



Three Maids Green Energy Plants

United Kingdom

Client	Acorn Bioenergy
Location	Three Maids Hill, Winchester, UK
Commissioned	2024
Input (feedstock)	Straw, Chicken manure, Farm yard manure, Whole crop rye and Maize silage
Total processing capacity	94,000 t/year
Raw biogas production	Approx. 2,300 Nm ³ /h
Primary Digester	2 x 5,840 m ³
Stage 2 Digestion	2 x 6,430 m ³
Post-Digester	1 x 6,430 m ³
BGAA Capacity	100 GWh/a

The **Three Maids Green Plant** in Winchester is a **state-of-the-art AD facility** co-digesting agricultural organic residue and sequentially grown crops. This plant maximises the energy potential of farm-based waste streams while supporting sustainable nutrient cycles and regional decarbonisation goals.

Out of the 94,000 tonnes per year of feedstock, about **20,000 tonnes per year are straw**. Given the straw's high fibrous content, the plant includes a dedicated **mechanical pre-treatment** designed to optimise digestibility. On the other side, the chicken manure is diluted and fed to the second of **three digestion stages**. These measures allow to ensure highest operation reliability while **maximising biogas production**, generating approximately **100 GWh of biomethane**.

A defining and distinguishing feature of the Three Maids plants is the implementation of **full-stream sanitation step** after digestion and previous to dewatering, including a **heat recovery step** to minimize the heat consumption.



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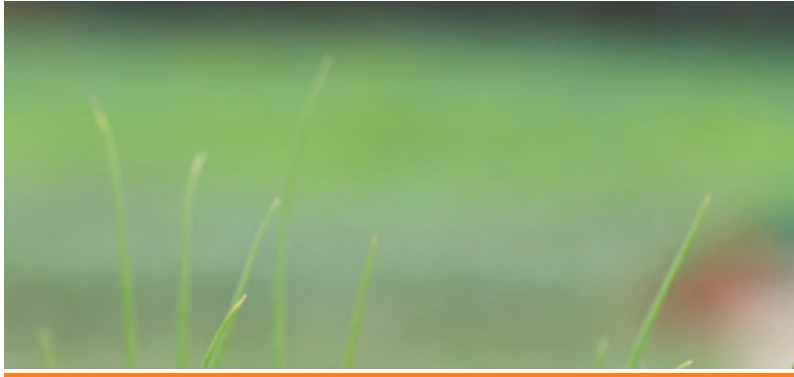
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Agraferm GmbH, which is based in Pfaffenhofen, Germany, designs and builds Anaerobic Digestion plants. It is one of the few full service providers of turn-key agricultural and industrial biogas plants in Europe, which operates internationally. Our portfolio includes project planning and construction as well as biological and technical services.

Agraferm biogas plants have the following distinctive features

- High reliability and maximum system availability
- A small footprint, i.e. high biogas production with a minimum of land use
- Use of robust components such as digesters, agitators and pumps, these reliable components prolong the operational life of the AD plant
- Stable digestion process
- Industrial-quality plant construction

The advantages for you

- Minimum operating costs
- Optimum level of substrate flexibility
- Minimal risk of downtime
- Maximum cost-efficiency and minimal power consumption

We are committed to the long-term success of our customers through

- Planning, construction and service from a single source
- Biological and technical support services
- Many years experience with CHP-units and biomethane gas to grid injection