



PRESS RELEASE

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New patent results in more biogas

Xergi A/S becomes co-owner of GFE's worldwide patent, which increases biogas production based on manure.

Improved possibilities to exploit the gas potential and the nutrients in manure are important factors to boost establishment of biogas plants in Denmark as well as abroad.

Xergi A/S has invested in a technology which makes it possible to extract at least 20 pct more gas from manure without – as is the case today - having to mix it with food waste in the reactor tank. Today only 40 to 60 pct of the gas potential of slurry from cattle and pigs is exploited.

- The new plants that the Danish government is planning to build in Denmark in the coming years must be able to produce biogas based on manure alone. There is no more waste available from the food industry, however, only 5 pct of the manure is exploited today. It is therefore essential to increase the gas output from manure in order to improve the economy of the plants, and we are now ready with a unique technology for this purpose, says managing director Frank Rosager of Xergi A/S.

By using this patented technology, manure converted into biogas can be a forceful contribution to the production of renewable energy and the reduction of CFC. The Danish Board of Technology has for example estimated that more than 20 pct of the energy for Danish road transport can be covered if Danish manure is used for biogas production.

At the same time the technology can be an important contributor to solving agriculture's nutrient problems, as the technology is especially effective in securing the exploitation of the nutrients in dewatered manure. The utilization of dewatered manure is presently one of the largest obstacles to expanding the use of the slurry separation technology which agriculture needs in order to control its problematic nutrient balance.

The partnership behind the patent

Xergi has acquired half of the newly established company, GFE-patent A/S, which owns the patent of the technology. The patent has been applied for and registered in all the important agricultural countries of the world, incl. USA, Canada, Brazil, China and the European countries. Furthermore, Xergi has secured exclusive rights for Denmark, Holland, Belgium, France and Spain.

The other half of GFE-patent A/S is owned by the company GFE A/S, which has been responsible for the further development and for patenting of the technology worldwide. GFE has invested a



considerable amount of money in refining and proving the efficiency of the technology through laboratory tests as well as full scale tests.

- Now that the effectiveness of the technology is fully documented, it is of course important for us that the patent is now being put into practice through our partnership with Xergi, says Lars Jørgen Pedersen from GFE, who also expresses great pleasure at the strengthening of the Danish biogas business the cooperation provides for the opportunities ahead.

Utilization of the problematic nitrogen

The new technology is a so-called “alkaline/thermal hydrolysis”. The process ensures both that the biomasses used in the biogas plant are made more accessible to the bacteria that convert the biomass into gas and that 40 pct of the ammonia nitrogen is extracted from the slurry. The nitrogen comes out in a concentrate – sulphate ammonium – which is a very useful fertilizer and very similar to commercial fertilizers.

At the same time, the ammonia extracted from the manure usually restrains the biogas process. Using the technology, it is now possible to utilize a higher concentration of manure in biogas plants and, for example, use larger amounts of chicken manure and deep litter.

This is particularly advantageous when needing to produce biogas solely from manure without having access to industrial fat, which is normally used to increase the biogas production. Furthermore, the process is approved for pretreating category II waste from slaughterhouses etc., so it can be used for bio gasification.

Frank Rosager expects that the first project that is going to be based on pure manure with the new technology will be a biogas plant in Nørager in North Jutland, but he also sees great possibilities in upgrading already existing biogas plants, which today lack the necessary biomass to be able to produce at full power.

For some time now we have received a lot of inquiries for this technology from areas in Denmark, Germany, Belgium, Holland and Spain with a heavy concentration of livestock farming, adds Lars Jørgen Pedersen, who is looking forward to now being able to submit specific quotations for the technology to these customers through the co-operation with Xergi.

For further information please contact:

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Facts about Xergi A/S

- Xergi A/S has 20 years of experience as supplier and operator of more than 100 turnkey energy and environment plants, including more than 40 biogas plants, in Denmark and abroad.
- The business concept of Xergi A/S is based on energy use utilizing power/heat/cooling solutions and the use of nutrients in organic waste by the application of biogas and separation plants.
- Xergi A/S is owned by Aktieselskabet Schouw+Co and Hedeselskabet A/S on a 50/50 basis.

Facts about GFE A/S

- GFE A/S is established in 2001
- Reconstructed in 2004
- GFE A/S is owned by:
Industriudvikling 1, Lerbjerggård
O. Løjstrup P/S
Lerbjerg Holding