



Farmegy, Lowbrook Biogas plant Dorset



The Lowbrook digester is now part of a farming enterprise that also includes 400 head dairy herd and 490 hectares of arable crops. The developer, Owen Yeatman, a third generation farmer, started to investigate anaerobic digestion and the opportunities that it offered for his business by travelling to Germany and visiting working plants. Convinced of the merits and the business case, he went ahead and built the biogas plant on his own farm, with the assistance of a grant from the Department

for Food and Rural Affairs (Bio-Energy Capital Grant Scheme). The intention was to develop an exemplar project which would test the economics of AD from dedicated biomass under UK conditions.

The project is a very fine example of good practice in preparing for a planning application. The scheme and equipment was planned to sit well in the landscape and the support of community was gained through public meetings and presentations prior to the submission of the application. The development was approved within the 8 week statutory period – quite a rarity for AD plants.

The feedstocks consist of 8,000 tonnes of cattle slurry, 1,000 tonnes of poultry litter and 3,000 tonnes of maize and grass silage. The process happens in a single digester of 2,800 cubic metres with a retention time of 60 days. The gas is used to generate electricity in an engine rated at 370 kW.

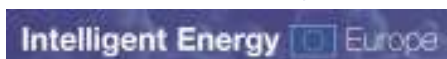
“Agriculture can help make a positive contribution towards solving the problem. Weather patterns have been changing in my farming lifetime. We can't continue to dump the amount of carbon in the atmosphere as we have previously and not expect to see changes. Like most farmers, I take the long term, multi-generational view of my business.”

Owen Yeatman



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Biogas Regions Shining Example



key data

Start of Operation	mid July 2008
Type of corporation	Limited company
Amount of gas produced	1.357M m3 per year
Investment costs	€ 980,000

feedstock

Liquid manure (cattle)	8,000 tons per year
Grass/maize silage	3,000 tons per year
Poultry litter	1,000 tons per year


production data

Available area for the output of the biogas fertilizer	700 ha
Thermal power rating of the gas engine	424 kW
Generated thermal energy	3,230 MWh per year
Utilisation of heat	Process heat, heating of dwellings, and other uses to be found eg drying of biomass
Electric power rating of the gas engine	370 kW
Generated electric energy	2,800 MWh per year
Power consumption (electricity) of the plant itself	225 MWh per year
Annual delivery of electricity to the (regional) electric grid company	2,564 MWh per year
District heating network (stables, blocks of flats)	not available kW_{th}

technical plant description

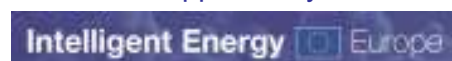
Digester	2,880 m³
Second digester	not applicable m³
Gas storage tank	not applicable m³
Residence time in the digesters	62 days
Temperature of the anaerobic digestion (operational)	39-40°C
Average expenditure of human labour	2.5 hours per day

For further Information, please visit www.biogas-nord.com or contact:

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