



# Presentation of Xergi A/S



▶ **Turnkey Biogas Plants**



▶ **Process Control**



▶ **Operation and Maintenance**



▶ **Research & Development**



# Experience and Qualifications

- ▶ Plant design/engineering
- ▶ Project management/contracting
- ▶ R&D
- ▶ Operation & maintenance
- ▶ Process control (SCADA)
- ▶ Biological trouble shooting



# Ownership Structure



# Locations

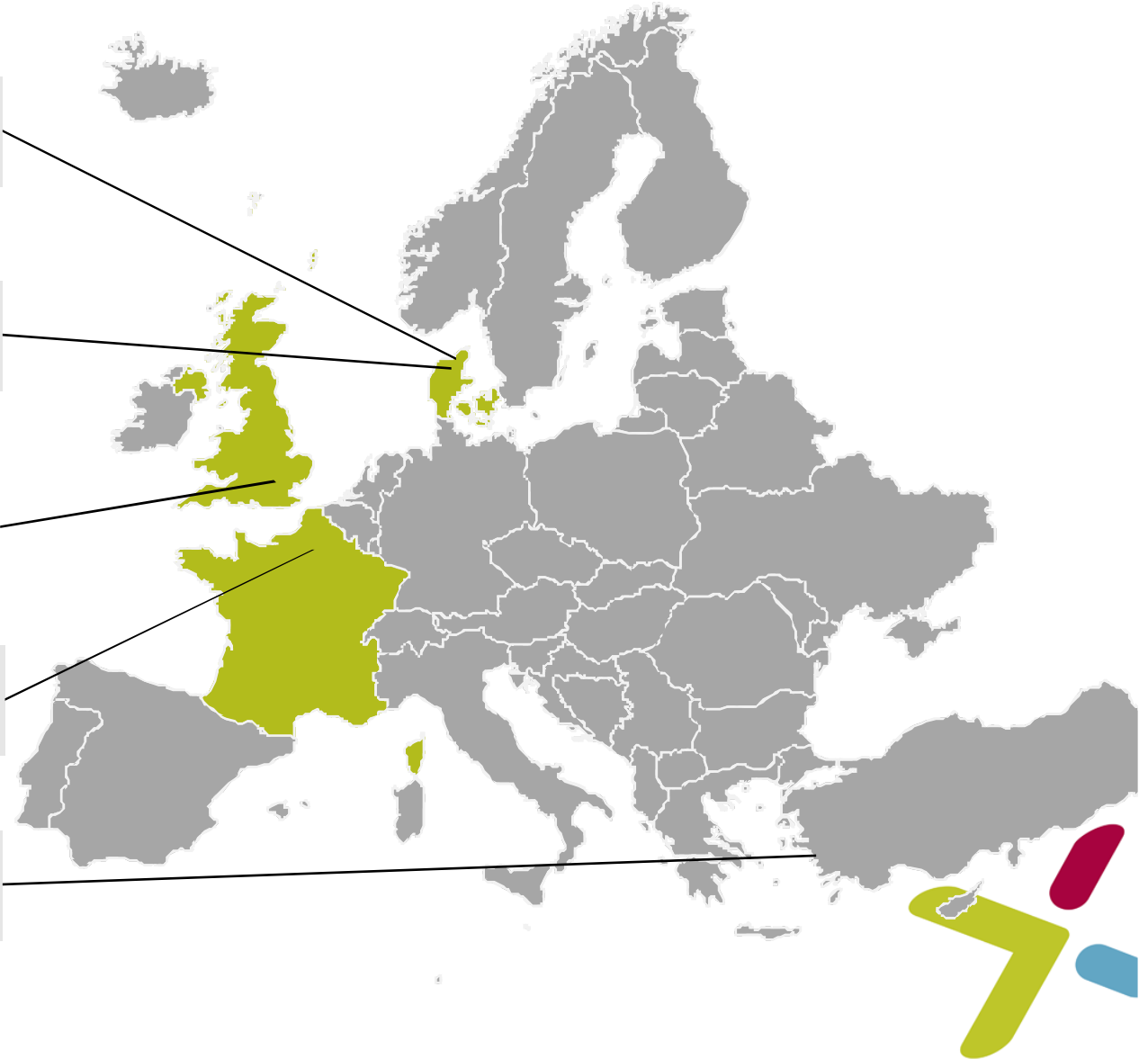
**Xergi A/S (head office)**  
Støvring, Denmark

**Xergi R&D Centre**  
Foulum, Denmark

**Xergi Ltd.**  
London, UK

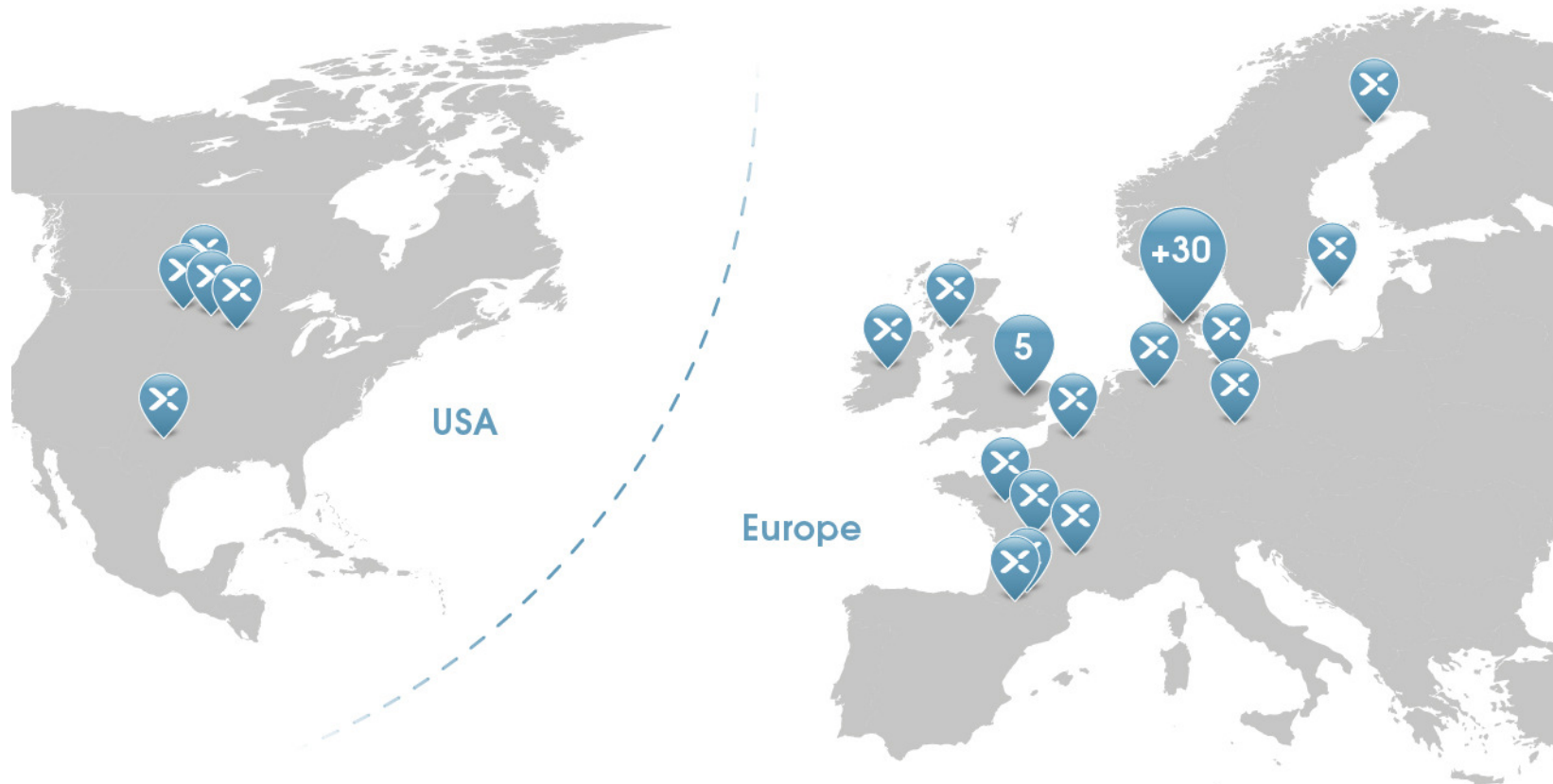
**Xergi SAS**  
Paris, France

**Licence partner, GEO**  
Izmir, Turkey



xergi

# +50 Biogas Plants (1993-2014)



# R&D



## Xergi Process Research Department

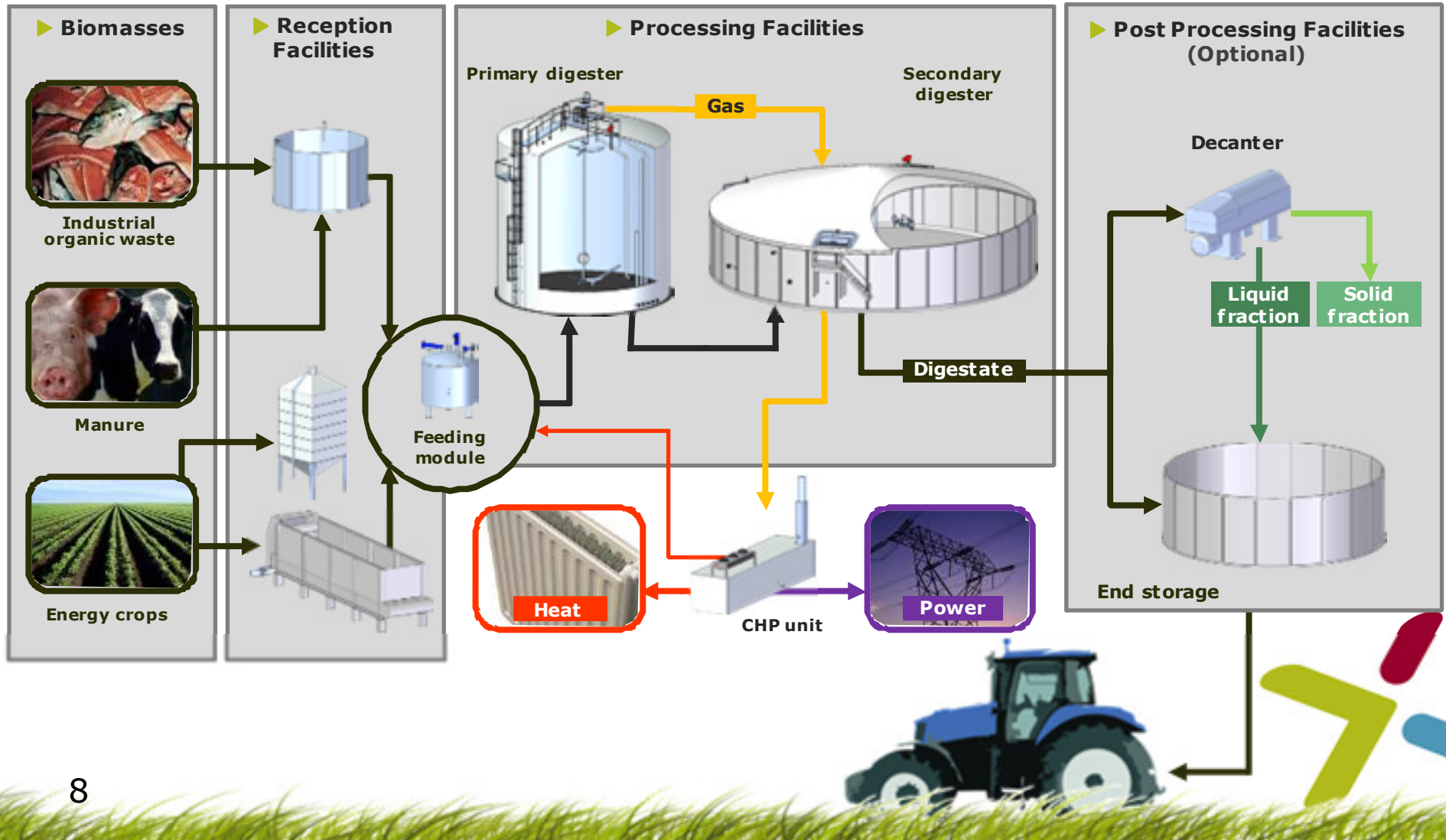
- ▶ **In-house** process and biological research
- ▶ Continuous **testing and trials**
- ▶ Situated at the Danish Center for Agricultural Sciences
- ▶ Project cooperation with **recognized partners** (i.e. Novozymes, Danish Technological University)

## Xergi Concept Development Department

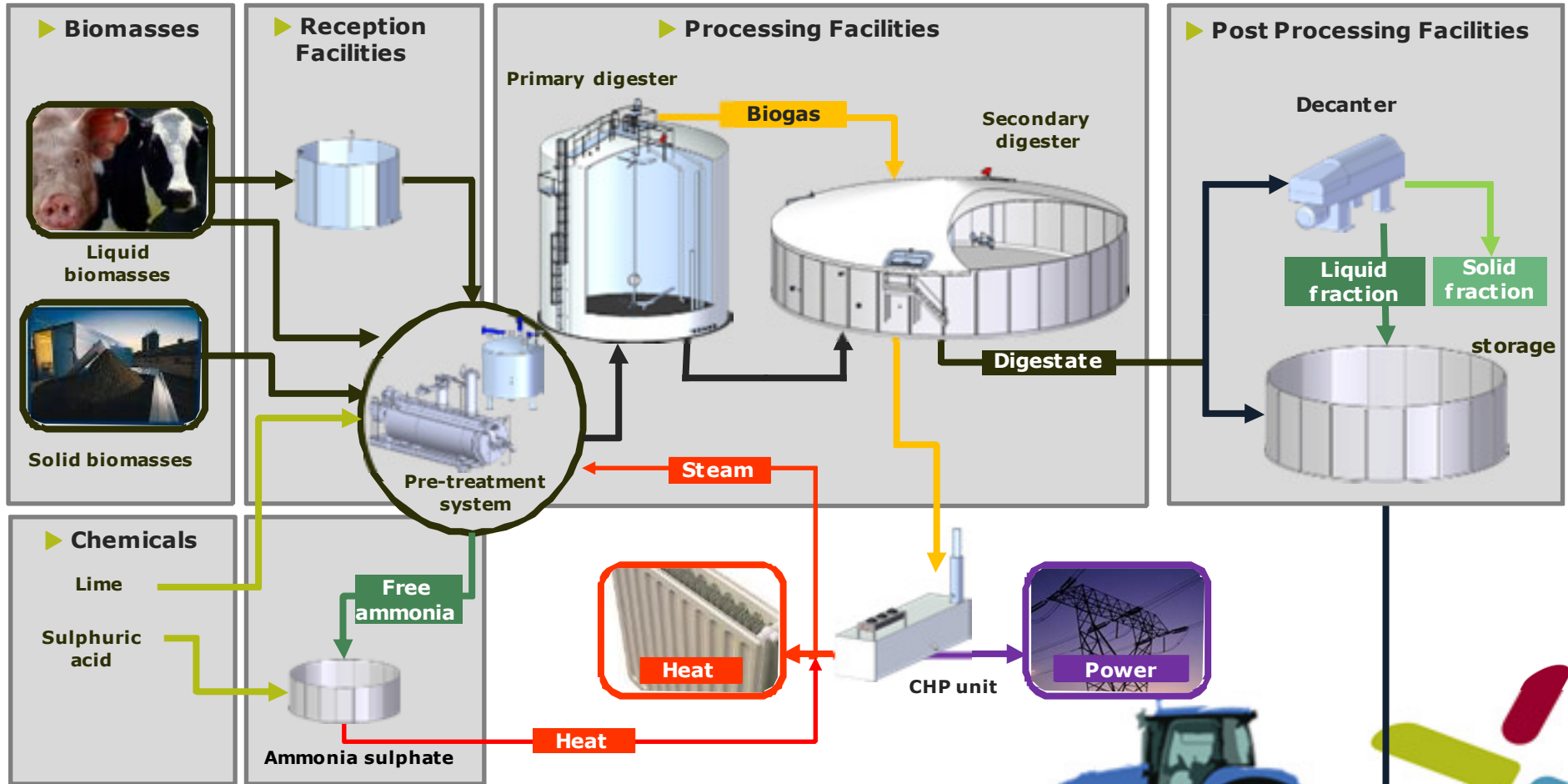
- ▶ **Optimization** of existing technology
- ▶ Development of **technical concepts**



# The Basics of a Biogas Plant



# Biogas plant with NiX<sup>®</sup> pre-treatment



# Selected References

## Grøngas A/S, Denmark

**Feedstock:**

Slurry, energy crops and food waste

**Digester volume:**

4,300 m<sup>3</sup> (primary)

4,000 m<sup>3</sup> (secondary)

**Engine:**

1.4 MW Jenbacher



## Selected References

### Foulum Agricultural Research Institute, Aarhus University, Denmark

Complete full-scale biogas plant plus a test plant with 4 small biogas digesters

**Feedstock:**

Animal manure and energy crops

**Digester volume:**

1,200 m<sup>3</sup> (primary)

1,500 m<sup>3</sup> (secondary)

**Engine:**

0.6 MW Jenbacher



# Selected References

## Bånlev Biogas, Denmark

Rebuilding and operation of existing biogas plant

**Feedstock:**

Slurry and waste

**Digester volume:**

2 x 1,700 m<sup>3</sup> (primary)

2 x 3,500 m<sup>3</sup> (primary)

2 x 5,500 m<sup>3</sup> (secondary)

**Engines:**

2 x 1.1 MW Jenbacher

2 x 0.5 MW CAT



# Selected References

## Brogas, Gotland, Sweden

**Feedstock:**

Animal slurry and industrial waste

**Digester volume:**

4,500 m<sup>3</sup> (primary)  
2,000 m<sup>3</sup> (secondary)

**Gas production:**

22 GWh/year  
(2.2 mil. m<sup>3</sup> methane)



# Selected References

## Veendam, Holland

**Feedstock:**

Manure, energy crops and food waste

**Digester volume:**

23,000 m<sup>3</sup>

**Engines:**

5 x Jenbacher 320  
(5.2 MW in total)



# Selected References

## Quarnbek, Germany

**Feedstock:**

Manure and energy crops

**Digester volume:**

1,500 m<sup>3</sup> (primary)

3,000 m<sup>3</sup> (secondary)

**Engine:**

0.5 MW Deutz



## Selected References

### Staples Vegetables - Wrangle, UK

**Feedstock:**

Vegetable waste and maize silage

**Digester volume :**

2 x 4,000 m<sup>3</sup> (primary)  
1 x 4,000 m<sup>3</sup> (secondary)

**Engines:**

1.4 MW Jenbacher  
1.6 MW MWM



# Selected References

## Staples Vegetables - Sibsey, UK

### Feedstock:

Vegetable waste and maize silage

### Digesters:

1 x 4,000 m<sup>3</sup> (primary)

1 x 4,000 m<sup>3</sup> (secondary)

### Engines:

1.5 MW Jenbacher

0.5 MW Jenbacher



## Selected References

### Scottish & Southern Energy, Barkip, UK

**Feedstock:**

Organic waste

**Digester volume:**

2 x 3,500 m<sup>3</sup> (primary)

2 x 3,500 m<sup>3</sup> (secondary)

**Engine:**

2 x 1.1 MW Jenbacher



# Selected References

## Holton renewable Power, UK

**Feedstock:**

Turkey slaughterhouse waste

**Digester volume:**

2,500 m<sup>3</sup> (primary)

2,500 m<sup>3</sup> (secondary)

**Engine:**

0.5 MW Jenbacher



# Selected References

## Tamar Energy, Retford, UK

**Biogas plant with Xergi's patented pre-treatment technology NiX<sup>®</sup>**

**Feedstock:**

Poultry manure and vegetable waste

**Digester volume:**

3 x 4,000 m<sup>3</sup> (primary)

1 x 4,500 m<sup>3</sup> (secondary)

**Engines:**

2 x 1.5 MW Jenbacher



# Selected References

## Meta-Bio Energies, France

**Feedstock:**

Manure, waste from households and food processing industries

**Digester volume:**

3,500 m<sup>3</sup> (primary)  
2,000 m<sup>3</sup> (secondary)

**Engine:**

1.1 MW Jenbacher



# Selected References

## Tiper Methanisation, France

**Feedstock:**

Manure and waste from food processing industries

**Digester volume:**

2 x 4,000 m<sup>3</sup> (primary)

1 x 4,500 m<sup>3</sup> (secondary)

**Engines:**

2 x 1.1 MW Jenbacher



## Selected References

### Hometown Bioenergy, Minnesota, USA

**Under construction 2013.**

**Feedstock:**

Corn cob industrial waste

**Digester volume:**

2 x 6000 m<sup>3</sup>

**Engines:**

4 x 2 MW Waukesha



# Selected References

## Huckabay Ridge, Texas, USA

Biogas plant with upgrading of biogas for natural gas quality and distribution through the natural gas distribution network.

**Feedstock:**

Slurry and liquid waste

**Digester volume:**

28,000 m<sup>3</sup>

**Gas production:**

110 GWh/year

(11 mil. m<sup>3</sup> methane)

