

EDITORIAL



Dear Readers,

In the wake of the nuclear disaster in Japan, German nuclear power plants now stand under scrutiny. The majority of German citizens favour withdrawal from nuclear energy, aspiring rather to achieve full supply from renewable sources of energy. Biogas will make an important contribution to the energy turnaround because it is a constantly reliable source of energy – even when the sun isn't shining or the wind isn't blowing. Biogas can be stored and be converted into energy at any time, and it can meet both base-load and peak-load requirements.

Many biogas plants can replace nuclear power plants. Even now, with a total output of more than 200 megawatts, the plants built by EnviTec alone generate about a fourth of the power generated by the Neckarwestheim nuclear power station. We are working daily on increasing this amount – so that we can all live without nuclear power plants and with climate-friendly energy as soon as possible.

Jörg Fischer
CFO of EnviTec Biogas AG

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EnviTec breaks the 200 MW mark

Politics committed to the expansion of biogas production



The Lower-Saxon Minister of Environment and Climate Protection, Hans-Heinrich Sander (centre) held a discussion with representatives of EnviTec Biogas, WELTEC BIOPOWER and bwe biogas weser-ems.

EnviTec Biogas AG has exceeded the 200-megawatt limit in total electric output connected to the electricity grid. Plants built by EnviTec currently generate a total of 1.75 billion kilowatt hours of CO₂-neutral energy per year, thus supplying more than half a billion households – corresponding to a city the size of Cologne. In total, an installed electrical energy capacity of over 170 MW derived from biogas plants which are either operated by EnviTec or built for its customers is currently on the grid in Germany, with an additional 30 MW abroad. Just under 25 MW of electric energy is currently under construction respectively in Germany and abroad. “As a market leader, we are happy to play a vital role in the expansion of bioenergy in Germany and Europe,” explains Olaf von Lehmden, CEO of EnviTec Biogas AG.

Given the new situation resulting from the shift away from atomic energy, the biogas sector is now expecting to receive clear signals. “If we want a change in energy policy, existing uncertainties must be eliminated as quickly as possible in the context of the upcoming amendment to the Renewable Energy Sources Act (EEG) to restore planning certainty for

»» Uncertainties in view of the new EEG must be quickly eliminated.

plant manufacturers and their customers.” A postponement of the reform, he adds, would also be conceivable. This would allow for a new, fundamental discussion about the expansion of renewable energy after the nuclear disaster in Japan.

As recently as few weeks ago, Hans-Heinrich Sander (FDP), the Lower-Saxon Minister of Environment and Climate Protection, argued for a continued “adequate rate of compensation” in the biogas sector in the context of a discussion lasting several hours on Germany's future energy policy held with EnviTec and other representatives of the biogas sector. In this way, he affirmed the energy plan of the German federal government from autumn 2010. Sander also encouraged the idea that a provision be made in the EEG for biogenic residues, as there has been hardly been any incentives for this in the past. While industry representatives welcomed this, they also pointed out during the discussion the limited availability of reusable residual materials on the market.

Low-cost heat for Friedland

EnviTec cooperates with the energy company Cofely



Plant produces just under 1.6 MW_{th} per hour.

More and more villages and towns in Germany source their heating energy from environmentally-friendly biogas plants. Given that biogas produces no additional emissions of the greenhouse gas CO₂, it helps

»» The village of Friedland is taking environmental protection seriously.

reach the climate protection targets laid down by the industrialised countries in the Kyoto Protocol. Friedland in Mecklenburg-Vorpommern takes environmental protection seriously. Some 6,600 people live here in this small town. About one third of its households as well as many public facilities are supplied with low-cost heat from the local biogas plant of EnviTec Biogas AG.

Cofely, a subsidiary of French energy corporation GDF Suez, is responsible for supplying the heat via the district heat grid. "It's an ideal partnership. We sell the exhaust heat that is generated during the electricity production process in our biogas plant to Cofely and they supply it to the end users," explains Heino Themann,

Managing Director and Project Developer of EnviTec Biogas Beteiligungsgesellschaft. A bit less than 1.6 MW_{th} per hour are fed into Cofely's public heat grid by the EnviTec plant. "We are very grateful that we have such a reliable supplier in EnviTec and that we can help improve Friedland's carbon footprint significantly thanks to the heat supplied by the biogas plant," says Klaus-Peter Berger, Head of the Cofely Service Center in Friedland.

Ever since it was taken into service in 2007, EnviTec has used the biogas plant in Friedland not only to generate electricity and heat but also as a research plant where new technologies are tested. Whether it's

»» EnviTec produces the heat and Cofely delivers it to the end customer.

the "Kreis-Dissolver" for the perfect shredding of substrates or "EnviTec Feedcontrol" for the automated feeding of bacteria in the fermenter – many path-breaking developments of the biogas industry were used in Friedland at an early stage and delivered important data for the

degrees Celsius comes from the exhaust gas from the engines of the co-generation units, which is more than twice as hot. The

comparative studies conducted by the EnviTec engineers. Great progress was made in Friedberg also with regard to the efficient use of the exhaust heat; the use of exhaust gas exchangers has clearly proven its worth. A not inconsiderable

part of the heating energy that is fed into the public grid at a flow temperature of up to 90

»» The plant also serves as a research site for EnviTec.

new technology complements the generation of heat from the engine coolant. "The additional exhaust gas exchangers allow us to use the heat even more effectively, thus increasing the efficiency of the entire plant," explains Project Developer Themann.

Apart from its importance for Friedland's heat supply and for the ongoing development of the biogas plant technology, the plant also includes a spare parts warehouse for EnviTec's technical field service.

The biogas plant in Friedland with a district heat grid is a project of EnviTec Biogas Beteiligungsgesellschaft (EBB).

The plant consists of four modules with a rated electrical output of 500 kW_{el} each. It feeds just under 1.6 MW_{th} per hour into the local Cofely heat supply network. A considerable part of the heating energy, which flows into the local supply network at a flow temperature of up to 90 degrees, is derived from gases over twice as hot from the engines of the co-generation plants. Exhaust gas heat exchangers ensure the optimal use of this energy. About a third of the households as well as many public buildings in Friedland receive the energy they need for heating at a reasonable price from the biogas plant. The initiator of the project is Heino Themann, Managing Director of the EnviTec Biogas Beteiligungsgesellschaft (EBB), who was able to win over the energy company Cofely as cooperation partner for supplying the town via the district heat grid. Klaus-Peter Berger, Head of the Cofely Service Centre in Friedland, comments on the partnership: "We are very grateful that we have such a reliable supplier in EnviTec."



EBB Managing Director Heino Themann (l.) and Cofely representative Klaus-Peter Berger (r.) sharing their satisfaction over the successful cooperation.

Breakthrough in Italy

Important foreign market for EnviTec

Germany is a model for many foreign governments when it comes to expanding renewable energy. The Renewable Energy Sources Act (EEG) is a true export hit. Numerous European countries now provide firm legal regulations and feed-in tariffs for biogas plants. This opens up new, promising markets for EnviTec. Currently, the most important foreign market is Italy.

With a rate of 28 cents per kWh of power from biogas plants with outputs up to 999 kW_{el}, the feed-in compensation valid there until the end of 2012 is very at-

tractive. And the market for biogas has shown correspondingly strong growth over the past year. At the end of 2010, about 350 biogas plants with an installed capacity of about 245 MW_{el} were on the grid in Italy. Another 275

plants are currently under construction or in planning.

EnviTec Biogas has been active in Italy since 2007. Following

»» The EnviTec team in Italy already includes about 30 employees.

a thorough sounding of the market and preparations for starting sales, things started to improve dramatically in 2008. The construction of a 1-MW_{el} plant in Volta Mantovana, which went on-line in July 2009, was the starting signal for an exceedingly dynamic development. As of now, EnviTec already has 51 plants with a total of 46.5 MW_{el} planned in Italy (see map). Among these, eleven larger plants with a total output of 10.24 MW_{el} are in operation – one of these being the Bondeo plant, currently the largest biogas plant in Italy. Twelve plants with an output of just under 10 MW_{el} are still under construction. A total of 28 plants with a combined



output of approximately 26 MW_{el} are currently in the approval phase. Among these are 14 plants for which EnviTec contributes a combined capacity of over 13 MW_{el}. This makes EnviTec the most rapidly growing company in the biogas sector in Italy.

And the team of employees has grown along with the company. After modest beginnings in Romano di Lombardia (Bergamo), a

team of roughly 30 biogas specialists is now active at the new headquarters in Sommacampagna (Verona). Due to the many successful reference projects, EnviTec is well equipped to meet the increasing competition on the Italian market.

Plant in Wales goes online

The plant derives its energy supply from food waste

A double premiere for EnviTec Biogas AG: In Rogerstone, a district of Newport, Wales, the company's first biogas plant on British soil has just been taken into service. The new plant was built next to the Rogerstone Park food factory of RF Brookes, a subsidiary of ready-made meals producer Premier Foods. It is also the first plant of EnviTec which exclusively uses waste from the food industry to generate biogas. The biogas plant is intended to supply Rogerstone Park with energy from the food waste produced in the factory.

The new biogas plant of En-

viTec will supply up to ten percent of the required energy, thus helping to reduce carbon emissions by approximately 8,500 tons per year. The project supports the ambitious plan of Welsh Environment Minister Jane Davidson to cover the power requirements of this small country on the west coast of Great Britain exclusively from local and renewable sources within 20 years' time at the latest and to increase waste reuse rates to 70 percent by 2025.

EnviTec has already built numerous plants around the world which use a very high percent-

age of waste from the food industry. But Rogerstone represents the first EnviTec customer to use a plant exclusively for fermenting food waste. Instead of paying for the disposal of the organic waste, the food factory is now using it as a lucrative way to generate energy. "The project in Wales is certainly a role model for other food companies in Germany," said Olaf von Lehmden, CEO of EnviTec Biogas AG. "But in the end



A food producer ferments his waste at the plant in Wales.

there is only a limited amount of waste available. We should not succumb to the illusion that we can expand renewable energy in Germany in a sustainable way by making increased use of waste. To bring about the energy turnaround, the use of renewable resources continues to be crucial," the EnviTec chief emphasised.

EXHIBITIONS

17. – 19. May 2011
BALTECHNIKA 2011
Vilnius, LT

08. – 09. June 2011
VDI Fachtagung Biogas
Braunschweig, DE

15. – 16. June 2011
Cereals Event
Cambridgeshire, UK

23. – 26. June 2011
Royal Highland Show
Edinburgh, UK

23. – 26. June 2011
National Show of Livestock
and Agricultural Equipment
Brünn, CZ

02. September 2011
Betrieberrunde, DE

09. – 11. September 2011
Forst live
Hermannsburg, DE

13. – 16. September 2011
SPACE
Rennes, FR

Market entry into Serbia

Dairy farm intends to use biogas to reduce operating costs

EnviTec Biogas continues to expand in Eastern Europe. Spring marked the successful market entry into Serbia, where its subsidiary, EnviTec Biogas South East Europe, has signed a contract for the construction of the first biogas plant. The customer is the operator of a dairy farm, who intends to use the plant to generate electricity and heat from liquid manure and maize silage, cutting the cost of dairy production by using the heat generated. EnviTec Biogas South East Europe beat nine competitors to win the contract.

The plant with a rated electrical output of 635 kW will be built in Curug, a village in the autonomous province of Vojvodina. The contract was awarded by the dairy farm operator Velvet Farm, a member of feed manufacturer Global Seeds. Apart from compensation for the eco-friendly electricity generated, the plant will offer two

more benefits to Velvet Farm: first, the company will no longer need artificial fertiliser, as the fermentation residues from



EnviTec Biogas beat nine competitors.

the biogas plant can be used as high-quality fertiliser. Second, the dairy farm operator can use the exhaust heat from the bi-

ogas plant's co-generation unit to heat the drinking water of its cattle as well as the offices and other staff facilities.

The feed-in compensation for ecologically generated electricity from biogas currently amounts to 15 cents per kWh. This feed-in tariff is valid for twelve years. In addition, the fertile soil and the moderate continental climate will result in high crop yields.



The customer in Serbia is the operator of a dairy farm.

Huge potential in Spain

EnviTec to build three plants for the energy company Daldur

Biogas is also becoming increasingly popular among Germany's European neighbours. In February, EnviTec has signed a contract to build three biogas plants in Spain – thus rewarding the efforts of the 100% subsidiary in Bilbao, Spain.

The first customer of EnviTec in Spain is the company Desarrollos Industriales Alternativos Daldur, or Daldur for short, which specialises in renewable energies. Daldur and EnviTec signed a contract for the construction of three biogas plants with an electrical output of 500 kW each in the autonomous region of Castilla y León. As input materials,

three new biogas plants will run primarily on liquid manure, energy crops and grape marc. Other biogenous residues may be used as well, as the Spanish law grants biogas plant operators relatively high flexibility.

The plants are planned to be built in Villanubla and Medina del Campo (both in the province of Valladolid) and in La Baneza (Leon province) and may entail further orders from Daldur. "We are already negotiating further projects with Daldur," said Roel Slotman, CCO of EnviTec Biogas AG.

Spain is only just at the early stage of agricultural biogas pro-

duction, but the country has huge potential. As in Germany, the formula for success is a renewable energy sources act. The law in Spain provides for a compen-



EnviTec is already negotiating further projects with Daldur.

sation of up to 16 cents per kilowatt hour for biogas, depending on the plant size, the input materials used and the utilisation of the heat produced. The respective rate is initially guaranteed for a period of 15 years and will decline subsequently.

IMPRINT

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