethane. The plant will also produce two by-products; digestate, which will be used as fertiliser on local farms and CO2, which can be used for industrial purposes. The plant will provide enough green gas to meet the heating demand of over 7,000 UK households or meet the fuel demand of the equivalent of over 270 HGVs.

3.0 Policy context

3.1. Community and stakeholder engagement is a key aspect of the planning process as set out in current Local Planning Authority policies and guidelines.

Suffolk County Council's Local Plan

Suffolk County Council's guidelines on community and stakeholder engagement

3.2. The Planning and Compulsory Purchase Act (2004) (as amended) required Suffolk County Council to publish a Minerals and Waste Development Framework (MWDF) and accompanying Statement of Community Involvement (SCI) detailing how it will engage local communities and other interested parties when determining minerals and waste planning applications.

3.3. This Statement of Community Involvement (SCI) sets out how we will involve Suffolk County Council, local residents, businesses and community groups in the preparation of planning documents and the consideration of planning applications.

3.4. Suffolk County Council's Minerals and Waste SCI was adopted in November 2015.

3.5. In the SCI, applicants are encouraged to undertake community consultation at the pre-application stage and to submit a statement with their planning application that outlines the community involvement carried out and the outcome.

3.6. When undertaking community engagement, applicants are expected to follow good practice guidelines as outlined in Suffolk County Council's SCI.

An extract from Suffolk County Council's SCI on best practice public engagement is below:

"There are many opportunities for public engagement outside of the formal stages, which may be used. At the beginning of the decision-making process, engagement is crucial to gather opinions, evidence and ideas to establish what the issues are and what the options are for dealing with them. These options then need to be developed before a conclusion is reached as to the 'best option' for dealing with a particular issue taking into account the views of interested parties and those that may be affected by the plan. In the case of the county council, the plans are countywide and have the potential to impact on all residents.

Engagement needs to be proportionate to the resources that are available; therefore a pragmatic approach needs to be taken when considering the engagement exercises that are applied. At each stage of plan production engagement is undertaken to better understand the views and perceptions of interested parties."

4.0 The approach to community and stakeholder engagement

Introduction and background to the consultations

4.1. The preparation of this planning application follows a process of statutory and stakeholder consultation as well as public consultation and community engagement.

4.2. Acorn are also submitting an Environmental Impact Assessment (EIA) as part of the planning application.

4.3. An in-person public exhibition was undertaken for the application. This was for local residents, businesses and stakeholders and took place on Wednesday 14th September at Withersfield Village Hall, Turnpike Hill, Withersfield, Haverhill. The timing of the exhibition was designed to encourage maximum attendance; the exhibition started at 4.30pm and finished at 7.30pm.

4.4. The public exhibition was held on a day that was not a religious or public holiday, to ensure it was open and accessible to all.

4.5. A community survey was also carried out over two days on Thursday 23rd February and Friday 24th February by Instinctif Partners, on behalf of Acorn Bioenergy in Withersfield and Haverhill. For full transparency the questions asked are below. The survey was carried out by staff from Instinctif Partners knocking on doors in Withersfield and Haverhill. The survey received 196 responses across the survey area.

4.6. Questions from survey:

1. Are you aware of the proposals? Yes/no
2. In principle how supportive are you of this proposed anaerobic digestion plant? (1. Support 2. Neutral 3. Against)
3. What is the main reason for your views?
4. Do you believe we need to generate more renewable energy from domestic sources to help address energy security? (Yes/No/Unsure)
5. Are you concerned about climate change? (Yes/No/Unsure)
6. Are you supportive of the new jobs and local economic benefits the plant will bring? (Yes/No/Unsure)
7. Are you supportive of the local production of organic digestate fertilizer? (Yes/No/Unsure)
8. Are you supportive of carbon capture and use of this green Co2 in industry? (Yes/No/Unsure)

Stakeholder engagement

Elected Members

4.7. Prior to the public exhibition, elected representatives from West Suffolk Council were briefed on the proposals and throughout the application process over the phone and via email, starting on the 31 August 2022. These included political stakeholders, including the district ward councillor for the site, relevant senior councillors and the constituency MP. The elected representatives were also offered a face-to-face briefing on the proposals.

4.8. Ward councillors and senior councillors were also briefed on the feedback received during the consultation and the number of people who attended the public exhibition on September 14. Members were offered follow-up discussions post the public consultation and prior to the submission of the planning application.

4.9. Some county councillors were also invited to visit a nearby anaerobic digestion plant, called Euston Biogas at Thetford on Wednesday 23 November. The landowner for the site and a representative from Acorn Bioenergy helped organise this visit, which showed members what an anaerobic digestion plant looks like and how it operates. Members who attended included Cllr Bobby Bennett, the county councillor whose division covers the site, Cllr David Roach and Cllr Richard Smith, the cabinet member for economic development, transport and waste at Suffolk County Council. Members from Withersfield Parish Council were also invited and attended a site visit at Euston Biogas on Saturday 26 November.

4.10. In addition, both before and after the public exhibition the project team contacted the parish councils in the area offering them a presentation on the proposals. Parish councils contacted included Withersfield Parish Council, Horseheath Parish Council and Haverhill Town Council. At

the time of submission meetings took place with Withersfield Parish Council, Haverhill Town Council and Horseheath Parish Council. A summary of what was discussed at the parish council meetings is below:

Withersfield Parish Council (13 September):

- Traffic
- Impact on village

Haverhill Town Council (18 October):

- Traffic movements
- Where the digestate will be used
- Quantum of annual CO2 production
- Smell of the plant materials
- Whether the plant could be used to process food waste in the future
- Reasoning behind choice of break crops

Horseheath Parish Council (14 November)

- Transport movements from the site on the A1307
- Questions around the process and how anaerobic digestion works
- Visual impact

Public consultation

4.11. A variety of best practice consultation methods have been used to inform local stakeholders and local residents about the consultation and to encourage them to participate in the process.

4.12. An invitation letter was sent to residents informing them of the proposals and inviting them to the public exhibition. The invitation letter was sent in the post to 1,865 addresses. The letter was delivered on the 5 September 2022.

A copy of the invitation letter can be found in Appendix 1 and a map of the full mailing area can be found in Appendix 2.

4.13. A dedicated project website was set up to provide local residents and businesses information about the proposals and a chance to give feedback if they were not able to attend the exhibition. Data displayed on the website were predicted values at the time of the public exhibition and may have evolved following further detailed assessments.

The link to the project website is here: https://www.springgrovefarmplans.com/

The website went live on Friday 2 September. It contains all the information available at the public exhibition, including an introduction to Acorn Bioenergy, information about anaerobic digestion,

images of the proposals and an online questionnaire which invited residents to comment directly on the proposals. This can be found in Appendix 6.

Screenshots from the website can be found in Appendix 3.

4.14. A drop-in public exhibition for local residents, businesses and stakeholders was organised and took place on the following date:

- Wednesday 14th September 2022 4.30pm - 7.30pm

The public consultation event took place at Withersfield Village Hall, Turnpike Hill, Withersfield, Haverhill. 7 display boards, which can be found in Appendix 4, provided details of the development plans. Data displayed on the exhibition boards were predicted values at the time of the public exhibition and may have evolved following further detailed assessments.

Board topics included:

- About Acorn Bioenergy
- What is Anaerobic Digestion?
- The site
- Location
- Key benefits of Anaerobic Digestion
- Images of the proposals
- Next steps

Overall, 108 people attended the exhibition.

Drop-in attendees were able to examine the display boards and engage with team members from Acorn Bioenergy and Instinctif Partners, who discussed the plans and answered questions.

A bespoke feedback form for the consultation was produced and made available at the drop-in event. The feedback form included a section marked “Your views on the proposal’, offering people the opportunity to leave their comments. The feedback form also publicised the website. This can be found in Appendix 5.

4.15. All attendees were encouraged to complete the feedback forms and either drop them in the ballot box at the event or return them by a freepost envelope provided or by email before the closing date of 30 September 2022. An online feedback form was also available on the website. A copy of the feedback form can be found in Appendix 5.

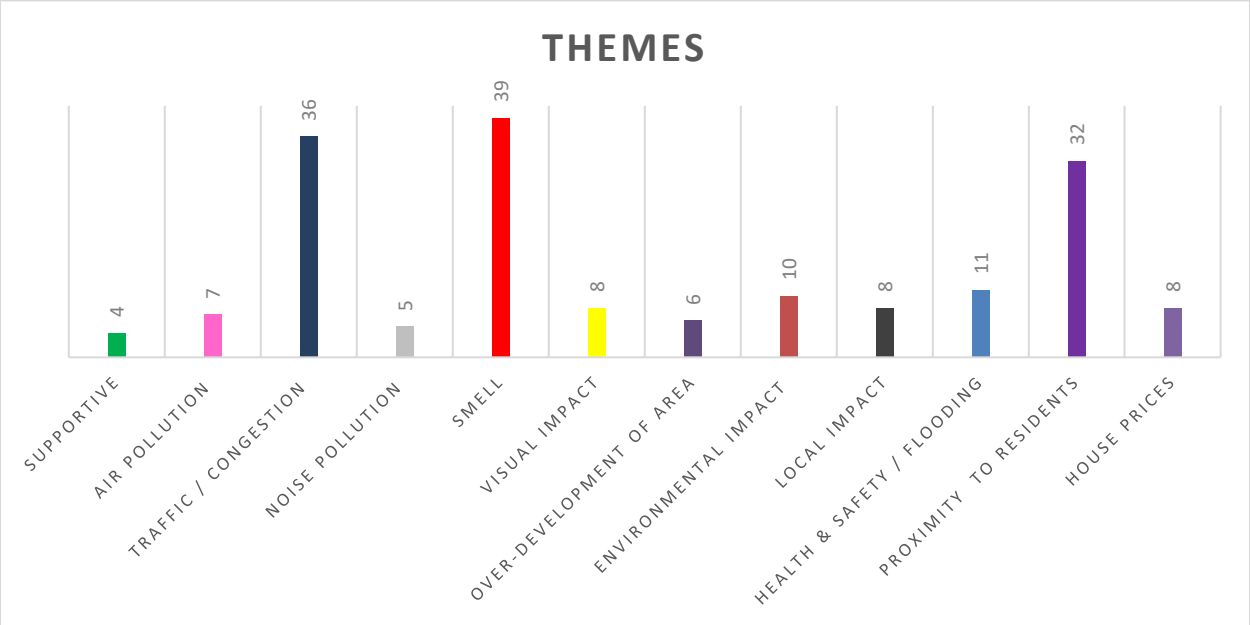
Of the people who attended, 54 signed in and 26 filled in a feedback form on the day. 4 people phoned the consultation number. 23 people submitted feedback via the website and a further 9 people sent feedback via email.

5.0 Community and stakeholder engagement feedback

Feedback analysis of comments from local community

5.1. On the feedback form, respondents were asked for their opinions on the proposals, whether they supported renewable energy generation in their area and what their preferred form of energy generation was. Below is a list of key themes raised through feedback received via email, feedback forms and responses on the project website.

5.2. **Key themes raised:**



Qualitative Analysis of comments from community respondents

5.3. Acorn Bioenergy and its project team had detailed conversations with the majority of attendees at the public exhibition. The main feedback related to the anticipated impact on traffic in the area, odour, proximity to local residents, health and safety, including flooding and the environmental impact.

5.4. The feedback analysis identified a number of specific issues of interest or concern, as tabled in frequency order in Table 1 below. Acorn Bioenergy responses to these comments can be found in section 6.

5.5. The questions asked by Acorn at the public consultation were:

- "What are your views on our proposals?"
- "Do you support renewable energy generation in your local area?"
- "What would your preferred form of energy generation in your local area be?"

Feedback received by the public (by key theme)

Traffic congestion concerns:

- "It will be too many more lorries on the roads and the road network won't cope."
- "Vehicular traffic a major consideration A1307 already unable to cope. Actual access likely to be a problem."
- "The road between Haverhill and Cambridge is always very busy, heavy accident tolls."

Smell:

- "In addition, the plant allegedly will produce an unacceptable smell."
- "Being the next-door neighbour our main concern will be if there is any odour emitted from the plant affecting us enjoying our garden."
- "It will be unpleasant for people when the wind blows the smell across their homes."

Proximity to residents

- "Too close to communities including newly approved properties at A1307/A1017 junction."
- "It is too close to houses which will impact the community,"
- "I am not happy with this being built so close to my housing estate."

Health and safety/flooding concerns

- "What sort of ammonia levels will you have, monitoring in place, risks of ecoli etc. Pumping sludge down a pipe causes it to go septic?"
- "Wrong place - on or very close to the flood plain. Risks of contamination in the event of flooding. Leaks: with the best will in the world, there is a risk. And were it to happen, damage to wetlands."
- "The area proposed for this generator has frequently suffered from flooding, you'll notice it sits at the bottom of hill? and the presence of a flood defence down stream."

6.0 Acorn Bioenergy responses to feedback

6.1 Table of Acorn Bioenergy responses to comments received

The below table outlines Acorn Bioenergy's response to the most common themes raised during the public consultation and in the subsequent online feedback responses.

Theme	Acorn Bioenergy
Traffic congestion	There are no significant impacts on traffic and access to the local area. The overall amount of traffic is to be confirmed, this will be detailed in the transport statement. The vehicle movements will consist of cars for the five workers arriving and leaving the site, HGVs bringing the CO2 and biomethane out of the plant, as well as trucks depositing the feedstock for the plant and taking the digestate fertiliser away.

	Many vehicles will follow the A1307 and enter the site through the Spring Grove Farm access point coming off the A road. Farmyard vehicles will use farm tracks wherever possible and cross at an upgraded junction on Silver street to enter from the north of the site. Vehicle movements have been considered within a Transport Statement which accompanies the planning application.
Smell	An Air Quality Assessment has been carried out and will be submitted alongside the application. This assessed the potential impacts on air quality and local amenity associated with the proposed development. Both the construction phase and operational phase assessment has concluded the proposed development will not result in a significant effect to residents regarding odour, dust, road traffic, bioaerosols, ammonia and Combined Heat and Power (CHP) combustion emissions. Once the AD plant is developed, ecologically, it will not cause likely damage to the Over and Lawn Woods SSSI and no significant pollution at the surrounding ancient woodlands. To become operational, this AD plant will require a permit from the Environment Agency. One of the conditions of having the permit is that we will have to produce an odour management plan, and to carry out daily checks to ensure everything is working and kept clean and tidy and that there is no impact on nearby properties. If we do not comply with this, the EA will be able to stop us operating. For further information please refer to the Air Quality Assessment.
Proximity to residents	The Landscape Visual Assessment has found that the effect of the proposed development on the surrounding landscape and residents visual amenity would be localised and concentrated substantially within a radius of 0.5km of the site, although the presence of the digestor tankers above the existing tree canopy would be noticeable across limited other parts within the 2km radius, including from some three-storey residential development within Haverhill, where unobstructed views (mainly from elevated ground) are possible. The choice of site for the proposed development avoids landscape designations and consequently there are no effects on any areas that are designated for their scenic qualities. The site already offers a good degree of natural screening and to address the visibility point, a major new woodland is proposed on the eastern boundary of the site which will not only positively contribute to increased biodiversity on site but will provide visual mitigation and good screening. Moreover, the Air Quality Assessment has concluded that both during the construction phase and operational phase the proposed development will not result in any significants effect to residents amenity with regard to odour, dust, road traffic, bioaerosols, ammonia and Combined Heat and Power (CHP) combustion emissions.
Health and safety/flooding concerns	The site would be constructed and operated using best practice and with appropriate health and safety management systems in place. Similar plants have an excellent health and safety record. Also the digestate will be produced in accordance with PAS110 and applied in line with RB209 that minimises pollution risks and maximises fertilizer value from the digestate.

	A Flood Risk Assessment and Drainage Report with associated Surface Water Management Plan will accompany the planning application. Flood risk has been assessed in line with BS8533, taking account of national, county and local planning policy and guidance, and all potential sources of flooding to the Site have been considered. A screening assessment of the flood risk posed by sources including fluvial, tidal, surface water, groundwater, sewer, reservoirs, canals and infrastructure failure has been undertaken. All key elements of the proposed development will be located outside the 1% annual exceedance probability (AEP) flood extent. Therefore the flood risk to the proposed development is considered negligible and thus the site is suitable for development. Civil engineering works on site will be in line with the industry standard Civil Engineering Specifications for the Water Industry (CESWI) 7th Edition. These codes and standards are the UK's and EU's industry standard for construction of anaerobic digestion plant structures. Hence, the site would be appropriately surfaced and bunded with a water treatment system which mitigates any pollution risk.

7.0 Next steps

7.1. Following submission of the planning application, Suffolk County Council will continue to consult interested parties including local residents by keeping the various consultation channels open and responding to resident emails and phone calls.

Appendices

Appendix 1 – A4 invitation letter sent to 1,865 residential and business addresses

Appendix 2 – Mailing area for invitation letter

Appendix 3 – Screenshot from the website: https://www.springgrovefarmplans.com/

Appendix 4 – Exhibition boards shown at the drop-in event on 14 September 2022

Appendix 5 – Feedback form

Appendix 6 – Screenshot of the online feedback page from the website

Appendix 7 – Photos from the exhibition

Appendix 1 – Invitation sent to 1,865 local residential and business addresses

2 September 2022

Dear Resident,

Acorn Bioenergy is writing to invite you to a drop-in event to discuss our proposals for an anaerobic digestion plant on land to the north of Spring Grove Farm off the A1307 near Hanchet End.

Acorn Bioenergy is committed to providing renewable, carbon negative energy for the UK by unlocking the full potential of biomethane production. Anaerobic digestion is a process by which organic materials, including agricultural waste, residues and silages are broken down and converted into gas for heating and transport.

The plant will deliver several key benefits, including:

- Generating enough biomethane annually to meet the heating demand of c.7,000 UK homes or fuel 270 HGVs a year.
- Annual saving of 26,400 tonnes of CO2e, against standard UK grid emissions, comparable to taking 17,000 cars off the road.
- Helping farmers by producing digestate, a high-quality fertiliser, which is better for the environment and soil than conventional artificial fertiliser, to be used on local farmland.
- Using agricultural wastes, by-products, crops and residues from local farms and businesses, ensuring income dependability for farmers and making new crop rotations viable, helping to increase crop yields.
- As part of the anaerobic digestion process, Acorn will capture and upgrade all CO2 to food quality. This upgraded CO2 will be liquified and sold to businesses for industrial use ensuring regional security of CO2 supply.
- The proposal will help West Suffolk and the country reduce its carbon emissions and meet net zero targets.

We are consulting your community on the proposal to develop an anaerobic digestion plant at Spring Grove Farm. This event will enable residents and the wider community to view the proposals, ask questions about the anaerobic digestion plant to the project team and leave feedback which will be reviewed by the team. Acorn Bioenergy and Instinctif Partners are looking forward to receiving feedback from you about the plans.

The public consultation event will take place in Withersfield Village Hall, Turnpike Hill, Withersfield, Haverhill CB9 7RX on:

- **14 September from 4.30pm to 7:30pm**

We look forward to meeting you and answering any questions that you may have. The exhibition boards will be available online shortly after the event. You can view these and send us your feedback on the new project website which is available here: springgrovefarmplans.com

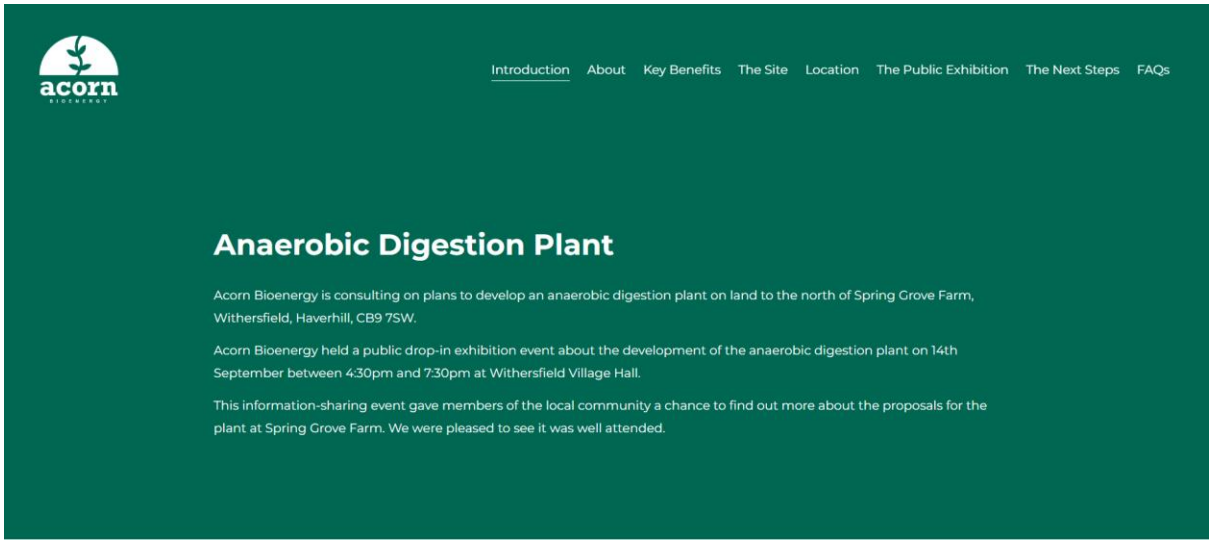
If you have any queries in the meantime, please contact our community consultant Harry Gilham of Instinctif Partners on 0749 386 7448 or email springgrovefarmplans@instinctif.com

Yours faithfully,

Harry Gilham
Instinctif Partners

Appendix 2 – Consultation area for the invitation letter to the exhibition

Appendix 3 –Screenshots from website



Acorn Bioenergy

Acorn Bioenergy is committed to providing renewable, carbon negative energy for the UK by unlocking the full potential of biomethane production. They plan to make an immediate impact by reducing transport, industry and agriculture CO2 emissions commencing in 2023.

Acorn Bioenergy creates & procures biogas from anaerobic digestion facilities in the UK and upgrades it to biomethane. Acorn's plants to not require gas pipelines; instead, they use biomethane powered trucks to transport the biomethane from the anaerobic digestion facility to its point of use. The low carbon biomethane will be directly injected into the gas grid to create renewable heat and used as an alternative fuel to power heavy goods vehicles (HGVs).

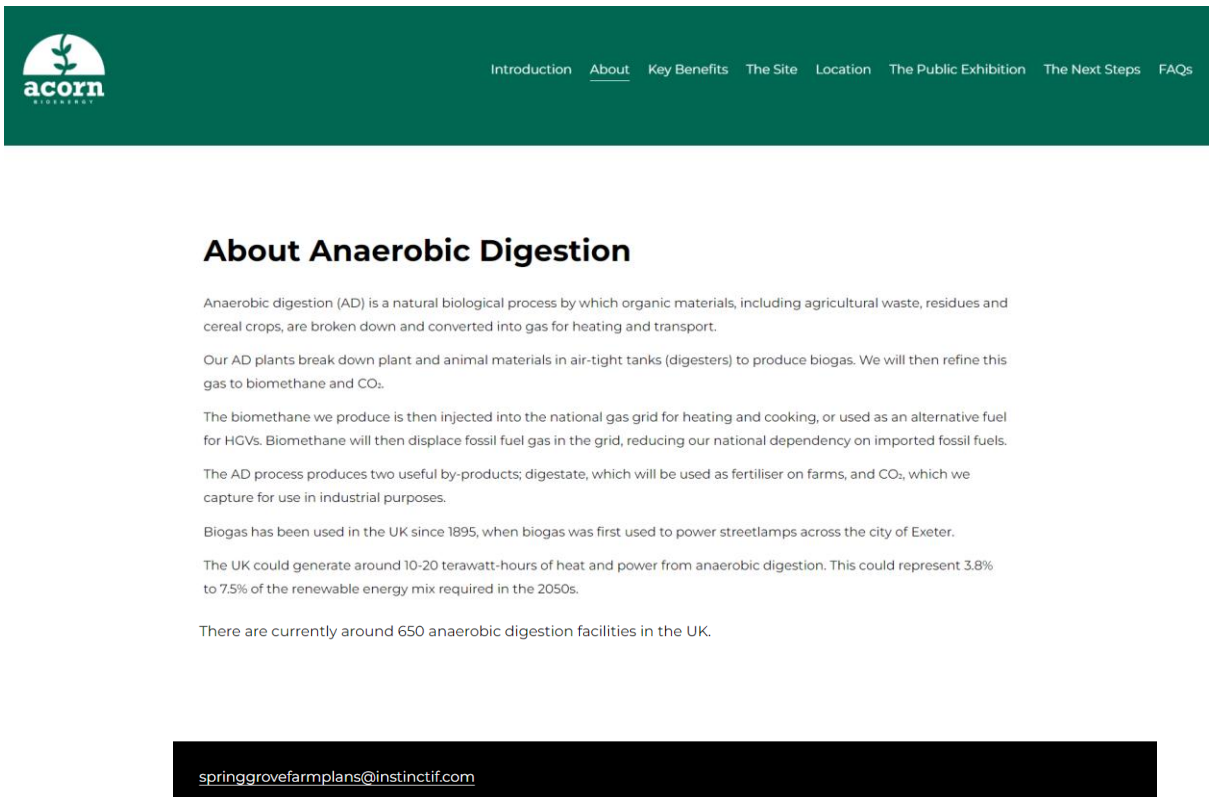
The use of biomethane in "hard-to-abate" sectors is a critical step in the world's journey to net zero. It is a mature and well understood fuel that can be used today while hydrogen and electrification solutions are developed. It has been shown that running an HGV on biomethane delivers a reduction of equivalent carbon emissions of more than 70% compared against diesel-fuelled HGVs.

Acorn does not require gas pipelines, as their biomethane-powered trucks transport the biomethane to injection points into the National Grid. Another point of difference is that Acorn Bioenergy predominately use crops and agricultural residues rather than food and household waste, thus helping farmers with income and best agricultural practice.

Acorn takes full responsibility for the whole lifecycle, from sourcing feedstock to construction and operation of the plant, gas transports and grid injection points. Acorn will own the plant after construction.

springgrovefarmplans@instinctif.com

*Note - data displayed on the website were predicted values at the time of the public exhibition and may have evolved following further detailed assessments.


acorn
BIOENERGY
Introduction
About
Key Benefits
The Site
Location
The Public Exhibition
The Next Steps
FAQs
About Anaerobic Digestion
Anaerobic digestion (AD) is a natural biological process by which organic materials, including agricultural waste, residues and cereal crops, are broken down and converted into gas for heating and transport.
Our AD plants break down plant and animal materials in air-tight tanks (digesters) to produce biogas. We will then refine this gas to biomethane and CO2.
The biomethane we produce is then injected into the national gas grid for heating and cooking, or used as an alternative fuel for HGVs. Biomethane will then displace fossil fuel gas in the grid, reducing our national dependency on imported fossil fuels.
The AD process produces two useful by-products; digestate, which will be used as fertiliser on farms, and CO2, which we capture for use in industrial purposes.
Biogas has been used in the UK since 1895, when biogas was first used to power streetlamps across the city of Exeter.
The UK could generate around 10-20 terawatt-hours of heat and power from anaerobic digestion. This could represent 3.8% to 7.5% of the renewable energy mix required in the 2050s.
There are currently around 650 anaerobic digestion facilities in the UK.
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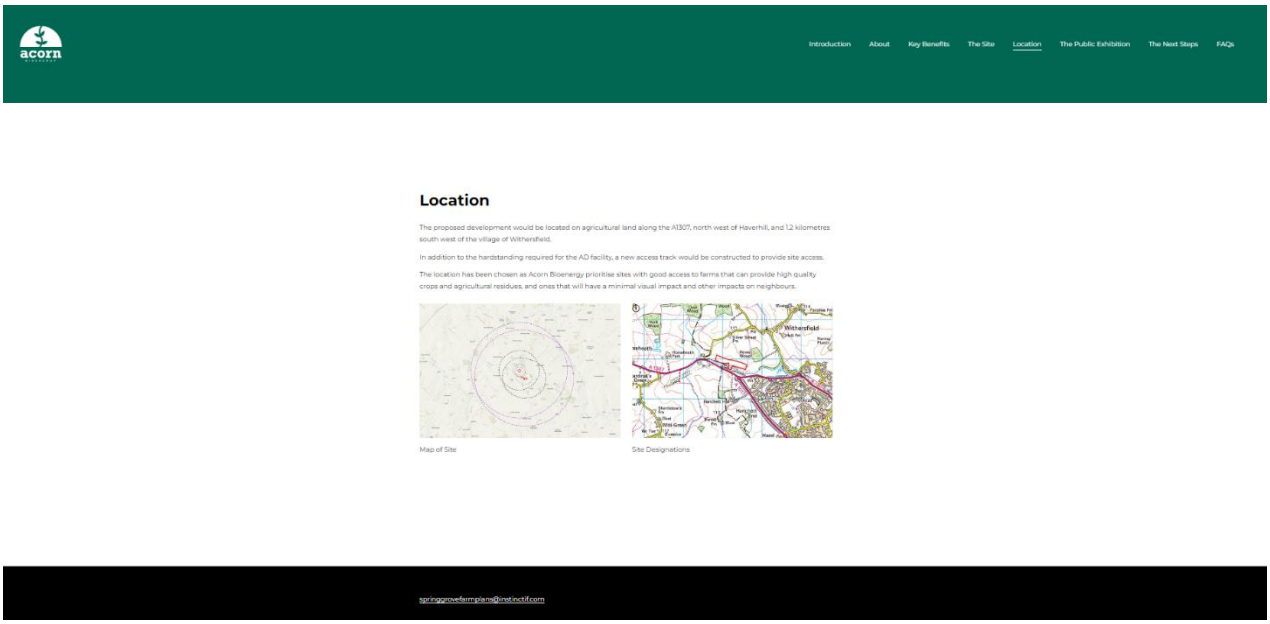
acorn
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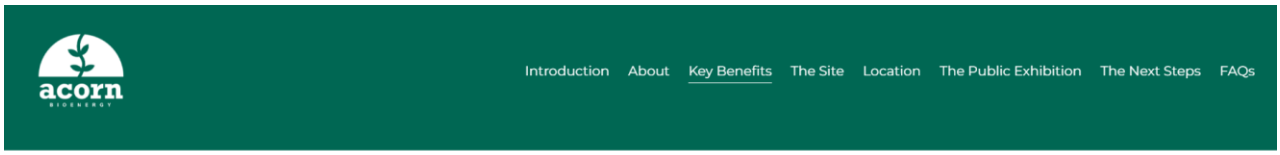
Location
The proposed development would be located on agricultural land along the A1307, north west of Haverhill, and 1.2 kilometres south west of the village of Withersfield.
In addition to the hardstanding required for the AD facility, a new access track would be constructed to provide site access.
The location has been chosen as Acorn Bioenergy prioritise sites with good access to farms that can provide high quality crops and agricultural residues, and ones that will have a minimal visual impact and other impacts on neighbours.
Withersfield
Map of Site
Site Designations
springgrovefarmplans@instinctif.com



Key Benefits of the Anaerobic Digestion Plant

The AD plant will provide enough green gas to meet the heating demand of 7,000 UK households or meet the fuel demand of 270 HGVs. In comparison with standard UK grid emissions, the biomethane produced by the plant will have an equivalent saving of 26,400 tonnes of CO_2e each year, equivalent to taking 17,000 cars off the road.

Acorn's facilities predominately use crops and agricultural residues rather than food and household waste, which bolsters local farmers' incomes.

In 2021 HGVs produced 18% of transport emissions, despite comprising 1% of vehicles on the road. The UK's long-term strategy is to move towards electric HGVs. The Department for Transport (DfT) is planning to develop a network of overhead power lines to power electric HGVs (owing to the excessive cost and space taken up by batteries) but even optimistic projections only expect this to start reaching maturity in the late 2030s. The DfT has therefore recognised biomethane as a technically-mature alternative to diesel to act as a bridge up to 2040 and beyond. Major companies like Asda, Hermes and John Lewis have already switched to biomethane for most of their HGVs in the UK.

As biomethane can be converted into green hydrogen, Acorn's infrastructure will subsequently be upgraded to help power future generations of zero-emission HGVs.

The AD plant will also produce digestate, to be used as a bio-fertiliser in farms. This will benefit both farmers and the country as a whole. Digestate fertilisers eliminate the need for expensive mineral fertilisers (most of which are produced outside the UK), whose production process requires large quantities of fossil fuels and the mining of limited resources of phosphate and potash.

Digestate fertilisers comprise a more diverse blend of nutrients than mineral fertilisers, improving both crop yields and soil health by increasing organic matter levels, encouraging healthier worm activity, improving nitrogen retention, providing better rooting structures for plants, and improving soil drainage. Soil health has been declining dramatically in the UK for the last 30 years due to the intensification of agriculture – digestate fertilisers are a means of addressing this problem, whilst benefitting our agricultural economy.

The plant will benefit local farmers as it will ensure consistent offtake of agricultural residues. Additionally, local farmers will grow crops for the plant which gives them a wider range of viable crop rotations and agronomical planning options. Notably, break crops like maize and rye will be made economically viable, which enables farmers to combat the spread of endemic chemical resistant weeds like black grass. The multi-year crop rotation cycle ensures diversity on the farm, which benefits soil fertility and enhances wheat yields. These benefits will provide farmers with economic stability at a time when agricultural costs are rising, farming subsidies are being phased out and farmers are being squeezed by supermarkets on price.

The co-product of the anaerobic digestion process is CO_2, which Acorn will sell locally to food and drink manufacturers, glass houses and other customers. This will benefit UK businesses by increasing competition and ensuring regional security of industrial CO_2 supply - at present, the UK only has one major CO_2 supplier in the Northeast.

In addition to benefiting local farmers, the AD plant will help West Suffolk and the country reduce its carbon emissions and meet net zero targets.

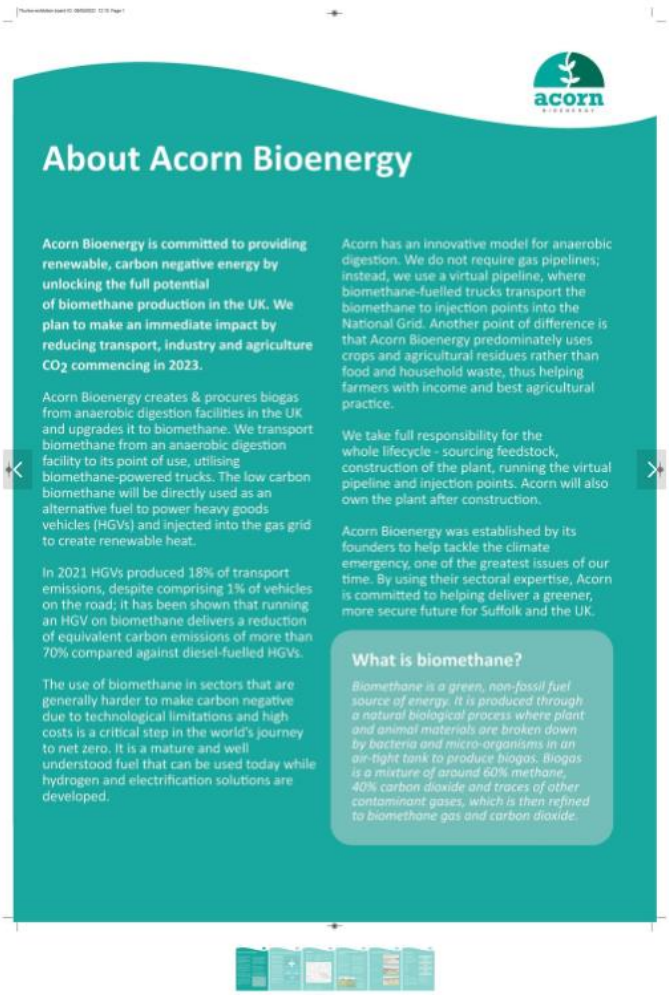
springgrovefarmplans@instinctif.com

The Public Exhibition

Acorn Bioenergy held a public drop-in exhibition event about the development of the anaerobic digestion plant on 14th September between 4:30pm and 7:30pm at Withersfield Village Hall.

This information-sharing event gave members of the local community a chance to find out more about the proposals for the plant at Spring Grove Farm. We were pleased to see it was well attended.

The boards displayed during the drop-in event have been uploaded below.



About Acorn Bioenergy

Acorn Bioenergy is committed to providing renewable, carbon negative energy by unlocking the full potential of biomethane production in the UK. We plan to make an immediate impact by reducing transport, industry and agriculture CO_2 commencing in 2023.

Acorn Bioenergy creates & procures biogas from anaerobic digestion facilities in the UK and upgrades it to biomethane. We transport biomethane from an anaerobic digestion facility to its point of use, utilising biomethane-powered trucks. The low carbon biomethane will be directly used as an alternative fuel to power heavy goods vehicles (HGVs) and injected into the gas grid to create renewable heat.

In 2021 HGVs produced 18% of transport emissions, despite comprising 1% of vehicles on the road; it has been shown that running an HGV on biomethane delivers a reduction of equivalent carbon emissions of more than 70% compared against diesel-fuelled HGVs.

The use of biomethane in sectors that are generally harder to make carbon negative due to technological limitations and high costs is a critical step in the world's journey to net zero. It is a mature and well understood fuel that can be used today while hydrogen and electrification solutions are developed.

Acorn has an innovative model for anaerobic digestion. We do not require gas pipelines; instead, we use a virtual pipeline, where biomethane-fuelled trucks transport the biomethane to injection points into the National Grid. Another point of difference is that Acorn Bioenergy predominately uses crops and agricultural residues rather than food and household waste, thus helping farmers with income and best agricultural practice.

We take full responsibility for the whole lifecycle - sourcing feedstock, construction of the plant, running the virtual pipeline and injection points. Acorn will also own the plant after construction.

Acorn Bioenergy was established by its founders to help tackle the climate emergency, one of the greatest issues of our time. By using their sectoral expertise, Acorn is committed to helping deliver a greener, more secure future for Suffolk and the UK.

What is biomethane?

Biomethane is a green, non-fossil fuel source of energy. It is produced through a natural biological process where plant and animal materials are broken down by bacteria and micro-organisms in an air-tight tank to produce biogas. Biogas is a mixture of around 60% methane, 40% carbon dioxide and traces of other contaminant gases, which is then refined to biomethane gas and carbon dioxide.

Spring Grove - Exhibition Boards

Download

acorn

Introduction About Key Benefits The Site Location The Public Exhibition The Next Steps FAQs

The Site

The site area will be approximately 10 hectares in total.

The facility will be staffed Monday-Friday 7am-7pm, with reduced working hours at the weekend

Rather than congest local roads, digestate will be transported offsite via a new pipeline, and feedstocks will use farm tracks where possible.

All plant feedstocks and digestates will be kept covered, to preserve gas, limiting odours in the process.

The planting of wildflowers, new native trees and hedgerows will result in a significant biodiversity net gain on the site, and reduce views of the site along the western and eastern boundaries.

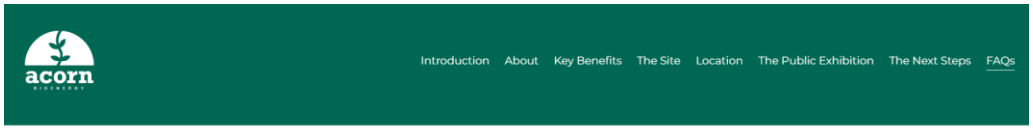
Section A - A - Part 1
1 : 500

Section A - A - Part 2
1 : 500

Block Plan
1 : 1000

Site Layout

springgrovefarmplans@instinctif.com



Frequently Asked Questions

- Who are Acorn Bioenergy Ltd?
- Why are you proposing this?
- Are there any local community benefits?
- Why here?
- What materials are fed into the anaerobic digester?
- Would the agricultural land providing the feedstocks replace farmland needed for food?
- Have local farmers agreed to supply the farm?
- Will there be any visual impact?
- How many vehicle movements will the site require?
- How does this compare to traffic normally?
- When will the vehicle movements occur?
- Where will the traffic be routed?
- Will the plant smell?
- Will there be any light pollution?
- Will there be any noise pollution?
- Will the plant be a fire risk?
- Is there a risk the plant will contaminate local fields and water supplies?
- Is the site being built on a flood plain?
- When are you submitting a planning application and when will the plant be built?
- Where is the nearest similar site to the one being proposed?

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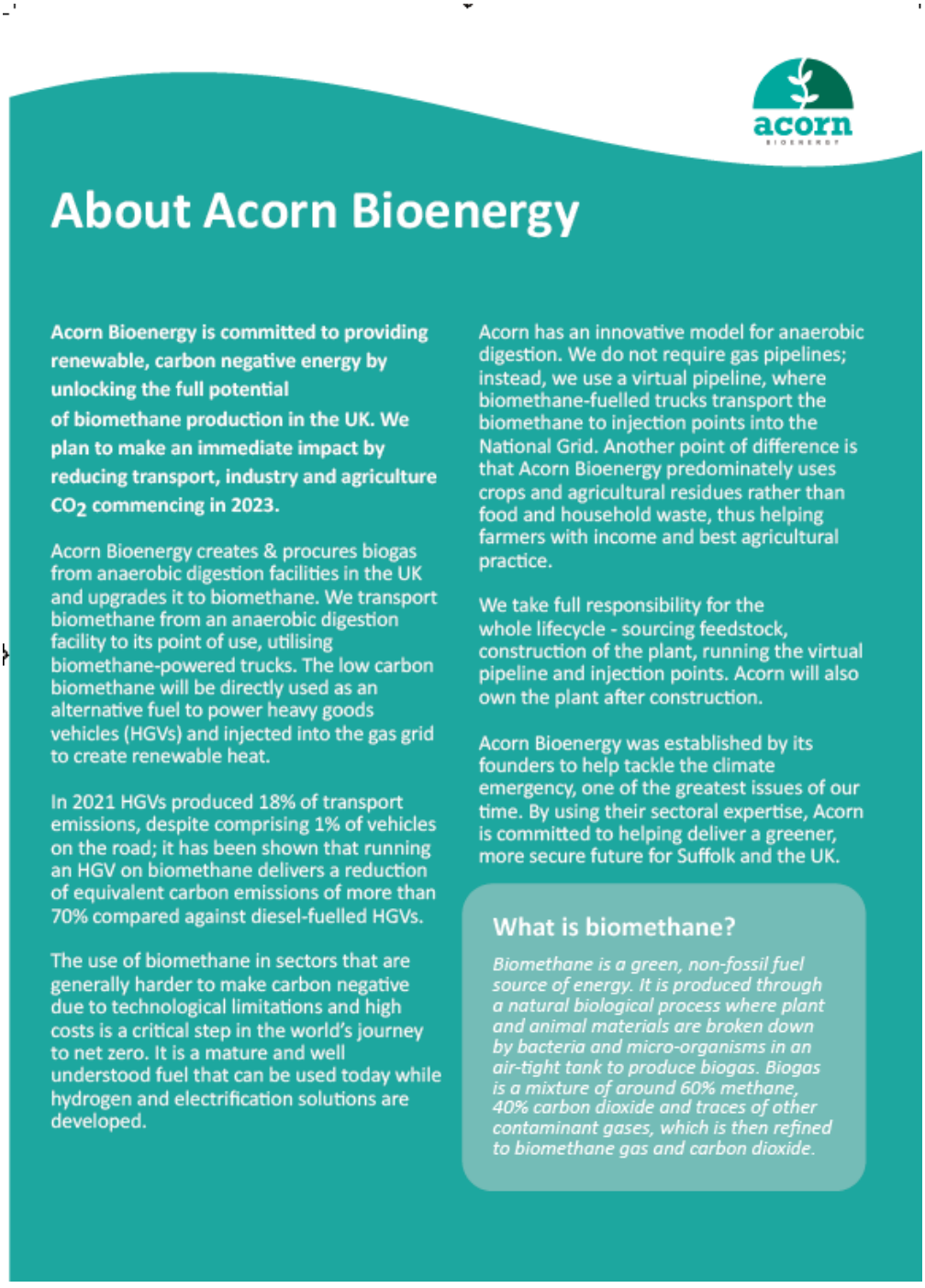
Appendix 4 – Exhibition boards shown at the drop-in event – 14 September 2022



About Acorn Bioenergy

Acorn Bioenergy is committed to providing renewable, carbon negative energy by unlocking the full potential of biomethane production in the UK. We plan to make an immediate impact by reducing transport, industry and agriculture CO_2 commencing in 2023.

Acorn Bioenergy creates & procures biogas from anaerobic digestion facilities in the UK and upgrades it to biomethane. We transport biomethane from an anaerobic digestion facility to its point of use, utilising biomethane-powered trucks. The low carbon biomethane will be directly used as an alternative fuel to power heavy goods vehicles (HGVs) and injected into the gas grid to create renewable heat.

In 2021 HGVs produced 18% of transport emissions, despite comprising 1% of vehicles on the road; it has been shown that running an HGV on biomethane delivers a reduction of equivalent carbon emissions of more than 70% compared against diesel-fuelled HGVs.

The use of biomethane in sectors that are generally harder to make carbon negative due to technological limitations and high costs is a critical step in the world's journey to net zero. It is a mature and well understood fuel that can be used today while hydrogen and electrification solutions are developed.

Acorn has an innovative model for anaerobic digestion. We do not require gas pipelines; instead, we use a virtual pipeline, where biomethane-fuelled trucks transport the biomethane to injection points into the National Grid. Another point of difference is that Acorn Bioenergy predominately uses crops and agricultural residues rather than food and household waste, thus helping farmers with income and best agricultural practice.

We take full responsibility for the whole lifecycle - sourcing feedstock, construction of the plant, running the virtual pipeline and injection points. Acorn will also own the plant after construction.

Acorn Bioenergy was established by its founders to help tackle the climate emergency, one of the greatest issues of our time. By using their sectoral expertise, Acorn is committed to helping deliver a greener, more secure future for Suffolk and the UK.

What is biomethane?

Biomethane is a green, non-fossil fuel source of energy. It is produced through a natural biological process where plant and animal materials are broken down by bacteria and micro-organisms in an air-tight tank to produce biogas. Biogas is a mixture of around 60% methane, 40% carbon dioxide and traces of other contaminant gases, which is then refined to biomethane gas and carbon dioxide.

* Note - data displayed on the exhibition boards were predicted values at the time of the public exhibition and may have evolved following further detailed assessments.

-

What is Anaerobic Digestion?

Anaerobic digestion (AD) is a natural biological process by which organic materials, including agricultural waste, residues and cereal crops, are broken down and converted into gas for heating and transport.

Our AD facilities break down plant and animal materials in air-tight tanks (digesters) to produce biogas. We will then refine this gas to biomethane and CO_2.

The biomethane we produce is then used as eco-friendly fuel for HGVs or transported and injected into the grid via our virtual pipeline, to be used for heating. Biomethane will then displace fossil fuel gas in the grid and reduce our national dependency on fossil fuels.

The AD process produces two useful by-products; digestate, which will be used as fertiliser on farms, and CO_2, which we capture for use in industrial purposes.

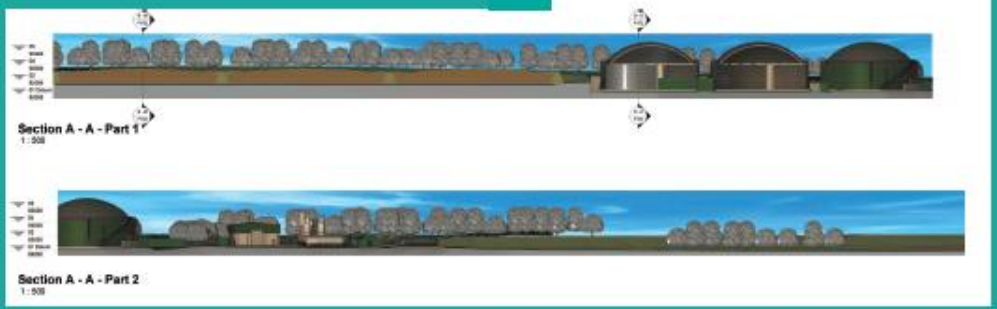
Biogas has been used in the UK since 1895, when it was first used to power street lamps across the city of Exeter.

The UK could generate around 10-20 TWh of heat and power from anaerobic digestion. This could represent 3.8% to 7.5% of the renewable energy mix required in the 2050s.

There are currently around 650 anaerobic digestion facilities in the UK.

The Site

- The site area will be 11 hectares in total.
- There will be significant screening to limit any visual impact. This will take the form of planting of new hedgerows and native trees.
- Site lighting will not be required outside working hours. The site will be designed to avoid light spill outside the site, with lighting directed away from hedgerows and trees.
- The facility will be staffed by 4 people during the hours 07:00-19:00 Monday to Friday with reduced hours at the weekend. During peak harvest periods working hours may be extended when necessary.
- Feedstocks can be transported by farm tracks and digestates will be piped from the site to local farms where possible.
- Digestate lagoons will be covered to minimise odour.
- The planting of wildflowers, new native trees and hedgerows will result in a significant biodiversity net gain on the site.



Location

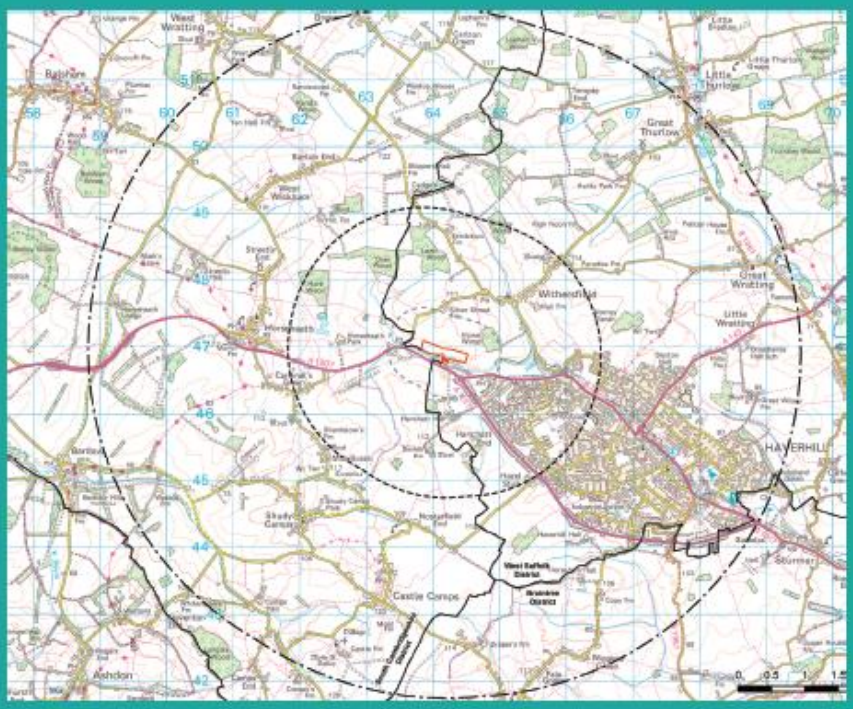
The proposed site would be located on agricultural land along the A1307, north west of Haverhill

It is roughly 1 mile south west from the village of Withersfield.

The location has been chosen as Acorn Bioenergy prioritise sites with good access to farms that can provide high quality crops and agricultural residues. Acorn also choose sites that will have a minimal visual impact

A new access track will be constructed to provide site access.

Ease of access will mitigate any traffic impact on local residents.



Site location in red

First buffer line indicates 500 metres from the site

Second buffer line indicates 2 kilometres from the site

Third buffer line indicates 5 kilometres from the site

Key benefits of Anaerobic Digestion

The plant will generate enough biomethane to meet the heating demand of 7,000 UK homes and enough green gas to fuel 270 HGVs a year.

The plant will save 26,400 tonnes of CO_2e each year, comparable to taking 17,000 cars off the road.

The plant will help Suffolk and the UK reduce its carbon emissions and transition to net zero. This project aligns with UK government legislation to be net zero by 2050, ensuring energy security and providing a ready fuel solution for HGVs, helping the diesel-dependent HGV industry go green.

Production of industrial CO_2, which Acorn will sell locally to food and drink manufacturers, glass houses and other customers. This will benefit local businesses by adding a more local choice in a market dominated by one big supplier in the North East.

Production of digestate, a high quality organic biofertilizer, which is both less odorous than animal manures/slurries and more environmentally friendly than expensive mineral fertilisers. Their production requires the use of large quantities of fossil fuels alongside the mining of limited resources like phosphate and potash.

Digestate fertilisers comprise a diverse blend of nutrients, which benefit soil health, resulting in high-quality agricultural land that will significantly enhance crop yields.

Use of agricultural break crops like grass in the anaerobic digestion process gives local farmers another income stream at a time when their margins are under pressure due to the reductions in EU agricultural supports. It also allows farmers to rotate their crops, which will increase subsequent crop yields by replenishing nutrients in the soil and reducing the occurrence of soil borne diseases like take-all, and the seed-loading of herbicide-resistant weeds like black grass.

Image showing the difference in quality in grass fed with mineral and digestate fertiliser.

Image courtesy of FGS Organics: www.fgsorganics.co.uk/digestate-supply-and-spreading/

Key benefits to recap:

- **Helping tackle the climate emergency**
- **Secure long term diversity and income of local farms**
- **Ensure energy security**
- **Healthier soils = higher quality agricultural land**
- **Providing environmentally friendly fuel for HGVs, a sector facing challenges in reducing its carbon emissions**

Images of the Proposal

Western part of site

Eastern part of site

North Eastern part of site

Next Steps

Planning Application

We are currently preparing to submit a planning application, which we anticipate submitting at the end of September

To this end, an Environmental Impact Assessment (EIA) of the proposed site has been carried out to assess the potential impacts on the following:

- Air quality
- Archaeology
- Ecology
- Noise
- Ground conditions
- Traffic
- Water quality

September 2022
Public consultation

September 2022
Submission of planning application

Winter 2023
Determination of planning application

Spring 2023
Start on site if permitted

Feedback

Thank you for attending our drop-in event.

Your feedback will be invaluable to our project. We are keen to work with and be a good neighbour to the local communities around Witherfield

If you can, please take a few minutes to fill out a feedback form. We hope you have found this drop-in event useful. If you have any questions, feel free to ask members of the project team here today.

Tell us what you think

- Complete one of our feedback forms today, or send it back to us FREEPOST
- **Call the consultation team:** 0749 386 7448
- **Email us:** springgrovefarmplans@instinctif.com.
- Visit our website: www.springgrovefarmplans.com

Thank you for attending our drop-in event.

Appendix 5 – Feedback form from the 14 September exhibition

Feedback Form
Acorn Bioenergy: New Anaerobic Digestion Plant at Spring Grove Farm

Anaerobic Digestion Plant Consultation 14 September 2022

Important: Protecting Your Data

Acorn Bioenergy is keen to understand your views to ensure they are properly taken account before any planning application is submitted and subsequently determined by the local authority. In accordance with best practice and data protection law (including GDPR) we need your explicit consent to be able to share your views with the scheme project team and the local authority as part of the public consultation process.

We will not disclose your information onto any unauthorised person or third party other than the scheme project team and the relevant planning authorities and will only use your information for the purposes of the planning process and providing you with subsequent information about the progress of the scheme. We will normally hold your data for a period of up to two years after the planning application has been determined by the authority.

You have the right to withdraw consent to us holding your information at any time and you can do so by sending an email to: springgrovefarmplans@instinctif.com

You should be aware that if you withhold (or withdraw) your consent during the public consultation process then we will be unable to reflect your views as part of the consultation.

Please let us know your views by 30 September 2022

- You can put your feedback form in the ballot box at the event, or
- Send it by post – using the Freepost envelope, or
- Attach it to an email: springgrovefarmplans@instinctif.com, or
- Complete an online questionnaire at springgrovefarmplans.com

For validation purposes please provide your postcode:

Postcode_____

Title_____ **Name**_____

Phone_____

Address_____

_____

_____

Email _____

Signature_____

Are you a member of a community group or residents association?

If yes please state:

_____

☐ ***I consent to Acorn Bioenergy and its project team holding and using (for the purposes of any future planning application) my data including my name, address, contact details and views expressed on this feedback form. I also consent to Acorn Bioenergy and its project team using my data for the purposes of providing me with information about the progress of development scheme.***

Your Views

What are your views on the proposals?

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

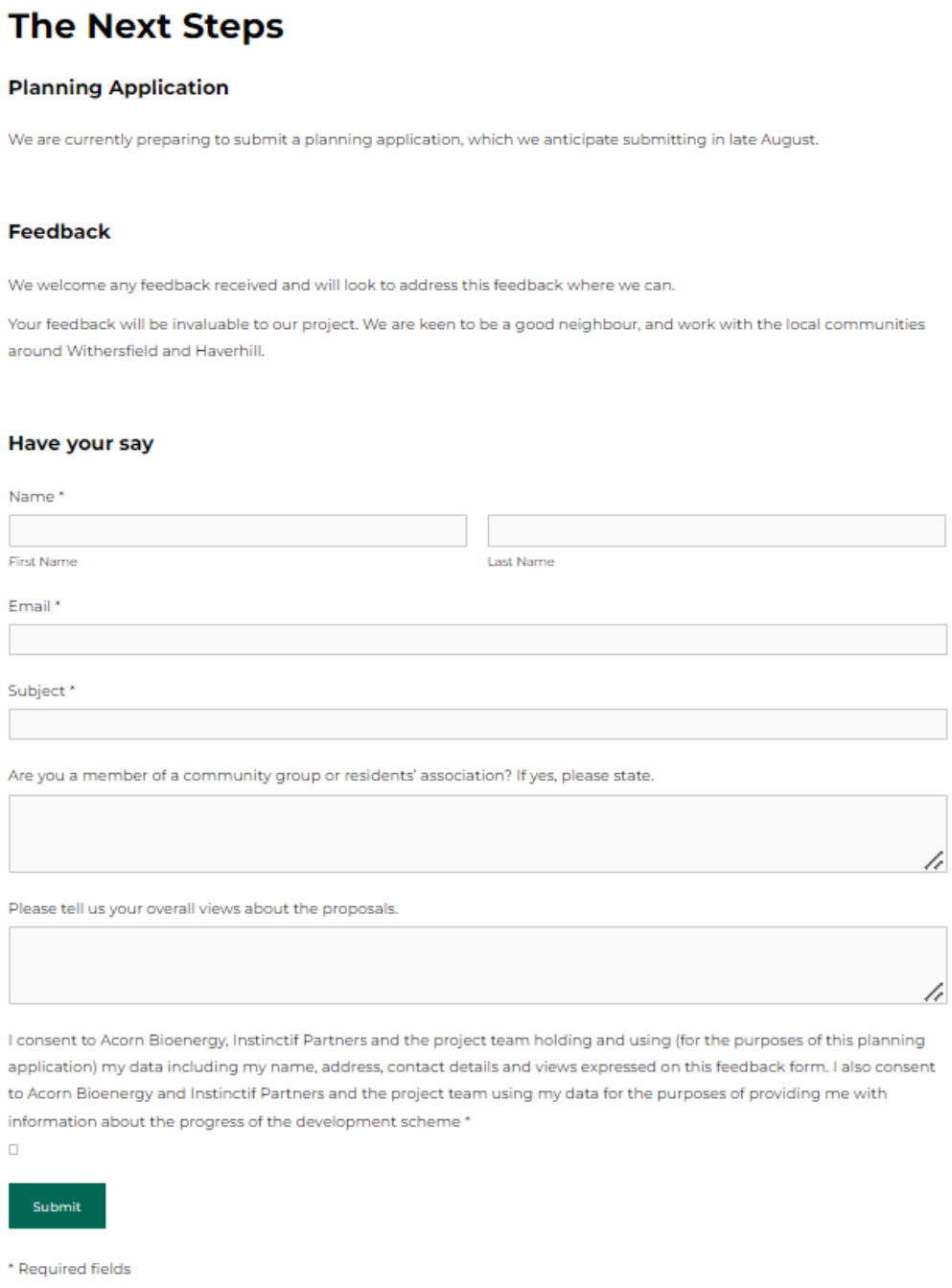
Do you support renewable energy generation in your local area?

- **Yes** ☐
- **No** ☐
- **Unsure** ☐

What would your preferred form of energy generation in your local area be? (Put a tick next to the one/s you would prefer)

- **Wind** ☐
- **Gas** ☐
- **Biogas** ☐
- **Solar** ☐
- **Nuclear** ☐
- **Coal** ☐
- **Fracking** ☐

Appendix 6 – Screenshot of the online feedback page from the development's website -



The Next Steps

Planning Application

We are currently preparing to submit a planning application, which we anticipate submitting in late August.

Feedback

We welcome any feedback received and will look to address this feedback where we can.

Your feedback will be invaluable to our project. We are keen to be a good neighbour, and work with the local communities around Withersfield and Haverhill.

Have your say

Name *

First Name

Last Name

Email *

Subject *

Are you a member of a community group or residents' association? If yes, please state.

Please tell us your overall views about the proposals.

I consent to Acorn Bioenergy, Instinctif Partners and the project team holding and using (for the purposes of this planning application) my data including my name, address, contact details and views expressed on this feedback form. I also consent to Acorn Bioenergy and Instinctif Partners and the project team using my data for the purposes of providing me with information about the progress of the development scheme *

Submit

* Required fields

Appendix 7 – Photos from the exhibition

The Site

About Acorn Bioenergy
What is Anaerobic Digestion?