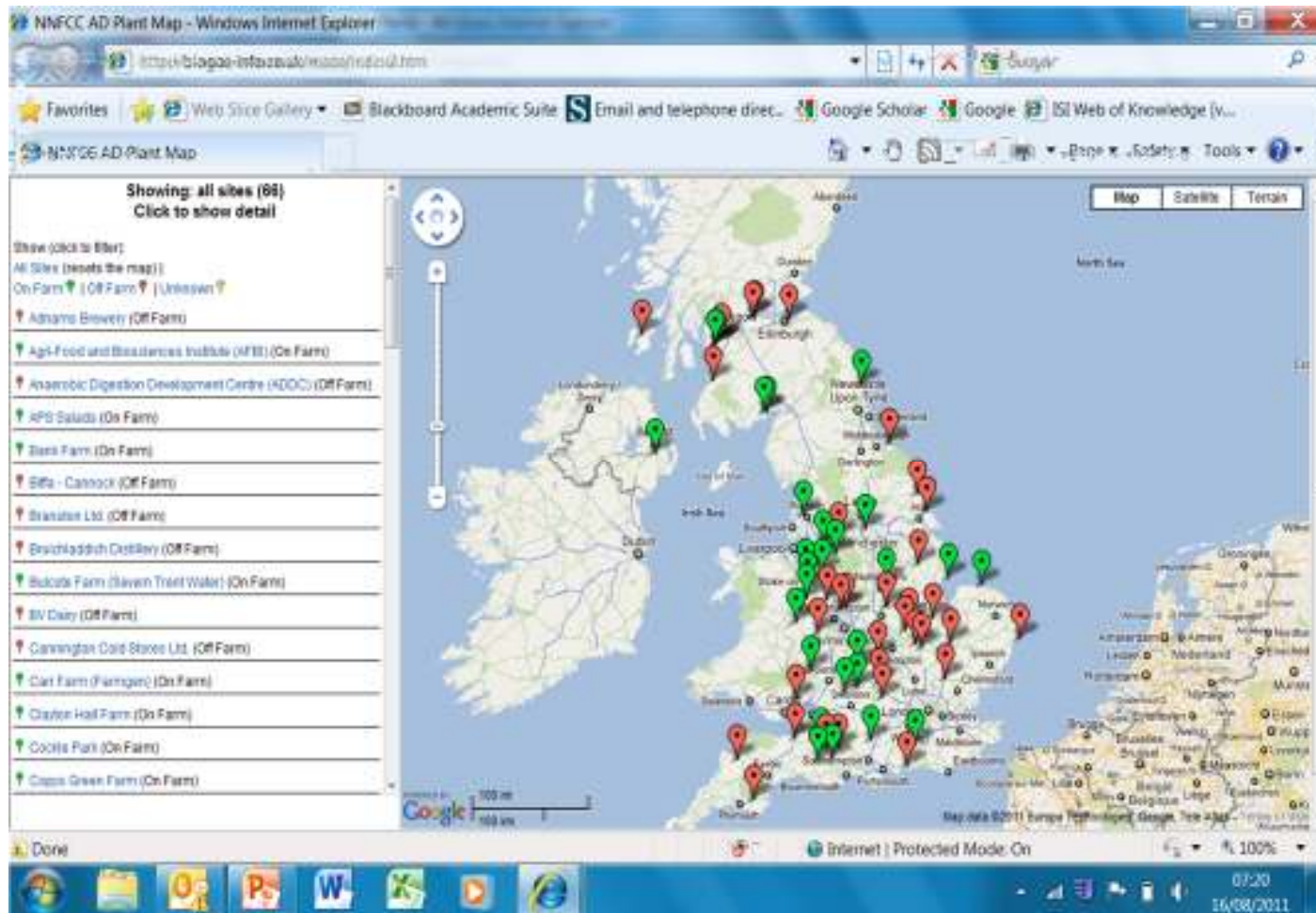


Energy crop digestion in the UK

Charles Banks

Take up



- 64 plants total (excluding sewage sludge)
- 11 on-farm using energy crops
- Largest 2mW
- 37K tonnes per year
- Others range from 6kW – 1mW

Bulcote Farm

The screenshot shows a web browser window titled "NNFCC AD Plant Map - Windows Internet Explorer". The address bar displays "http://biogas-info.co.uk/maps/index2.htm#". The browser's toolbar includes "Favorites", "Web Slice Gallery", "Blackboard Academic Suite", "Email and telephone direc...", "Google Scholar", "Google", and "ISI Web of Knowledge [v...".

The main content area features a map of the Nottingham region with a list of biogas sites on the left. The list is titled "Showing: all sites (66) Click to show detail" and includes the following entries:

- Show (click to filter):
- All Sites (resets the map) |
- On Farm | Off Farm | Unknown
- Adnams Brewery (Off Farm)
- Agri-Food and Biociences Institute (AFBI) (On Farm)
- Anaerobic Digestion Development Centre (ADDC) (Off Farm)
- APS Salads (On Farm)
- Bank Farm (On Farm)
- Biffa - Cannock (Off Farm)
- Branston Ltd. (Off Farm)
- Bruichladdich Distillery (Off Farm)
- Bulcote Farms (Severn Trent Water) (On Farm)

The details for Bulcote Farms (Severn Trent Water) (On Farm) are as follows:

- Capacity: 2000 kWe
- Feedstock: Maize silage
- Supplier: Schmack Biogas
- Location: Stoke Bardolph, Nottinghamshire, NG14 5HA
- Commissioned: 2010
- Cost: £15 million
- Input: 37,000 tonnes per annum
- Output: Combined heat and power

The map shows the location of Bulcote Farm near Stoke Bardolph, Nottinghamshire. The map includes a scale bar (0 to 2 km) and a compass. The browser's status bar at the bottom indicates "Done", "Internet | Protected Mode: On", and "100%".

Lowbrook farm

The screenshot shows a web browser window titled "NNFCC AD Plant Map - Windows Internet Explorer". The address bar displays "http://biogas-info.co.uk/maps/index2.htm#". The browser's toolbar includes "Favorites", "Web Slice Gallery", "Blackboard Academic Suite", "Email and telephone direc...", "Google Scholar", "Google", and "ISI Web of Knowledge [v...". The main content area features a map of the region around Blandford Forum, Dorset, with a green pin marking "Lowbrook Farm (On Farm)". A detailed information popup is displayed over the pin, providing the following data:

- Lowbrook Farm (On Farm)**
- Capacity: 370 kW_e
- Feedstock: Cattle manure, maize and grass silage, poultry manure
- Supplier: Biogas Nord
- Location: Blandford Forum Dorset, DT11 0EQ
- Contact: Owen Yeatman
- Website: www.biogas-nord.com/en
- Commissioned: 2008
- Input: 11,700 tonnes per annum
- Output: Combined heat and power

The left sidebar of the map application lists other farms, with "Lowbrook Farm (On Farm)" selected. The map includes navigation controls, a scale bar (0 to 2500 ft), and map data from 2011. The browser status bar at the bottom shows "Internet | Protected Mode: On" and a zoom level of 100%.





Feedstock



Maize feeder



CHP (370kW)



Why is take up so low?

- Policy and drivers
- Feedstock yields
- Farming practice
- Finance

DRIVERS

Feed in Tariffs

| Electrical output (kW) | Tariff (£ kWh ⁻¹) |
|-------------------------|-------------------------------|
| Less than 250 | 0.145 |
| Less than 500 | 0.13 |
| Greater than 500 | 0.094 |

+ £0.03 kWh⁻¹ fixed price for export

ROC – renewable obligation certificates

Variable value as tradable £0.045 – 0.05 kWh⁻¹ .

Currently 2xROC for AD installations

RHI -Renewable heat incentive

£0.065 kWh⁻¹ for all capacities for grid injection or up to 200kW from combustion

Policy

- UK Government has stated that it does not wish to see the widespread displacement of food crops by energy crops for digestion.
- At present it has not introduced any control measure
- Has stated that it may remove subsidies in the future if expansion is too great

Crop yields

- UK crop yields not as great as those in Central Europe (CE)
- Energy maize crops grown and developed for CE not suitable for all UK regions
- Not as much experience and history of digestion with other crops e.g. wheat, grass, beet and other root crops.
- At least half of the few UK plants are using grass silage

Farming practice and finance

- For discussion

VALORGAS

