



**Economical successful biogas plant
without subsidies**

www.biogas-advisor.com
info@biogas-advisor.com



Personal data



- **Matthias Schriewer, Ornbau, Germany**
- Diploma in bioengineer, Fachhochschule (university of applied science) Aachen, Jülich
- Diploma thesis: enzymatic hydrolysis of sugar beet pulps for biogasproduction
- 2006 – 2010 employee of MT-Energie (design and verification of biogasplants, commissioning engineer, head of laboratory)
- Since 2010 formation of the company Schriewer Biogas Consulting

Cost of energy production

- 1 m³ biogas (50% methan) is equal to 0,6 l diesel
- 1 m³ biogas (50% methan) is equal to 1,5 KWh
- biogas yield of 1 t corn silage : 240 m³ biogas
- Cost of 1 t corn silage 2010: 30 €

- Cost of 1 KWh produced with cornsilage: 0,0833 €

- Additional costs for invest, salaries and wages, credits

Income based on subsidies

differend in the EU (2010):

- Germany: depending on way of feeding (only renewable sources) and size of the biogasplant up to 0,18 €/kWh
- Italy: 0,28 €/kWh
- Spain: ca. 0,14 €/kWh depending on size of the biogasplant
- Austria: depending on technology and size of the biogasplant from 0,12 to 0,18 €/kWh

Income or savings based on side effects

- Waste heat: ca. 0,01 €/kWh
- Savings in fertiliser (residue material could replace chemical fertiliser):
 - 0,55 €/kg $\text{NH}_4\text{-N}$
 - 0,45 €/kg P_2O_5
 - 0,460 €/kg K_2O(fertiliser concentration according to the feeding)

How to run a biogasplant without subsidies



lower costs of feeding

- Instead of using cornsilage use side-products or waste
- Some factories even pay to dispose of side-products (e.g. slaughterhousewaste, waste of foodproduction, kitchenwaste, ...)
- using wheat, corn, etc that is not suitable for foodproduktion or animalfeeding

How to run a biogasplant without subsidies



Increase the income

- Selling as much waste heat as possible to nearby factories, houses, stables, public swimming pools etc
- Selling the residue material to farmers, greenhouses, etc

How to run a biogasplant without subsidies



substitutue fossil fuels and make your factory more independent

- Selling as much waste heat as possible to nearby factories, houses, stables, public swimming pools etc
- Selling the residue material to farmers, greenhouses, etc

Non-monetary benefits



Ecological image

- Show your green image to your customers
- Increase your company's credit with the general public
- Take responsibility to the environment

Non-monetary benefits



Ecological image

- No expensive cost for disposal of sideproducts and waste
- Improve the carbon footprint

A vibrant landscape featuring a vast field of yellow rapeseed flowers in the foreground, stretching towards a horizon line. The sky is a deep blue, filled with large, fluffy white cumulus clouds. On the left side, a single tree stands on a small rise, and on the right, a dense line of dark trees is visible. The overall scene is bright and sunny.

Thank you for your intention!

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