

# Welcome

Ladies and Gentlemen,

In view of the challenges in the global climate protection, the extension of renewable energies has to be further continued. One particular and outstanding role is the utilisation of biogas in the concert of renewable energies. Biogas can be produced highly flexible by using various substrates and has different opportunities of energy supply and utilisation. Additionally, biogas production and utilisation offer a great chance for rural areas by holding added value in the regions. Biomass requires decentralised utilisation and links agriculture with small and medium-sized companies in local areas. So, increasing biogas production and utilisation has enormous positive effects for economic development and employment.

The reputation of Baden-Wuerttemberg being a land of thinkers and inventors also includes the topic biogas, because we have started with energetic utilisation from agricultural biomass and organic residues to biogas production at an early stage. The University of Hohenheim has been working intensively on the biogas issue since late 1970s and has been developing methods like the „Hohenheimer biogas yield test“ to enable an efficient biogas production.

Baden-Wuerttemberg undertakes lots of scientific and economic activities in the field of biogas. The University Hohenheim and the IBBK Fachgruppe Biogas GmbH (International Biogas and Bioenergy Centre of Competence) are well internationally connected. Therefore we are especially glad that these actors from Baden-Wuerttemberg together with the Ministry of Rural Areas, Food and Consumer Protection Baden-Wuerttemberg and the Ministry of Economic Affairs Baden-Wuerttemberg can organise the international congress "Progress in Biogas - Biogas production from agricultural biomass and organic residues" for the second time in 2011.

However, the extension of biogas production and utilisation has to be efficient as well as sustainable. That means particularly that biomass production must not lead to conflicts with food production, the right of food and the protection of environment and nature. Therefore it is especially important and valuable to exchange on the recent progress in biogas production and utilisation on a world scale. Ladies and gentlemen, you now have the programme of this congress, which meets these high requirements.

You as participants of this second international congress will receive fruitful impulses for your own actions. You will learn about, reflect and evaluate other developments. In the social programme and the field trips you certainly will receive interesting and valuable impressions of Baden-Wuerttemberg.

Yours sincerely

Rudolf Köberle MdL  
Minister for Rural Areas,  
Food and Consumer  
Protection Baden-Wuerttemberg

Ernst Pfister MdL  
Minister for Economics  
Baden-Wuerttemberg

# Information

## Venue

University of Hohenheim  
Biologiezentrum, Garbenstr. 30, 70599 Stuttgart, Germany

## Organisers

- IBBK (leading organisation)
- University of Hohenheim, State Institute of Agricultural Engineering and Bioenergy
- Ministry of Rural Areas, Food and Consumer Protection Baden-Wuerttemberg
- Ministry of Economics Baden-Wuerttemberg

in co-operation with:



With financial support of: Federal Ministry of Food, Agriculture and Consumer Protection through Fachagentur Nachwachsende Rohstoffe (Agency for Renewable Resources, FNR)

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## Contact

**IBBK Fachgruppe Biogas GmbH**  
Andrea Haas & Silke Volk  
Am Feuersee 6  
74592 Kirchberg / Jagst  
Germany  
Tel.: 0049 (0) 7954.926 203  
Fax : 0049 (0) 7954.926 204  
E-mail: [conference@biogas-zentrum.de](mailto:conference@biogas-zentrum.de)  
Web: [www.progress-in-biogas.com](http://www.progress-in-biogas.com)

# Preliminary Program

## Progress in Biogas



## International Congress with exhibition and field trips

March 30 – April 01 2011

Stuttgart, Germany



  
Baden-Württemberg



Wednesday

# March 30, 2011

**08:30** Opening

**09:15 - 10:55** Presentations

## Lecture hall 1: Global developments in the biogas sector

- Biogas in Europe (Frank Scholwin, Germany)
- Biogas Development in China - international cooperation to up-scale the technology (Cheng Shikun, China)
- The Methane to Markets Initiative and Opportunities for Livestock Manure Digesters in the United States (Christopher Voell, USA)
- Biogas for Sanitation in Africa - experiences from creating a sustainable market 2003 to 2010 (Mantopi Lebofa, Lesotho)

**11:20- 12:50** Presentations

## Lecture hall 1: Session 1: Biogas production and potentials Session 2: Political framework

- Are biogas plants in Baden-Württemberg efficient? (Maria Stenull, Germany)
- The Estonian theoretical and practical biogas production potential and economically feasible feed-in-tariff for renewable electricity for micro CHP using biogas (Ahto Oja, Estonia)
- Potentials for biogas production in selected partner regions of the Russian Federation (Kaluga, Orjol, Nishny – Nowgorod, Kirov, Kazan) (Walter Stinner, Germany)
- An Integrated Energy System applied to Milking Dairy Cows (Ian Bywater, New Zealand)

## Lecture hall 2: Session 4: Progress in substrate supply and treatment

- Biogas from lignocellulosic biomass: Interest of pretreatments (Hélène Carrère, France)
- Effect of physical and thermal pre-treatments on biogas yield of some agricultural by-products (Paolo Balsari, Italy)
- Bioextrusion pretreatment of green waste for biogas production – Methane yield and energy balance (Rainer Bolduan, Germany)
- Evaluation of a pretreatment process for improved methane production from grass silage (Angela Orozco, UK, Northern Ireland)

**12:50-14:15** Lunch, companies exhibition, poster session

**14:15-17:45** Presentations, including a coffee break

## Lecture hall 1: Session 1: Biogas production and potentials Session 2: Political framework Session 8: Sustainability, environmental and social aspects

- WINUBIO – Alternative Technology to increase Austria's Biogas capacity (Viktoria Steinmüller, Austria)
- Interdisciplinary approaches to advances in sustainable biogas production in Europe (Sigrid Kusch, Germany)
- Problems encountered in disseminating Biogas Technology in Uganda (Godfrey M. Mabudo, Uganda)
- Reasons for the Success of Biogas Program in Nepal (Keshav Dutta Dawadi, Nepal)
- Sustainability effects of bioenergy utilization in selected partner regions of the Russian Federation (Kaluga, Orjol, Nishny – Nowgorod, Kirov, Kazan) (Walter Stinner, Germany)

- Effects of increasing biomass production for energetic utilization on soil fertility in the German Federal State of Brandenburg (Jörg Zimmer, Germany)
- Biogas plants as part of a sustainable development within peasant family farms in Germany- outcomes of an empirical field study (Anke Bischoff, Germany)
- Life cycle assessment of heat and power generation in biogas fed combined heat and power plants under German conditions (Jens Lansche, Germany)

## Lecture hall 2: Session 4: Progress in substrate supply and treatment

- Anaerobic fungi (Jindřich Procházka, Czech Republic)
- Preservation of sugar beets for biogas production (Andrea Wagner, Germany)
- Fibre, biogas and compost from banana agri-residues (leaves, pseudostem and rachis) by anaerobic digestion in plug flow type digester (Sreeshya Malayil, India)
- Biogas production from by-products of sugar cane production (Johann Rietzler, Germany)
- Practical Experiences with the Digestion of Straw in 2-Stage AD Plants – Extension of the Value Chain (Walter Danner, Germany)
- Improving biogas production on wastewater treatment plants by co-digestion of grass (Daniel Klein, Germany)
- Generation of algal biomass for biogas production: a Life Cycle Assessment (LCA) perspective (Francesco Romagnoli, Latvia)
- Risk reduction in spreading phytopathogens by anaerobic digestion? First results from laboratory experiments (Monika Heiermann, Germany)

**17:45** End of day 1

**19:30** Evening reception

Thursday

# March 31, 2011

**8:30-12:20:** Presentations, including a coffee break

## Lecture hall 1: Session 3: Progress in production technology

- Investigation of the mesophilic and thermophilic bioleaching method in a two-phase anaerobic digestion process (Mandy Schönberg, Germany)
- Efficient hydrogen fermentation for two-stage anaerobic digestion processes: Conversion of sucrose containing substrates (Wolfgang Schnitzhofer, Austria)
- Process development of two-phase pressure fermentation – Influence of gas solubilities (Anna-Maria Wonneberger, Germany)
- Benefits and limitations, when treating pig manure in an anaerobic membrane bioreactor (Peter Messerli, Switzerland)
- Experiences with continuous high-rate thermophilic dry anaerobic digestion of energy crops (Michael Aehling, Germany)
- The Sauter biogas system – Irrigating instead of stirring (Stefan Sauter, Germany)
- Biogas production from raw palm oil mill effluent using a pilot-scale anaerobic hybrid reactor (Chinnapong Wangnai, Thailand)
- $\eta$  [ETA] max – the system with high biological efficiency (Michael Niederbacher, Italy)
- Demand-oriented biogas production for generation of peak load electricity (Rainer Wallmann, Germany)

## Lecture hall 2: Session 6: Progress in gas utilisation technologies Session 9: Co-operation in gas production and utilisation

- The FlexPowerstation: A Power Plant for All Biomass Gas (Edan Prabhu, USA)
- Monitoring of a 192 kW Biogas CHP unit at the research station "Unter Linden" operated by the University of Hohenheim (Bernd Thomas, Germany)
- Assessing the Electric Power requirement of a Biogas CHP unit and thermal energy demand of digesters – conducting intensive measurements (Hans-Joachim Nägele, Germany)
- The EU-project GasHighWay – Interim results and best-practice-examples of the use of biogas as vehicle fuel (N.N., Germany)
- Innovative CO<sub>2</sub>-separation of biogas by polymer resins: Operation of a continuous lab-scale plant (Katharina Raab, Germany)
- Low pressure Biogas Purification System (Gaurav Kedia, India)
- The Upgrading of Biogas to Biomethane, using a combined Membrane/Cryogenic Process (Emile Martynowicz, Netherlands)
- Biogas conditioning technology: entering a new dimension with the „Zeven Model“ (Bodo Drescher, Germany)

**12:20-14:00** Lunch, poster session, companies exhibiton

**14:00-17:30** Presentations, including a coffee break

## Lecture hall 1: Session 5: Progress in biological process control and measuring

- Long Time Storage of Biogas Microorganisms at Low Costs (Heralt Schöne, Germany)
- Doubling the degradation efficiency of biogas plants by adding high performance bacteria (Doris Schmack, Germany)
- Mono-fermentation and trace elements (Andreas Lemmer, Germany)

- Early warning indicator in terms of process failure due to organic overloads (Anne Kleyböcker, Germany)
- Assessment of methane potentials – Significance of batch tests (Sebastian Wulf, Germany)
- Evaluation of the prediction of biogas production from maize silages with Near InfraRed Spectroscopy (NIRS) (Frédéric Mayer, Luxembourg)
- Online measurements of specific parameters in renewables biogas plants with Near Infrared Reflection Spectroscopy (NIRS) (Andrea Stockl, Germany)
- Anaerobic Digestion Process Monitoring: Focus on the Gas Phase using Electronic nose Technology (Gilles Adam, Belgium)

## Hall 2: Session 9: Co-operation in gas production and utilisation Session 7: Optimal use of digestate

- Biogas pool for municipal utilities – cooperation between farmers and utilities (Helmuth Kern, Germany)
- Biogas into the grid: Co-operation between Gothenburg Energy, Viken farm and BioWaz (Bill Chubb, UK)
- Coverage of digestate storage tanks: why it is necessary and technical solutions (Fabrizio Gioelli, Italy)
- Digestate standards in UK (David Collins, UK)
- Unraveling the causes of Nitrogen losses from the Bioslurry and Strategies for value addition (Steven A. Nyanzi, Uganda)
- Biological nitrogen removal for the treatment of anaerobic digestate of livestock effluents, energy crops and agro-wastes (Francesco Fatone, Italy)
- Ammonium loss of biogas digestate during drying (Claudia Maurer, Germany)
- Innovative process of gaining efficient fertilizers from digestate (Daniel Schloz, Germany)

**17:30** Ende of day 2

# Registration

# Participation fee

# Terms of participation

IBBK Fachgruppe Biogas GmbH  
Am Feuersee 6  
74592 Kirchberg / Jagst  
Germany

By e-mail, letter or fax to:

**Participant:**  
(one form per participant please)  
The participant accepts the terms of participation.

Please tick:

**2-day ticket**  
registration until Jan 31 EUR 280\*

**2-day ticket**  
registration after Jan 31 EUR 330\*

**day ticket** March 30, 2011 EUR 210\*

**Day ticket** March 31, 2011 EUR 210\*

**Agricultural field trip** April 01, 2011  
\*\* EUR 90\*

or

**Research field trip** April 01, 2011 \*\* EUR 90\*

**Evening reception** March 30, 2011 EUR 20\*

**Member of GERBIO**  
(20 % discount on all prices)  
number:

**Poster submitted**  
(20 % discount on the 2-day ticket)

\* All prices plus 19% VAT.

\*\* Please be aware that the number of places available is limited to 1 bus per field trip. Therefore we recommend an early registration.

## Come together

Participants arriving on March 29, 2011 and taking advantage of an early check-in (on March 29 from 4 pm to 6 pm) are cordially invited to participate in the informal come together starting 5 pm.

I'll participate in the Come together.

The registration fee includes the simultaneous translation (German / English), the proceedings, soft drinks and coffee during the breaks as well as lunch on the respective congress day. During the field trips lunch will be organised, but it is not included in the fee. The participation fees don't include travel fees and accommodation, these have to be booked and paid by the participants themselves.

For registration please send us the complete filled and signed registration form. The registration is legally binding. Each participant has to fill in his/her own registration form. Cancellations have to be in written form. For cancellations until March 14, 2011 we charge a processing fee of EUR 50 plus VAT. For cancellations after March 14, 2011 we charge the full participation fee. In default of appearance (even in case of illness) the full participation fee has to be paid. We gladly accept alternative participants.

You will receive the invoice by e-mail, which is considered as your confirmation. The payment has to be done via bank transfer to the specified bank account after receiving the invoice. Participants will be debited with incurring bank charges. For registration after March 18, 2011 only cash payment is possible at the registration desk.

If the organiser cancels the congress the full participation fee will be refunded. Further claims are excluded.

The organiser cannot be held responsible for injury to participants or for damage to, or loss of their personal belongings, regardless of the cause. We strongly advice you to make your own insurance arrangements.

All participants have to register at the registration desk, where they get the proceedings, the name badge (considered to be the ticket) and further information about the congress. The opening hours are:

Tuesday, March 29, 2011: 4 pm - 6 pm

Wednesday, March 30, 2011: 7:30 am – 5:30 pm

Thursday, March 31, 2011: 7:30 am – 4 pm

Name: .....  
Company: .....  
Street: .....  
Postcode / city: .....  
Country: .....  
Phone: .....  
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Web: .....  
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