



# Anaergia



## Case Study:

## Röblingen, Germany

Generating Renewable Energy, Biomethane and Fertilizer from Poultry Manure

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The production of 889kW of renewable electricity, recovered heat for use at a local chicken farm, biomethane for gird injection and high quality ammonia sulfate fertilizer from chicken manure

# Energy Generation from organic wastes

## Project Goal

Agri-Capital owns and operate the Roblingen renewable energy and fertilizer facility delivered by Anaergia's European subsidiary UTS Biogas Ltd. The facility is part of Agri-Capital's continued investment into the production of biomethane for injection in the natural gas grid for domestic supply needs.

The facility uses local farm and crop waste to produce biogas that is upgraded to biomethane. A portion of the biogas produced is used for electricity production to cover electrical requirements for the facility. Excess electricity is sold to the grid while recovered heat is used for heating the neighbouring chicken farms.

A high quality ammonia sulfate product is generate from the digestate to create additional revenue streams when sold for fertilizers to local farms.



## Inputs

Pig Slurry:	18,000 TPY
Cattle Manure:	20,000 TPY
Chicken Manure:	20,000 TPY
Corn Silage:	23,000 TPY
Whole Crop Silage:	8,700 TPY

## Renewable Outputs

Electrical output:	889 kW
Thermal output:	958 kWh
Biomethane output:	700 Nm <sup>3</sup> /h

## Process Description

### Substrate Reception

Substrates are accepted in the solids feeder hall and are manually fed into the feeder systems. Slurry streams that are transported to the facility via pressurized pipe and mobile tankers are stored in reception tanks and are continuously mixed to ensure homogenization of the substrates.

### Anaerobic Digestion

The facility utilizes 2 pre-fermenters, 3 primary fermenters and one secondary fermenter to anaerobically digest the substrates and generate a high quality biogas. The primary and secondary fermenters provide biogas storage with built in leak detection systems.

### Renewable Energy Production

A portion of the biogas produced is dried and purified prior to being converted into 889kW of electricity using CHP systems. The remaining portion of the biogas is used to produce 700m<sup>3</sup>/h of biomethane for injection into the distribution pipeline. Heat is recovered from the CHP system for use as building heating the neighbouring chicken farm.

### Fertilizer Production

The digestate is dewatered, leaving a solids fraction with high nitrogen content from the chicken manure. The nitrogen is recovered using a stripping process that creates a high quality Ammonium Sulfate product that is sold as a fertilizer product locally.

