



# Anaergia



## Case Study:

### Halberstadt, Germany

Renewable energy generation and heat recovery for district heating

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The Halberstadt facility generates 600kW of renewable electricity energy for sale to the grid and 600kW of renewable heat for the local district heating network.

# Energy Generation from organic wastes

## Project Goal

The Halberstadt facility was constructed in 2011 at the site of a thermal power station in the middle of Halberstadt city. The facility was built to generate revenues from the sale of renewable energy for grid injection, renewable heat for district heating and fertilizer to local farmers.

Long-standing contracts have been completed for growing and harvesting the biomass. These contracts also allow the sourcing farmers to receive the remaining digestate of the plant and use it as a valuable fertilizer for the nutrient supply of their agricultural land. Consequently, this project guarantees a completely closed and optimally used economic cycle for many years.



## Inputs

Renewable Substrate 9,100 TPY

## Renewable Outputs

Renewable Electricity 600 kW  
Renewable Heat 600kW  
Fertilizer 4,600 TPY

## Process Description

### Substrate Reception

Local energy crops, primarily corn silage are compressed and stored in air-tight tarpaulins onsite to ensure maximum retention of biomethane potential.

### Anaerobic Digestion

The facility utilizes a 2,850 cubic meter single stage primary fermenter and a 6,400 cubic meter digestate holding tank. The system includes high efficiency hydraulic mixers and a service box system to ensure long term operability and maximized plant efficiency.

### Renewable Energy Production

The biogas produced is dried and purified prior to being converted into electricity using CHP systems. Part of the treated biogas is used to produce 600kW of electricity onsite in an internal combustion engine and sold into the local electrical grid.

### Renewable Heat & Fertilizer Sales

High temperature heat recovered from the CHP systems is fully utilized in the local district heating network. The digestate is stored and utilized by local farmers as a high value fertilizer product.

