

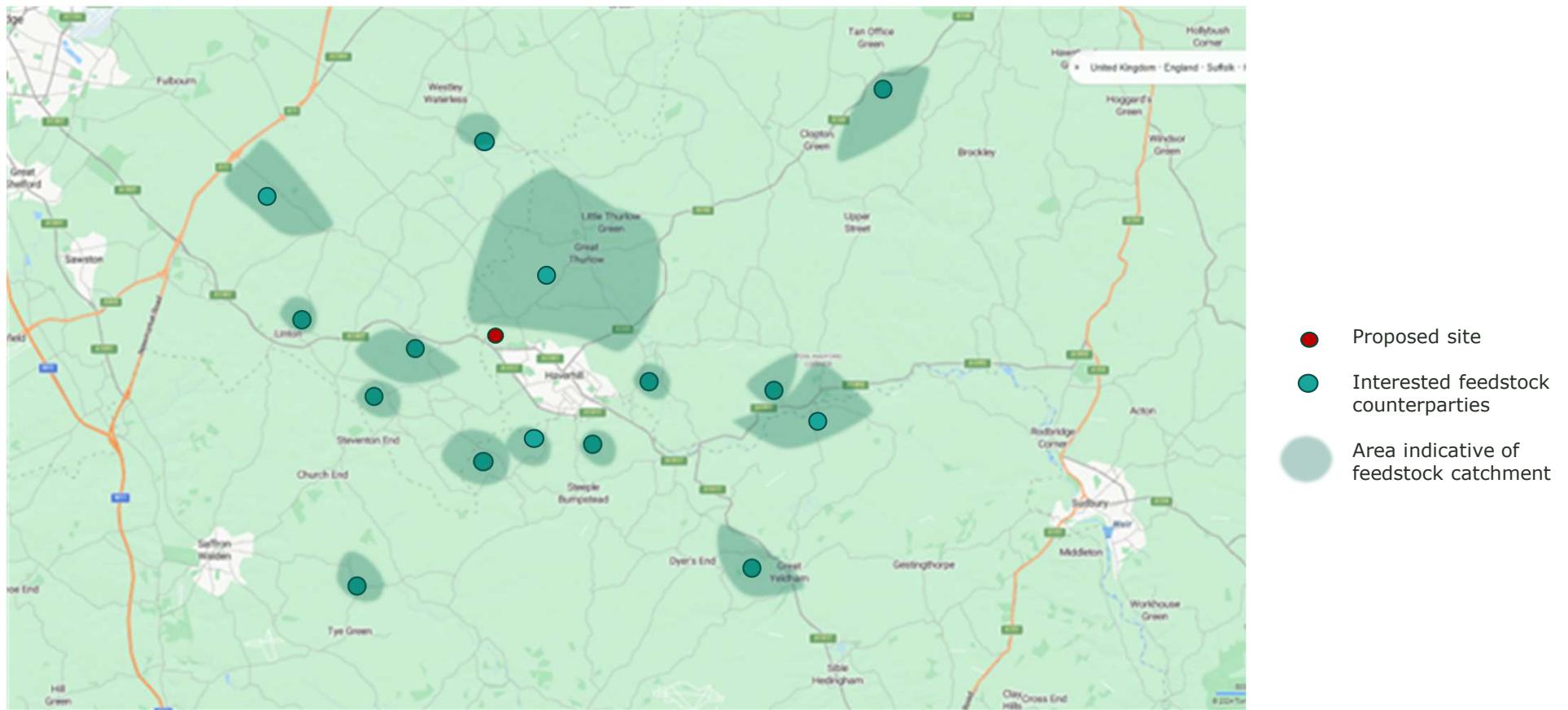
Spring Grove Proposed Feedstock Availability Analysis:



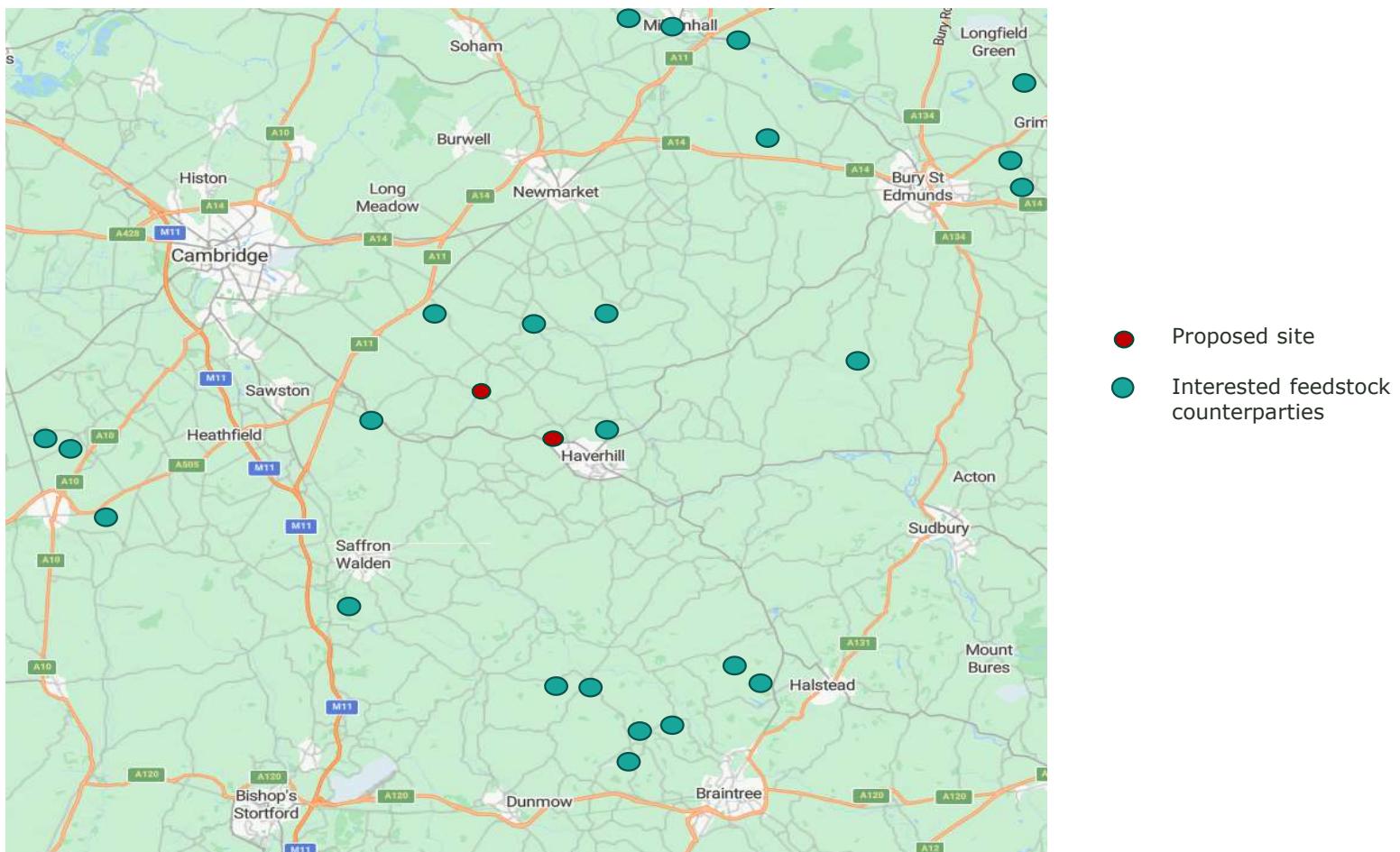
- This document provides a high-level indication of interested feedstock counterparties for the supply of the proposed biomethane facility at Spring Grove. This information is accurate as of the 1st of September 2024.
- The feedstock counterparties plotted have all expressed their intention to supply feedstock, however, they are yet to be subject to commercial contract.
- This is not intended as an exhaustive list, but an indication of our likely catchment area.
- Due to the nature of farming in the area, the feedstock may originate from fields surrounding our site's general location rather than the exact point plotted on the following maps.
- It is Acorn Bioenergy's intention to procure feedstocks from the immediate surrounding area.
- Within a 10-mile initial feedstock catchment radius, assuming total farming land use is given over to a single crop, we might reasonably expect there to be the potential for c.2,000,000t of maize, whole crop silage or grass. Alternatively, there could also be the potential for 250,000t of straw.
- We expect 10,000-12,000t of silages to be taken on site using farm tracks, avoiding the road network. This has not however been included within the planning assessment.

Feedstock Type	Tonnage required by proposed site (T/yr)	Mass Identified as Interested to supply (T/yr)	Digestate (t/yr)
Whole Crop Silage (inc. Oat & Rye Silage) (Purpose Grown)	20,000	26,000	
Maize Silage (Purpose Grown)	16,500	18,000	Liquid Digestate: 15,000
Grass Silage (Purpose Grown)	10,000	11,500	
Straw (Residue)	20,500	26,000	Fibre Digestate: 55,000
Farmyard Manure (Waste)	10,000	25,000	
Poultry Litter (Waste)	15,000	30,000	Total Digestate: 70,000
Mass Required by Plant t/yr	92,000		
Minimum Mass Interested to Supply t/yr		115,500	

Distribution of Interested Purpose Grown and Residue Feedstock Counterparties Spring Grove Green Power:



Distribution of Interested 'Waste' Feedstock Counterparties Spring Grove Power:



Break Crops, Agricultural Wastes and Residues:



Break Crops:

- Arable crops are grown in rotation within the UK to enable growers to manage pest and disease burdens. The crops grown within this rotation are called break crops.
- The challenges facing growers finding viable break crops have accelerated, farmers are increasingly seeing negative financial and agronomical impacts when there are limited opportunities to grow them.
- The break crops grown for Spring Grove will include grass, maize and cereals taken as whole crops, these cereals can include Rye, Wheat, Barley, Oats and Triticale amongst others.
- Break crops reduce the reliance on herbicides and insecticides within the crop production and enables following food production crops to be managed in a more environmentally sensitive way whilst increasing yields.
- The Spring Grove site will not be taking agricultural land out from food production due to the focus on the break crop of the cycle.
- Additional suppliers have expressed interest to supply Spring Grove if planning permission is consented. Present interested break crop suppliers are within a 10-mile radius of the Spring Grove site.

Agricultural Wastes and Residues:

- The additional components of the feedstock mix include agricultural wastes and residues. Residues include straw, a byproduct from the growing of cereal crops such as Wheat and Barley. The grain is harvested, and the resultant straw (stems) is often chopped and returned to the soil increasing risk of slugs for the following crop. Alternatively, Straw can be baled and used for various uses including livestock bedding, burnt in biomass facilities or used to produce renewable green gas and renewable fertilisers.
- DEFRA's land use Survey 2023 states that in the East of England 79% of the land area was Arable, over 25% higher than the rest of England, therefore the straw production in the area is much larger with a reduced livestock volume compared to English average.
- Acorn Bioenergy estimate that there is a potentially available supply of 150,000t of straw within the 10-mile radius.
- Waste products, such as poultry manure and livestock manures provide good caloric value in the anaerobic digestion process including digester biology.
- Intensive livestock production within the East of England is much higher than the rest of England, with the Eastern region having 24% of England's total poultry production and 28% of England's total pig production, DEFRA 2023.

Poultry and Manure Sources:



- Whilst East Anglia is not prevalent in livestock production, the immediate surrounding area of the Spring Grove site contains a large number of livestock units including cattle finishing units.
- Livestock farmers are keen to work with Acorn Bioenergy at Spring Grove to manage livestock manures. Management of manures through the Anaerobic Digestion process assists with mitigating operational and environmental issues, including but not limited to;
 - The Water Resources (Control of Pollution) (Silage, Slurry and Agricultural Fuel Oil) (England) Regulations 2010.
 - The Nitrate Pollution Prevention (Amendment) Regulations 2016.
 - The Reduction and Prevention of Agricultural Diffuse Pollution (England) Regulations 2018.
 - The Environmental Permitting (England and Wales) Regulations 2016.
 - Farming Rules for Water (FRFW) – which includes, The Reduction and Prevention of Agricultural Diffuse Pollution (England) Regulations 2018.
- Deep litter Turkey and Duck manures are prevalent sources of manures within the region, with the ability to provide 'year-round' supply of manures. Acorn have provisionally identified over 50,000 tonnes of manure within the relative surrounding area of the site.
- Intensive Pig and Poultry units within the region are keen to look at the potential supply opportunity at Spring Grove.
- Currently a large quantity of raw manures are being spread to land as fertiliser. In some cases, poultry litter is burnt to produce electricity within a high carbon emissions process.
- The supply of manures to Spring Grove would provide a reliable offtake to farmers providing guaranteed income whilst reducing the carbon footprint of the farming operation.
- From the Table on page 1 there is a significant surplus of waste manures and litter for the requirements of the Spring Grove site, most of these listed suppliers are within the 10-mile radius of the site.
- There are additional potential suppliers within the region that are keen to engage in discussions to supply the site if planning permission is granted.