International Energy Agency
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Ludlow Food Waste Digester

Michael Chesshire
Greenfinch Ltd
Greenfinch Ltd
British Anaerobic Digestion Specialists
1000 km² – 40,000 population
Public / Private Partnership since 1998
AD of Food Waste

Environment

Community  Economy
Greenfinch R&D
AD of Food Waste
(1996 to 2003)
Café-Bar Waste 1996 to 1999
Kitchen Waste from Households 1999 to 2001
Mesophilic / Thermophilic Trials 2001 to 2003
UK Context

• WRAP estimates that each UK household produces about 250kg of food waste per year, representing one third of food purchased.
• In total households produce 7 million tonnes of food waste per year.
• There is a further 10 million tonnes from commercial catering and from food processing.
• This food waste must be diverted from landfill, and has the potential for the production of renewable energy through AD.
Holsworthy
Cow Slurry + Food Waste
Bedfordia Biogen
Pig Slurry + Food Waste
Financing the Ludlow Food Waste Digester
• Total capital cost of project, including visitor centre - £1.8million

• Capital funding from Advantage West Midlands as part of the environmental technologies business development programme.

• Capital funding plus revenue funding from Defra as part of the New Technologies Demonstration Programme, investigating processes to divert biodegradable municipal waste from landfill.

• Formation of community company (not-for-dividend), 50% South Shropshire District Council, 50% Greenfinch.

• Biocycle South Shropshire Ltd has the contract to operate the biodigester.
Permits

- **Planning:** Application to Shropshire County Council in January 2005; permission granted in March 2005.
- **Waste Management License:** Application to Environment Agency in August 2005; license issued in February 2006.
- **Animal By-Products Approval:** Application to Animal Health Agency to EU Standard in October 2005; temporary approval issued in February 2006, and full approval in January 2007.
- **Biofertiliser Land Use Exemption:** First application to EA granted for biofertiliser to land in January 2007.
Construction of the Ludlow Food Waste Digester
First Period of Operation
March to December 2006
Second Period of Operation
January 2007 to April 2008...
Kitchen Caddy & Starch Bags
Food Waste Collected 14th May '07 - 29th Feb '08

1st phase participation monitoring 66%
25th June 2nd July 9th July

Christmas week w/c 24th Dec

Attitudinal survey
10th Sept - 16th Sept

2nd phase participation monitoring 77%
5th October, 12th, October, 19th Oct
Food Waste in Starch Bags
Shredded Food Waste
Process Tanks

Buffer Tank

Primary Digester

Secondary Digester

Biogas Storage
CHP & Standby Boiler
Solid Biofertiliser
Liquid Biofertiliser
Anaerobic Digestion of Food Waste
A Low-Carbon Process