

Bio gas plants

Planning · Construction
Operation · Improvement

The environmentally compatible way
to produce electricity,
heat and compost



Krieg & Fischer Ingenieure

Biogas: Energy from Waste



Biogas is obtained from the anaerobic treatment of agricultural and industrial organic wastes. This gas, which has a high methane content, is used to produce electricity and heat.

Depending on the input material, different methods of pretreatment such as grinding, sieving, homogenisation and removal of foreign objects are required.

The centre of each biogas plant is the fermenting tank (digester), where the biodegradation process occurs. In this process, organic components are broken down by micro-organisms. Biogas is produced at the end of this food chain.

Subsequent to the fermentation process, the fermented material receives post-treatment. Customary treatment procedures are simple storage before direct agricultural application, dewatering, curing of solids, and process water recirculation, or complete treatment up to drinking water quality.





Our Service Offering



Krieg & Fischer Ingenieure GmbH is an engineering office for biogas engineering that has more than 15 years of experience in cost calculation and quotation preparation, planning, designing, obtaining approval, construction management and start-up of biogas and fermentation plants.

Our highly qualified team has extensive experience with different process techniques and input materials – from complex pretreatment techniques for biowaste to fermentation techniques up to the desired post-treatment. Our many years of practical experience ensure that our customers receive the best possible results.

We plan and construct agricultural farm-scale biogas plants and large cofermentation plants, as well as biowaste and residual

waste plants. In this context, we see ourselves as a service provider for our agricultural and industrial customers. We consider service to be our most important product. Just give us a call. We will gladly inform you about our service offering.

- Studies
- Concept development
- Costdetermination/calculations
- Approval
- Planning
- Construction management
- Start-up
- Optimisation





References – Experience

Krieg & Fischer Ingenieure has approximately 100 reference plants to its credit: agricultural and industrial one- and two stage, mesophilic and thermophilic wet and dry fermentation plants; biogas plants for fermenting cattle, pig and poultry manure; cofermentation plants; and biowaste fermentation plants. The fermentation of extremely different substrates such as biowaste, manure, fats, kitchen wastes and many other organic wastes are part of this spectrum. Our plants are located in Germany (D), Japan (J), Italy (I), Lithuania (LT), Slovakia (SK), Switzerland (CH), Netherlands (NL), Spain (E), France (F), Canada (C) and the USA.

Reference List (extract)

- HEYNOLD, built 1986, manure, 60 m³ digester volume, HPP (heat and power plant) 15 kW_{el}, D
- SCHLÖTTERER, built 1991, manure, 80 m³ digester volume, HPP 27 kW_{el}, D
- TU HAMBURG-HARBURG, built 1993, biowaste, 100 m³ digester volume, D
- KRAFT, built 1994, cattle manure, fats, 800 + 1.000 m³ digester volume, HPP 800 kW_{el}, D
- BÖCKERMANN, built 2001, pig manure, cofermentation products, 2.500 m³ digester volume, HPP 320 kW_{el}, D
- STANGE, built 2000, pig manure, turkey dung, 450 m³ digester volume, HPP 45 kW_{el}, D
- NIJ BOSMA ZATHE, built 2000, cattle manure, grass, 2 x 80 m³ digester volume, HPP 30 kW_{el}, NL
- BEKKAI, built 2000, cattle manure, cofermentation products, 1.500 m³ digester volume, HPP 200 kW_{el}, J
- PRAD, 2001, cattle manure, cofermentation products, 2 x 735 m³ digester volume, I
- VAN GENNIP, 2003, pig manure, dung, corn silage, 4.300 m³ digester volume, HPP 167 and 344 kW_{el}, D
- HOLLANDHOF, 2004, pig dung, turkey dung, grass and corn silage, 350 m³ digester volume, HPP 60 kW_{el}, D
- FREY, 2004, corn silage, grass silage, wheat silage, 1.530 m³ digester volume, HPP 330 kW_{el}, D
- MILLER, 2005, corn silage, clovergrass silage, 1.470 m³ digester volume, HPP 360 kW_{el}, D
- BAESWEILER 2006, corn silage, wheat silage, 2.155 m³ digester volume, HPP 536 kW_{el}, D
- PORTA, 2006, pig manure, waste, 1.360 m³ digester volume, HPP 191 kW_{el}, E



Krieg & Fischer Ingenieure

Torsten Fischer

Hannah-Vogt-Str. 1 · 37085 Göttingen
Fon +49 551 900 363 0
Fax +49 551 900 363 29
E-Mail Fischer@KriegFischer.de
Web www.KriegFischer.de