



## South Shropshire Biodigester, Ludlow Biocycle South Shropshire/Greenfinch Ltd.

The South Shropshire Biodigester was funded by the Department of Food and Rural Affairs (Defra) and Advantage West Midlands to demonstrate the diversion of source separated household kitchen waste from landfill. The plant was designed and built by Greenfinch Ltd, who also now has the contract to operate the plant. Greenfinch Ltd and South Shropshire District Council are partners on this project and have set up a not for profit company called "Biocycle South Shropshire" to oversee the plant.



The plant has been designed to process 5,000 tonnes per annum of household kitchen waste into biogas to produce renewable heat and electricity, and a biofertiliser that is returned to local agricultural land.

The initial feedstock was garden and kitchen waste but the garden waste contained a lot of contamination ranging from plastic bags right through to building materials and even car engines! The plant was operated on this feedstock for the first nine months. Subsequent to this collections were put in place in some regions to collect segregated food waste and the plant commenced operating using this feedstock only. Operating costs were much higher with the inclusion of garden waste but with lower biogas production.

The plant is closely monitored by Southampton University who will be putting together a final report sometime this year (2008) to document the inputs and outputs of the plant. This also includes the energy requirements of the plant.

*Craig Rogers – Plant Manager:*

*"Since the introduction of a food waste only collection scheme for both households and commercial properties in Ludlow, the biodigester's performance has improved; with an increase in electricity production and an enhanced digestate".*



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## Biogas Regions Shining Example



### key data

Start of Operation .....	<b>March 2006</b>
Type of corporation .....	<b>Not for Profit</b>
Amount of gas produced .....	<b>not Available</b>
Investment costs .....	<b>not available</b>

### feedstock

Household and Commercial	
Source-segregated kitchen waste.....	<b>5,000 tonnes per year</b>


### production data

Available area for the output of the biogas fertilizer .....	<b>150 ha</b>
<small>(land is sourced by an agronomist who specialises in returning organic waste to land)</small>	
Thermal power rating of the gas engine .....	<b>315 kW</b>
Generated thermal energy .....	<b>2,600 MWh per year</b>
Utilisation of heat .....	<b>process heat only</b>
<small>(further utilisation under active investigation)</small>	
Electric power rating of the gas engine .....	<b>190 kW</b>
Generated electric energy .....	<b>1,500 MWh per year</b>
Power consumption (electricity) of the plant itself .....	<b>Estimated to be 10%</b>
<small>(calculations to determine accurate figure are underway)</small>	
Annual delivery of electricity to the (regional) electric grid company	<b>not available</b>
District heating network (stables, blocks of flats) .....	<b>not applicable kW<sub>th</sub></b>

### technical plant description

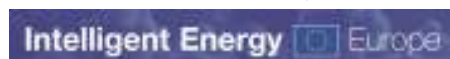
Digester .....	<b>900 m<sup>3</sup></b>
Second digester .....	<b>900 m<sup>3</sup></b>
Gas storage tank .....	<b>150 m<sup>3</sup></b>
Residence time in the digesters .....	<b>25-30 days</b>
Temperature of the anaerobic digestion (operational) .....	<b>42 °C</b>
Average expenditure of human labour .....	<b>24 hours per day</b>

For further Information, please visit [www.greenfinch.co.uk](http://www.greenfinch.co.uk) or contact:

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