



# Biogasplant for Industry



Krieg & Fischer Ingenieure GmbH



- ✓ Reduce emissions
- ✓ Produce energy from waste
- ✓ Increase profitability

## References since 2007

**PRINCE EDWARD ISLAND**  
Biogas Plant, Canada



**Input:**  
Potato raw material, oil, potato sludge

**Digester:**  
Glas coated steel tanks  
4 x 5,500 m<sup>3</sup>

**RIO CUARTO II**  
Biogas Plant, Argentina



**Input:**  
Thin stillage, a residual material from bioethanol production

**Digester:**  
Glas coated steel tank  
8,000 m<sup>3</sup>

**FUKUOKA**  
Biogas Plant, Japan



**Input:**  
Vegetable waste, residue of shochu, sludge from WWTP, okra, gluten

**Digester:**  
Enamelled steel tank, 2 x 5,000 m<sup>3</sup>

## Lectures / Publications / Videos

THIES, R., LATINOVIC, S. and Dr. K. BACKES 2021  
Delving into the integration of biogas and bioethanol production in Argentina with Krieg & Fischer Ingenieure and Bioelectrica: **"A match made in heaven."**  
Publication in journal *Bioenergy-Insight*,  
Edition Jan/Feb, Volume 12 Issue 1, S. 32 ff (2021)

**Bioenergy biogas**  
Delving into the integration of biogas and bioethanol production in Argentina with Krieg & Fischer Ingenieure and Bioelectrica

### A match made in heaven

**R**io Cuarto biogas plant in Argentina demonstrates that biogas can successfully be included in the bioethanol value chain. Based on this project, anaerobic digestion still offers a proven solution for thin stillage from corn-based production that, concentrated of natural gas for the separation of water from ethanol production with 20 bar. In addition to the initial idea of finding a solution for thin stillage, large plant provides an opportunity to sell renewable energy with high temperature, acidity, and inhibiting compounds, such as high protein, high sulphur content – often unbalanced nutrients. These disadvantages must be compensated through adequate process design. With 30 years of experience in biogas sector and the team

biogas plant designed to process 130,000 tonnes per annum of thin stillage from corn-based bioethanol production. The reactor tank and equipment needed to be designed according to highly corrosive conditions. A continuous stirred tank reactor system was chosen



- # Thin stillage / Bioethanol production and biogas
- # Helping to achieve climate goals
- # Biogas World Expo AWARD 2020, Argentina
- # Reducing water, energy, urea etc.

Video made by *Biogas Channel*  
**Bioethanol: An Interview with Biogas Channel**  
Rio Cuarto, Argentina: Synergy effects between biogas and bioethanol  
*Biogas Channel*, March 2022



- # Integration of biogas and bioethanol production
- # Project in Argentina, Biogas plant Rio Cuarto II
- # Including anaerobic digestion in bioethanol value chain

Video made by *Deutsche Welle*  
**Energie aus Abfall - Biogasanlage für Russland**  
Im russischen Belgorod hat ein deutsches Unternehmen das erste Bio-Heizkraftwerk aufgebaut.  
*Deutsche Welle*, April 2013



- # Energy from waste, Russia, Belgorod
- # Sewage sludge, slaughterhouse sludge
- # Large agriculture, industrial biogas plant

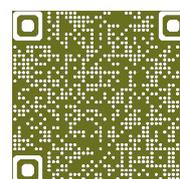
## Brochure

**Biogas Plants:**  
Engineering • Construction  
Operation • Optimization

35 YEARS OF BUSINESS WORLDWIDE

TECHNOLOGY TAILORED TO YOUR NEEDS

BIOGAS BIOMETHANE HYDROGEN



- # Tailor-made biogas plants
- # Independent engineering office
- # Experience with different feedstock
- # Technical details of biogas plants
- # 178 references worldwide