

# Manure for gas

Nij Bosma Zathe will provide 800 households with green gas

## Biogas

[Tineke van der Weg]

In the future 800 households in the Dutch city Leeuwarden will be provided with heat by fermentation of manure. Producer is Nij Bosma Zathe a practice based research and training centre of Wageningen University. "A unique project," according to the Dutch minister of agriculture Gerda Verburg.



Minister of Agriculture, Gerda Verburg, debates about the future of green gas with representatives from the energy sector.

Manure as supplier of green energy. It will happen in Leeuwarden, the capital city of the province Friesland in the Netherlands. Nij Bosma Zathe, practice based research and training centre of Wageningen University, is building two co-fermentation silo's. There are also plans for a third one. Once they are started it is intended that they provide 800 houses with gas. A portion of the gas will also be used for urban transport in the county of Leeuwarden.

### Working

It was labelled as a unique project by the minister of agriculture Gerda

Verburg, during a work visit. After visiting the biogas plant she took part in a discussion about the future of green gas with representatives from the energy sector. One of the participants was the just appointed mayor of Leeuwarden, Ferd Crone. He considers all things related to energy as his hobby. "The Frisian town took progressive steps in bioenergy", he states. In addition to the project of Nij Bosma Zathe, Delta Oil build a gas station in the town where both companies and individuals can refuel biodiesel, bioethanol or biogas. It was opened in October last year. Biogas at this petrol station is supplied by the Dutch energy company Essent. It is the intention Delta Oil will also buy biogas from Nij Bosma Zathe. "The green gas pumps are important for our fleet," says Crone. "It is a further step towards a sustainable town."

### Heat law

There are not only sustainable projects in The Netherlands. Germany has even introduced a new variation on the successful German sustainable energy law, namely the Erneuerbare-Energien-Warmegesetz. Starting January 2009,

this new law requires that every new home in Germany must use sustainable energy for a portion of the energy needed for space heating or hot water. "Space heating is responsible for 40 percent of the total energy consumption of houses so there is much to gain," says Riksta Zwart of Essent Heat. "The law makes sure that bioenergy not only serves as a heat source for new constructions, but also for renovations," says Zwart. Gerrit van Werven from Energy Valley emphasises that gas is a major export product of The Netherlands. "We are good in gas and should continue this tradition through agriculture. It also provides jobs."

### Citizens

Bioenergy projects are only successful with a unique combination of the right technology, manufacturers, government and last but not least support from citizens. "The citizens need to see where their electricity comes from. If they can't imagine, it is difficult to spread the message," says Verburg. There are several ways to get citizens

## Nij Bosma Zathe

Nij Zathe Bosma is a practice based research and training centre for research and knowledge in the area of dairy farming in the three northern provinces of The Netherlands. It is part of the Animal Sciences Group of Wageningen UR. At Nij Bosma Zathe research is conducted with emphasis on innovations in livestock, (feed, crop production, fertilization), but also in country side development.

involved in sustainable projects. One-sided communication is not enough. The citizens must experience it themselves. "Residents of the new district where the 800 houses will be built should be driving around and then say to each other: 'Look, that cow gives us warmth'," says Verburg. A good example of involvement is the greenhouse industry. "This is an innovative industry," says Van Werven. Sustainability is rewarded in this sector. That can also happen with citizens. The more sustainable they live, the more they will be rewarded. We must continue to promote the use of green energy in every way we can".

### Recommendation

The involvement of citizens is also crucial for making gas from manure a success, according to the Dutch minister of Agriculture. "Relation leads to commitment". Nij Bosma Zathe is a good example, in the opinion of Verburg. Mayor Crone has a recommendation for the minister. "If all the official cars from the government drive on biogas we will give a signal to the citizens." The minister answers that more petrol stations should be realized in other parts of the country. "Otherwise every time we need to refuel we have to drive to Leeuwarden." There is still a lot to accomplish in the durable sector. ■

### Fermentation

Co-fermentation produces biogas from a mixture of manure and organic residues. Farmers who invest in this technique can apply for financial support via the Incentive grant from the Sustainable Energy, which is created by the Dutch government. The basic amount that farmers receive is 0,12 Euro per kWh. That amount is below the recommended rate of 0,179 Euro by the Dutch Energy Research Centre. Farmers who want to set up a fermentation installation often experience bottlenecks. In particular small companies may bear the brunt of the low amount of 0,12 Euro cents. Proceeds of the installation don't make up for the production costs. Another bottleneck is the fact that farmers or other small producers don't have direct customers for the gas they produce. Some can be used for their own household or farmhouses, but at present the Dutch natural gas network is not equipped to accept the gas from fermentation plant. Both gases differ in their chemical composition. Several companies work hard to find a profitable solution for this problem.

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