



IEA- Bioenergy, Task 37
Lille, France
13 November 2007

BIOGAS in DENMARK

Country news
November 2007

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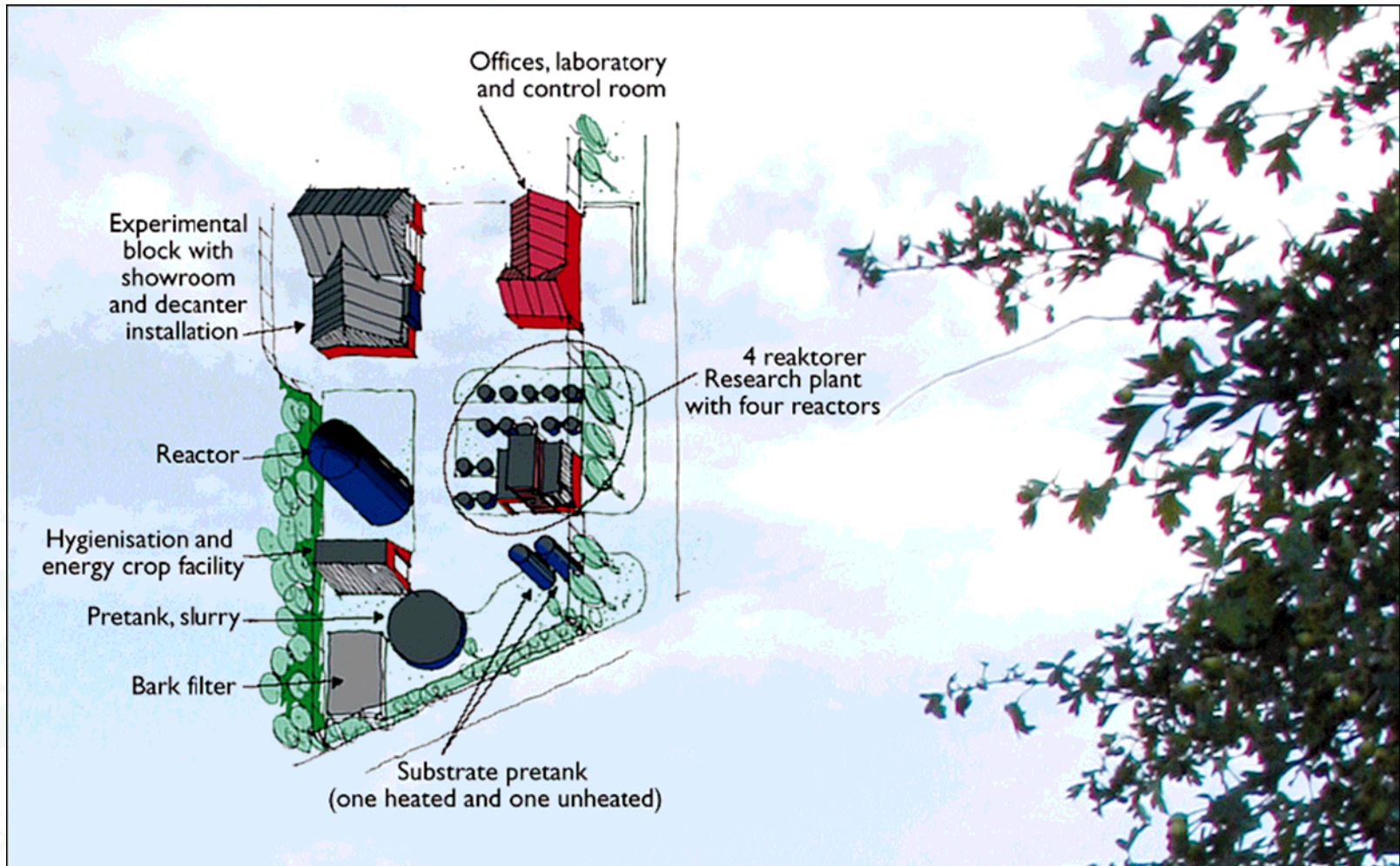
The world's largest experimental biogas plant

was inaugurated on 30 October 2007 at the Research Centre Foulum- Denmark





The world's largest experimental biogas plant





The world's largest experimental biogas plant

The aim:

To contribute to making future biogas plants more efficient and reliable, improve their economy and achieve a greater environmental bonus compared to the first generations of biogas plants

Advanced and flexible research opportunities:

- optimisation of the AD processes in the actual biogas reactor
- experiments in the various parts of the biogas supply chain
- access to an extensive choice of raw materials from animal production (dairy cattle, pigs, poultry, mink), energy crops, straw etc

The experimental plant:

- four experimental reactors each (2x30 mc and 2x10 mc)
- each with its own holding tanks
- a dosage system for adding solid material (feed residues, deep straw manure, energy crops)
- slurry separation facilities

A separate production plant:

Feedstock: 29,000 t slurry and 2,000 t alternative biomass

Production: 850,000 mc CH₄, utilised for CHP at the local thermal power station.



Denmark needs more biogas plants

Biogas plants and productions 2006:

Type of plant	Nr.	Production PJ
Centralised co-digestion	20	1,52
Farm scale plants	60	0,62
Waste water treatment plants	64	0,87
Industry plants	5	0,14
Landfill gas recovery plants	25	0,44
Total		3,58

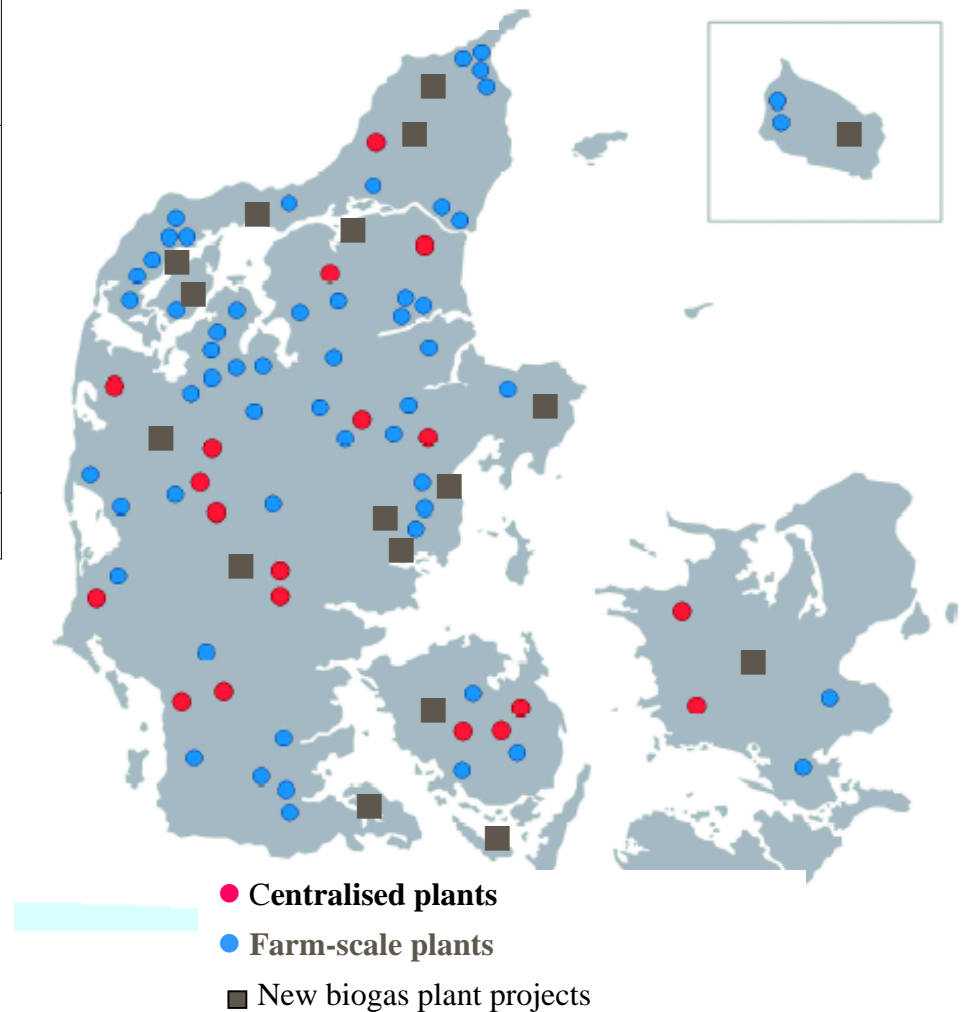


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Manure based biogas plants:

1.3 mill tonnes manure / year (5 % of total)
0,3 mill tonnes organic waste / year





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Existing framework:

- Price of produced/ sold m³ CH₄: 3DKK
- Heat production: exempted from energy and CO₂ taxation
- El-production: price guaranty of 0,60 DKK/kwh the next 10 years and of 0,40DKK/ kwh further 10 years (only for plants established before 2007)
- Co-digestion of organic waste a “must” for balanced economy
- Decreasing => 0 grants

Limitations/barriers:

- Uncertain future el prices / low price guaranty
- Insufficient organic waste
- Frequently negative public image due to odours around the plants
- Complicated approval procedures for establishment



Denmark needs more biogas plants

Necessary framework to achieve the political tasks: (Danish Biogas Association)

- Fair electricity prices / price guaranty
- Access to other co-digestion substrates than slurries
- Simpler rules for plant approvals and operation
- Environmental and veterinary framework
- Improved public perception of biogas: awareness campaign on-going (Danish Biogas Association)
- Founding for RD&D work (externalities, new substrates, pre/post treatment etc.)