

**EDITORIAL**



Dear Readers,

EnviTec Biogas AG is still a relatively young company but we have already achieved a lot since our foundation in 2002 and our IPO in 2007. Our satisfied customers have made us one of the world's largest suppliers of biogas plants. We have a presence in 15 European countries as well as in India.

In October, Frost & Sullivan, the renowned business research and consulting firm, awarded us the "Best Practices Award 2010" in the "Global Biological Waste-to-Energy Competitive Strategy Leadership" category. This accolade recognises the successful implementation of our international growth strategy and our achievements in research and development of efficiency-improving technologies for the production of biogas. We are very pleased with this prize. Above all, I would like to thank our employees, to whose commitment and expertise we owe our success.

Olaf von Lehmden  
CEO of EnviTec Biogas AG

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## Award for EnviTec Biogas

"Best Practices Award" demonstrates industry leadership

EnviTec Biogas AG has picked up a prestigious award. In recognition of its excellent achievements in the biogas sector, the Frost & Sullivan Best Practices Award 2010 went to the company based in Lohne in the state of Lower Saxony. "This award shows that we are familiar with our customers' needs and remain on the right track," says Roel Slotman, the Board member in charge of international sales (CCO), in his acceptance speech.

By awarding this prize in the category "Global Biological Waste-to-Energy Competitive Strategy Leadership", global management consultancy Frost & Sullivan highlights EnviTec's outstanding

*Frost & Sullivan highlights competitive position.*

competitive position in the implementation of an international growth strategy, in researching and developing efficiency-boosting technologies, in the realisation of forward-looking major projects and in terms of customer satisfaction. "The success of EnviTec Biogas is based on international expansion, competitively priced products and innovative technologies to raise the gas yield," the jurors from Frost & Sullivan said.

Their report went on to say that EnviTec has been moving into new markets faster than other



Export Manager Dennis Nahuijsen and CCO Roel Slotman (from left) accepted the award from Frost & Sullivan in Brussels on behalf of the employees of EnviTec Biogas AG.

suppliers of biogas plants. The Frost & Sullivan analysts cited as examples Italy, the Czech Republic and India, three countries where EnviTec's business is currently growing at a rapid pace, with pioneering projects being realised. In India, for example, EnviTec is currently constructing several major plants which will allow the local state utility to extend the provision of electric-

ity to villages in the agrarian state of Punjab. "Biogas offers numerous benefits and its enormous potential is being recognised by more and more politicians and investors worldwide," said EnviTec CCO Roel Slotman at the presentation ceremony. "I would like to thank our customers in agriculture and industry as well as our investors for the confidence placed in us."



Director Thomas Bitter (r.) and Andreas Junge-Bornholt from EnviTec are highly satisfied with the reference project.

# Successful cooperation

## Biogas plant in Nieheim supplies heat to old people's home

Thomas Bitter seldom receives an invoice that makes him happy because it is low. The annual heating bills are one of the few exceptions for the Director of the St.-Nikolaus-Hospital in Nieheim. Since the combined old people's home and hospital was connected to the district heat network of Biogas Nieheim GmbH & Co. KG, the heating bills have been much lower than before. "Ever since we started receiving our heating energy from the biogas plant, we have made big savings," Thomas Bitter says. "I can now invest this money elsewhere to the benefit of our residents."

*Big savings for the hospital.*

The biogas plant that supplies the St.-Nikolaus-Hospital with heat via a 1,500 metre pipeline is operated by farmer Johannes Seneca in cooperation with EnviTec Beteiligungs GmbH, the EnviTec subsidiary in charge of partnership projects. Together with the employees of EnviTec, he ensures that hot water comes flowing out of the hospital's taps and that the more than 100 resi-

dents of the old people's home feel comfortably warm even on cold winter days. But the heat, which also heats some of Seneca's farm buildings via pipelines, is actually only a by-product of the biogas plant. The 500 kW plant primarily generates electricity for some 1,300 households, which is fed into the public grid. "The exhaust heat is produced during the combustion of the biogas in the co-generation unit," explains Andreas Junge-Bornholt, partner-

ship project manager at EnviTec. "It makes excellent economic sense to use this heat to increase the efficiency of the biogas plant.

*The concept convinced all parties.*

It was the idea of Markus von Lehmden, Managing Director of EnviTec Beteiligungs GmbH, to supply the heat to the St.-Nikolaus-Hospital, when he took a closer look at the picturesque

**Farmer Johannes Seneca joined forces with EnviTec Biogas and realised an efficient heat concept.**

**Mr Seneca, what made you consider biogas?** Relying solely on crop and pig farming would have jeopardised the long-term viability of my farm. As giving up the farm was never an option for me, I considered possible sideline businesses, and this is how I came across biogas. Other farmers recommended that I

get in touch with EnviTec.

**What was EnviTec's advice?** The project planners proposed to use the exhaust heat for the St.-Nikolaus-Hospital. But the plant size of 500 kW that would have been necessary was beyond my means. Luckily, EnviTec came up with a solution and offered a cooperation in the form of a partnership scheme.

**Who is responsible for what?** I take care of the production and procurement of the input materials and the

health resort following a meeting with Johannes Seneca. He immediately noticed the old people's and nursing home near Seneca's farm. It was not only ideally located but also had the perfect size to be supplied with heat from the planned biogas plant. Together with the project partners from EnviTec, von Lehmden developed a concept that not only convinced farmer Johannes Seneca and the Director of the St.-Nikolaus-Hospital, Thomas Bitter, but also the responsible authorities and the representatives of the City of Nieheim. Running mainly on maize and liquid manure, the biogas plant generated 6,500 cubic metres of methane gas per day. The gas engine and the electricity generator in the co-generation unit turn it into 12,500 kW<sub>el</sub> of electricity and 10,000 kW<sub>th</sub> of heat. The heat is supplied to the St.-Nikolaus-Hospital via a pipeline in the form of 90 °C hot water. The proximity to the neighbouring farms also obviates the need for long transports. Some 20 farmers from the region supply the Nieheim biogas plant with renewable resources, the fermentation residues are supplied back to the farmers, who use them as fertiliser. "It's a great project. Every day, I am happy that I built the biogas plant with EnviTec," says Johannes Seneca.

day-to-day operation of the plant, while EnviTec is responsible for the technical and biological service of the plant.



Farmer Johannes Seneca cooperates with EnviTec.

# A success all along the line

New mixing technology has been in use for a full year



*The Kreis-Dissolver greatly increases the gas output of a biogas plant.*

Ever since its inception in 2002, EnviTec Biogas has pioneered the biogas industry and boosted the efficiency of its biogas plants through the development of new technologies which have greatly improved plant operators' profitability. A major contribution to this progress was made by the introduction of an optimised mixing technology in 2010 – the "Kreis-Dissolver" is far superior to conventional

systems for the shredding of input materials. For about one year, the "Kreis-Dissolver" has

*Positive feed back from plant operators*

been used in biogas plants from EnviTec, and many operators have upgraded their existing plants. Plant operators' experience has been positive throughout. The data recorded in the context of a

study conducted by EnviTec engineers leave no doubt, either; compared to a conventional biogas plant without "Kreis-Dissolver", a plant equipped with the new shredding system generates an additional yield of an average 12 cubic metres per ton of fresh matter. The gas output of the modernised plant was thus 7.1 percent higher than the expected value, which is based on a substrate analysis and data from the Association for Technology and Structures in Agriculture (Kuratorium für Technik und Bauwesen in der Landwirtschaft e.V. - KTBL), and as much as 9.1 percent above the gas output of the conventional plant. The electricity yield was 6.7 percent higher than the projected value and 8.9 percent higher than the result of the conventional plant – although the electricity requirements (3.89 percent) for mixing and fermentation were only moderately higher than those of the conventional plant (3.87 percent).

## EnviTec at the EuroTier

Special show on "Biogas from sugar beet"

Sugar beet is quickly gaining importance as a high-yield substrate for the production of biogas. It can be mixed with other substrates and be used on its own for mono-fermentation. As this

*EnviTec participates in special presentation.*

is a relatively new trend, it opens up many questions. Answers will be provided at "Biogas from Sugar Beet", a special section of the BioEnergy Decentral show run in parallel with this year's EuroTier exhibition. As the technology leader of the biogas industry, EnviTec Biogas AG will have its own booth (Hall 26, Stand K19) at

BioEnergy Decentral, the meeting point of the leading players of the decentralised energy supply sector. In the outdoor section north of Hall 26, Stand F D07, DLG e.V. (Deutsche Landwirtschafts-Gesellschaft) and BFL e.V. (Bauförderung Landwirtschaft) will organise a special on "Biogas from Sugar Beet" with the participation of EnviTec. A total of 23 companies will present exemplary solutions for different process stages of the utilisation of sugar beet as a biogas substrate. Between 16 and 19 November, four presentations will be held each day, at 11.00, 13.00, 15.00 and 17.00 h. EnviTec Biogas's contribution to the model plant

is the "Kreis-Dissolver", which is ideally suited for mixing sugar beet.



*Sugar beet is generally suited as a biogas substrate.*

### SHORT NOTICES



#### Interactive plant demonstration

Visitors to the EnviTec Biogas website can now go on a virtual tour of a biogas plant. The required flash animation is provided on the start page and allows interested visitors to obtain interactive information on the individual elements of a biogas plant and their functions by way of a simple mouse-click. "Having mainly used this application at trade fairs and exhibitions, we are now making it available to everybody," says Marketing Manager Katrin Selzer.

#### Bankers' Day in Italy



In mid-October, EnviTec held its first meeting with representatives of Italian banks in Verona. Some 30 representatives of the country's leading banks accepted the invitation and informed themselves about the opportunities and advantages of an investment in biogas plants. The focus was on the financing of EnviTec partnership projects in Italy.

## Exhibitions

03.– 06. November 2010

**Key Energy 2010**  
Rimini, IT

16. – 19. November 2010

**EuroTier 2010**  
Hanover, DE

23. – 25. November 2010

**Rundvee Relatiedagen**  
Gorinchem, NL

30. November –

03. Dezember 2010  
**Pollutec**  
Lyon, FR

13. – 16. January 2011

**Agriflanders**  
Ghent, BE

18. – 20. January 2011

**Landbouweurs**  
Assen, NL

08. – 11. February 2011

**Agrar Unternehmertage**  
Münster, DE

# Bioenergy Park in Italy

## Showcase project: Two plants supplied by EnviTec

Italy is presently a very attractive market for EnviTec Biogas. The feed-in compensation for electricity from biogas is high, while the market is still small. In late October, the country's largest bioenergy park based on biogas from biomass was inaugurated in Bondeno; two plants of the park, which comprises a total of four plants, were supplied by EnviTec Biogas. The inauguration was attended by Paolo De Castro, President of the European Parliament's Commission on Agriculture and Italy's former Minister of Agriculture.

*The park in Bondeno has a capacity of 4 MW<sub>el</sub>.*

The biogas plants have a rated capacity of 1 MW<sub>el</sub> each, which means that the park has a total capacity of 4 MW<sub>el</sub>. The investment has a total volume of about EUR 20 million. More than 200 farmers and members who guarantee the supply of the biogas park for

a period of 15 years participate in the operating company through a holding company. The park runs on approx. 72,000 tons of biomass (maize, millet, triticale) per year, which are cultivated on an area totalling 1,500 hectares within a 20 kilometre radius of the park.

A new component supplied by EnviTec is the innovative mixing recirculation shaft. This multi-

functional component integrates the mixing tank with the recirculation shaft in a single unit. The advantage is that the recirculated material does not need to be pumped to the mixing tank, with much shorter pumping times meaning greatly reduced energy and wear-and-tear costs. Moreover, construction costs are saved by placing the tank on the fermenter and not in the technical building.



Bondeno is the site of Italy's largest bioenergy park for the production of biogas.

# Great opportunities in Latvia

Biogas is increasingly gaining importance in Eastern Europe. EnviTec Biogas AG benefits from this trend. The ongoing construction of two biogas plants in Latvia marks the company's entry in this highly promising market. The biogas plants are being installed in western Latvia, not far from Liepaja, the country's third largest

city. The operator of a local pig farm has ordered two plants with a rated electrical output of 1 MW each, which produce biogas from liquid pig manure and renewable resources. The customer intends to heat his pig barns with the exhaust heat that is produced when the methane gas is converted into electricity in the co-generation

units. "We are pleased that our international expansion allows us to realise a project in Latvia that will certainly have a lighthouse effect in the region," says Roel Slotman,

*EnviTec Biogas has entered a very promising market.*

CCO of EnviTec Biogas. Due to its large agricultural areas, the Baltic country offers great potential for biogas. Moreover, the attractive feed-in compensation set by the Latvian government provides strong incentives to invest in biogas plants. "We expect the Latvian biogas market to continue to grow in the coming years and we are pleased to be at the forefront of this trend," says Roel Slotman.



EnviTec is building two biogas plants in Latvia.

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