INTERNATIONAL VDI CONFERENCE 2013

BIOMASS TO ENERGY
Feedstock potentials & technical solutions

Renown speakers will present their results on the following topics:

- European legislation, economic and political framework aspects
- Relevant feedstocks, potentials and sustainability
- Established and emerging biomass markets
- Future technologies: Torrefaction and hydrothermal carbonization
- Bioenergy – Exclusive insights from six European plant operators
- Gasification of biomass – Technology, processes and operational experience

OFFICIAL PARTNERS

Date and venue:
September 3–4, 2013
Munich, Germany

Chairman:
Dr. Jan Grundmann, Chief Representative, Vattenfall
Europe New Energy GmbH, Managing Director, Energy
Crops GmbH, Hamburg, Germany

An event organized by VDI Wissensforum GmbH
www.vdi-international.com/biomass
10:00 Registration & welcome coffee

10:30 Chairman’s welcome and opening address

I. EUROPEAN LEGISLATION, ECONOMIC AND POLITICAL FRAMEWORKS

10:45 The European biofuels policy – Meeting the 2020 targets
- Presentation of the Commission proposal to amend RES
- Discussion of the amendments to the proposal and presentation of the final legislation adopted
- Impact of the amended legislation on the Renewable Energy Target/Target for Transport
- Discussion of possible future legislation for solid biomass (possibly) in relation to the amendments in the biofuels sector

Dr. Doerte Fouquet, Director, European Renewable Energies Federation (EREF), Brussels, Belgium

11:15 Solid biomass – Guidelines, sustainability issues and certification
- CO₂ reduction, carbon neutrality, ILUC discussion
- Sustainability and certification of solid biomass
- Conclusions and future outlook

Dr. Heinz Kopetz, President, World Bioenergy Association (WBA), Stockholm, Sweden

11:45 European Biomass: What’s next?
- Renewable energy, bioenergy financing and investment trends
- Technology economics update, levelised cost of electricity
- Wood pellet economics and international biomass markets

David Hostert, Analyst, Bloomberg New Energy Finance, London, UK

II. RELEVANT FEEDSTOCKS, POTENTIALS AND SUSTAINABILITY

13:30 Overview: Germany and Northern Europe
- Biomass potentials in Europe
- European industry drivers and their impact
- Outlook and potentials for focus markets

Dr. Jan Grundmann, Chief Representative, Vattenfall Europe New Energy GmbH, Managing Director, Energy Crops GmbH, Hamburg, Germany

14:00 Wood-based bioenergy in Finland and Europe
- Energy wood potential and availability
- Sustainability in wood-based bioenergy use and harvest
- Biomass prices and import markets in Finland and Europe

Olli Äijälä, M.Sc. (Forestry), Director, Forest Management and Bioenergy, Forestry Development Centre Tapio, Helsinki, Finland

14:30 Future sourcing of industrial and residential grade wood pellets
- Wood pellet market overview
- Future demand growth
- Where will supply come from?
- Industrial and residential markets converging
- The effect of sustainability requirements on the global pellet market

Johan Granath, Senior Vice President Bioenergy, Ekman & Co. AB, Göteborg, Sweden

15:00 Networking & coffee break

12:15 Lunch
15:30 Short Rotation Hardwood Plantation Project (SRHP)
- New business model of innovation in the green economy and environmental responsibility
- Economic factors
- Advantages and best practice examples
- Challenges whilst establishing the biggest poplar plantations in Europe:
  - Biomass demand for dedicated boiler, acreage and technical resources requirements

Andrzej Samborski, M.Eng., Wood Supply and Biomass Manager, International Paper Kwidzyn, Kwidzyn, Poland

16:00 The role of straw for heat and electricity in EU27 member states in 2020 and 2030
- Estimation of techno-economic potentials for straw in EU27
- Cost supply curves for straw in 2020 and 2030
- Sustainability criteria affecting the use of straw for energy and fuel purposes
- The role of straw to meet the 2020 NREAP targets in EU Member States

Dr. Calliope Panoutsou, Research Fellow, Centre for Energy Policy & Technology (ICEPT), Imperial College London, UK, co-authors: Berien Elbersen, Alterra, Wageningen, The Netherlands, Uwe Fritsche, IIINAS, Darmstadt, Germany

17:00 Hydrothermal carbonisation of organic waste
- An introduction to HTC
- HTC in the laboratory – Experimental results
- The HTC demonstration plant in Halle/Saale – First operational experience

Dipl.-Ing. Andreas Clemens, Research Fellow, co-author: Dr.-Ing. Marco Klemm, Deutsches Biomasseforschungszentrum gemeinnützige GmbH (DBFZ), Leipzig, Germany

17:30 End of conference day one

Evening Reception
At the end of the first conference day we kindly invite you to our evening reception. Enhance your personal network and use the relaxed and informal atmosphere for deepening talks with other participants and speakers.

III. FUTURE TECHNOLOGIES: TORREFACTION AND HYDROTHERMAL CARBONIZATION

16:30 Torrefaction – Process and product quality optimization
- Development status of torrefaction-based biomass upgrading
- What are the remaining challenges?
- Product quality optimization based on extensive logistics and end-use testing
- First results of the EU-project SECTOR

Prof. Dr. Jaap Kiel, Programme Development Manager Biomass, Energy Research Center of the Netherlands, Petten, The Netherlands
IV. BIOENERGY – EXCLUSIVE INSIGHTS FROM SIX EUROPEAN PLANT OPERATORS

09:00 Challenges and opportunities for thermal power generation towards 2020
- Sustainable biomass conversion in an uncertain regulatory regime
- Sourcing of sustainable biomass
- Operational experience and securing flexibility

Peter Markussen, MSc., Director, Dong Energy Thermal Power, Fredericia, Denmark

09:30 France’s biggest biomass CHP plant
- Smurfit Kappa industrial context – Targets and green energy programs
- BFB boiler technology: Advantages of this flexible technology compared to others and flue gas regulation
- Plant operating experience: The new challenges faced
- Feedback on the maintenance program

Yann Flandin, Renewable Energy Team Manager, Dalkia France, Paris, France

10:00 Plant operating experience at Drefviken biomass power plant
- Taking a new plant into operation
- Three years experience of operating with 100% waste wood
- How to increase availability

Johnny Friman, Plant Manager, Vattenfall Heat AB, Stockholm, Sweden

10:30 Networking & coffee break

11:00 Resource and possibilities in waste water
- Utilizing the resources in the waste water to achieve energy neutrality for WWTP
- Operational experience with energy producing waste water treatment plant
- Biosolids as potential for energy and resource recovery
- Biosolids now and future outreach

Per Henrik Nielsen, Senior Project Manager, co-author: Mads Leth, VCS Denmark, Odense, Denmark

11:30 Experiences with straw fired plants in Europe
- Pre-conditions for straw fired plants
- Plant design and efficiency, fuel handling, boiler, combustion and performance
- Economic data and feasibility
- References and best practice data, steam and availability

Brian Boisen, Director, DP CleanTech Group, Copenhagen, Denmark

12:00 Planning and operating of woody biomass power plants
- Effective selection of fuel handling
- Overview and comparison of biomass boiler technologies
- Operational aspects of biomass power plants

Dr.-Ing. Jan Stichtenoth, Production & Engineering, co-authors: Dipl.-Ing. Rainer Marksteiner, Dipl.-Ing. Martin Tewes, RWE Innogy GmbH, Dortmund, Germany

12:30 Lunch
V. GASIFICATION OF BIOMASS – TECHNOLOGY, PROCESSES AND OPERATIONAL EXPERIENCE

14:00 Gasification technology and projects within Europe
- General introduction to gasification
- Indirect gasification – A prerequisite for small and medium scale BioSNG production
- BioSNG production – Gas cleaning and methanation
- BioSNG projects in Europe and development in Sweden
Dr. Jörgen Held, CEO, Renewable Energy Technology International Ltd., Lund, Sweden

14:30 Biomass gasification – Based on Double-Fluidised-Bed (DFB) technology
- State of the art
- Operation experience
- Optimization possibilities
- Future prospects
Daniel Trescher, MSc., Process Engineer, Ortner GmbH, Innsbruck, Austria

15:00 Replacement of oil with wood chips in process heat or steam generation
- Usage of wood chip gasification in oil replacement
- Economic and swift retrofit-projects for existing steam boilers
- Present existing pilot plant installed in Finland
Kauko Väinämö, CEO, co-author: Tomi Väänänen, GASEK, Oulunsalo, Finland

15:30 Closing remarks

15:45 End of conference

ABOUT US
The Association of German Engineers (VDI) is one of the largest technical-scientific associations in Europe. Throughout the years, the VDI has successfully expanded its activities nationally and internationally to foster and impart knowledge about technology-related issues. As a financially independent, politically unaffiliated and non-profit organization the VDI is recognized as the key representative of engineers both within the profession and in public.

OUR MEDIA PARTNERS
If you want to meet with and reach out to the first-rate experts attending this VDI conference and to powerfully present your products and services to the well-informed conference participants familiar with your markets without incurring any advertising efficiency losses caused by too profuse and indiscriminate scattering of your information, please contact:

MARTINA SLOMINSKI
Project Consultant
Exhibitions & Sponsoring
Phone: +49 211 6214-385
Fax: +49 211 6214-97385
Email: slominski@vdi.de
DIRECTIONS TO THE HOTEL

The hotel is located right on the airport grounds of Munich’s airport “Franz Josef Strauß”.

DIRECTIONS TO THE HOTEL:

By plane
The bus 635 runs every 20 minutes from both terminals to the hotel. The ride takes approximately 5 minutes.

By car
The hotel can be reached via the A9. Take the exit “Kreuz Neufahrn” and follow the signs on the A92 to “Flughafen Franz Josef Strauß”.

By public transport
Take the train S1 or S8 to the station “Besucherpark”. From there it is a 10-minute walk to the hotel.

TERMS AND CONDITIONS

Applications: Applications for conference attendance must be made in writing. Confirmation of your registration and the associated invoice will be mailed to you. Please do not pay your conference attendance fee until you have received our invoice and its invoice number to be stated for transfer.

Conference venue:
Novotel München Airport
Nordallee 29
85356 Munich
Germany
Telephone: +49 (0) 89 9705130; Fax: (+49) 89 970513100
Email: H6711@accor.com
Website: www.novotel.com

Hotel room reservation: A limited number of rooms have been reserved for the benefit of the conference’s participants at the Novotel München Airport, Nordallee 29, 85356 Munich, Germany
Telephone: +49 (0) 89 9705130; Fax: (+49) 89 970513100
Email: H6711@accor.com
Please refer to “VDI Conference”. For more hotels: www.vdi-wissensforum.de/hrs

VDI Wissensforum service package: The conference package includes the conference documents (online), beverages during breaks, lunch and the social evening event on September 3, 2013.

Conference attendance conditions and terms: By way of your registration you accept the conference attendance conditions and terms of VDI Wissensforum GmbH as binding. Any cancellation of your registration must be made in writing. We will charge you only an administrative fee of € 50.00 plus German VAT if you cancel your registration earlier than 14 days ahead of the conference date. Any cancellation that reaches us after this deadline will entail the conference attendance fee as stated in our invoice to be charged in full. The date of the post office stamp of your written cancellation will be the decisive criterion. In that case, we will gladly mail you the conference documents on request. Subject to agreement, you may name a substitute participant. Individual parts and sections of conferences and seminars cannot be booked. You will be informed without delay if an event has to be cancelled for unforeseeable reasons. In that instance, you will be entitled only to a refund of your conference attendance fee if already paid. We reserve the right to exchange speakers and/or change the programme sequence in exceptional cases. In any case, the liability of VDI Wissensforum GmbH is restricted exclusively to the conference attendance fee.

Data protection: VDI Wissensforum GmbH captures and processes the address data of conference participants for their own corporate advertising purposes, enabling renowned companies and institutes to reach out to participants by way of information and offers within their own marketing activities. We have outsourced in part the technical implementation of data processing to external service providers. If you do not want to receive any information and offers in the future, you may contradict the use of your personal data by us or any third parties for advertising purposes. In that case, kindly notify us of your contradiction by using the e-mail address wissensforum@vdi.de or any other of the contact options mentioned.

APPLICATION
Please choose your price category

<table>
<thead>
<tr>
<th>PARTICIPATION FEE + VAT</th>
<th>PERSONAL VDI MEMBERS + VAT</th>
</tr>
</thead>
<tbody>
<tr>
<td>VDI-Conference 3.–4.9.2013 (06KO965013) € 1,390</td>
<td>VDI-Conference 3.–4.9.2013 (06KO965013) € 1,290</td>
</tr>
</tbody>
</table>

☐ I am interested in sponsoring and/or exhibition

VDI membership no.

Title

First Name

Last Name (Family Name)

Department

Phone  Fax

Email

Company/Institute  VAT-ID

Street

ZIP Code, City

Please state your invoice address if this differs from the address given

Participants with an invoice address outside of Austria, Germany and Switzerland are requested to kindly pay by credit card:  ☐ Visa  ☐ Mastercard  ☐ American Express

Card holder

Card no.

Valid until (MM/Y)  Security Code

DATE  X  YOUR SIGNATURE

VDI Wissensforum GmbH | VDI-Platz 1 | 40468 Düsseldorf | Germany

1111