5th Central European Biomass Conference

Organised by:

In cooperation with:

Premium sponsors:

With support of:
Bioenergy as a basis for a successful World Climate Treaty

The World Climate Treaty – a tremendous opportunity for the biomass industry. Bioenergy in central Europe is a recipe for success for households, businesses, the environment, the timber industry, agriculture and forestry and municipalities – a recipe that may be stepped up and rolled out around the world. The regional use of biomass helps to cut CO₂ emissions, the reduction of purchasing power and dependence on fossil fuels; it also creates additional jobs. The Central European Biomass Conference intends to bring all protagonists together from all the sectors where bioenergy is employed regionally and to generate new impetus for the energy transition on the basis of previous experiences and current technological developments.

Many winners
17% of the energy used in Austria and 57% of renewable energies are created with biomass. Households and businesses have in recent years been able to almost halve their energy bills through the use of firewood, woodchips and pellets while the timber industry has been able to significantly reduce its carbon footprint and energy costs by utilizing bark and lye and extend its product range through the introduction of pellets, briquettes and renewable electricity. The forestry sector has – thanks to revenues generated from types of wood with previously weaker demand – been able to intensify its forest-management and protection measures.

The bioenergy sector’s leading event
With more than 1,100 participants from all over the world, the three-yearly Central European Biomass Conference is one of the world’s leading industrial meetings and the top event for the bioenergy sector in central Europe.

The ‘Home Building’ trade fair, which will be taking place at the same time and which is expecting around 40,000 visitors to attend, traditionally focuses on energy provision in the building sector and is a great event to complement the conference.

Planned highlights of the 5th Central European Biomass Conference include events organized by the International Energy Agency and the World Bioenergy Association. The 5th Central European Biomass Conference is staying abreast of these developments by focusing its efforts for 2017 particularly on the following aspects:

- Sustainability at regional and national scale and sustainability considerations for different value chains
- Biomass-combustion-based grids and hybrid systems and lowest-emission biomass combustion systems
- Advanced technologies for the realization of a biobased economy
- Policies, markets and consumer attitudes
- Heat and electricity from biomass
- Fuel characterization and quality assurance

The gap between theory and practice is to be bridged by an extensive programme of excursions and an industrial forum. Separate industry days will be dedicated to the fields of biogas and pellets. Sufficient scope for networking will be created by an extensive accompanying programme with social meetings and a matchmaking event.

We are looking forward to welcoming you to the 5th Central European Biomass Conference.

Josef Plank
Chairman of the Organising Committee,
President ABA

Andrä Rupprechter
Federal Minister for Agriculture, Forestry, Environment and Water Management

Hermann Hofbauer
TU Wien, Chairman of the Scientific Committee

Ingmar Höbbarth
Managing Director of the Climate and Energy Fund
The presentations of the parallel sessions and poster presentations have been collected within a Call for Papers and evaluated by the scientific committee of the Central European Biomass Conference.

- Univ.-Prof. Dipl.-Ing. Dr. Hermann Hofbauer, Technical University of Vienna, Austria (Chairman)
- Prof. Marco Baratieri, University of Bozen-Bolzano, Italy
- Ao. Univ.-Prof. Dipl.-Ing. Dr. Werner Fuchs, Vienna University of Natural Resources and Applied Life Sciences, IFA Tulln, Austria
- Prof. Dr.-Ing. Matthias Garderer, Straubing Center of Science, Germany
- Dr. Panagiotis Grammelis, Centre for Research and Technology, Greece
- Stefano Grigolato, University of Padova, Italy
- Univ.-Prof. Dipl.-Ing. Dr. Andreas Gronauer, Vienna University of Natural Resources and Applied Life Sciences, Austria
- Dipl.-Ing. Ingrid Höbarth, Climate and Energy Fund, Austria
- Dipl.-Ing. Dr. Gerfried Jungmeier, Joanneum Research, Austria
- Prof. Dr.-Ing. Martin Kaltschmitt, Technical University of Hamburg-Harburg, Germany
- Dipl.-Ing. Dr. Heinz Kopetz, Honorary President Austrian Biomass Association
- Dr. Jaap Koppejan, IEA Task 32, Procede Biomass BV, Netherlands
- Dr. Lukas Kranzl, Technical University of Vienna, Austria
- Prof. Mag. Herbert Lechner, Austrian Energy Agency, Austria
- Dipl.-Ing. Dr. Peter Mayer, Austrian Research and Training Centre for Forests, Austria
- Prof. Dr. Milan Martinov, University of Novi Sad, Serbia
- Prof. Dr. Wolter Prins, Ghent University, Belgium
- Hofrat Dipl.-Ing. Dr. Josef Rathbauer, BLT Wieselburg, Austria
- Prof. Dr. Hubert Röder, Straubing Center of Science, Germany
- Dipl.-Ing. Dr. Christoph Schmidl, Bioenergy2020+ GmbH, Austria
- Dipl.-Ing. Dr. Johannes Schmidt, Vienna University of Natural Resources and Applied Life Sciences, Austria
- Dr. Jürgen Schneider, Environment Agency Austria, Austria
- Univ.-Prof. Dr. Tobias Stern, University of Graz, Austria
- Dipl.-Ing. Dr. Martin Weigl, Holzforschung Austria, Austria
- Dr. sc. nat. ETH Arthur Wellinger, Triple E&M, Switzerland
- Hofrat Dipl.-Ing. Manfred Wörgetter, Bioenergy 2020+ GmbH, Austria
What awaits you at the 5th Central European Biomass Conference …

"The Central European Biomass Conference is the most important event for bioenergy in Central Europe."

DI Dr. Heinz Kopetz, Honorary President Austrian Biomass Association

"The focused discussion of biomass relevant aspects on the CEBC gives all participants a great opportunity to exchange and share knowledge with other experts."

Hofrat DI Dr. Josef Rathbauer, HBLFA Francisco Josephinum, BLT Wieselburg

"The CEBC provides the opportunity to comprehensively discuss the subject of biomass and to find solutions for the future."

DI Dr. Peter Mayer, Director of the Austrian Research and Training Centre for Forests (BFW)

"The CEBC is an unique event for industry and research, where tradition and innovation come together to support advancements in knowledge and economy."

Prof. Marco Baratieri, Faculty of Science and Technology, University of Bozen-Bolzano

"The CEBC has become a meeting point of all parties involved in the use of biomass as energy source in the region. The exchange of knowledge and experiences, as well as international cooperation can boost the progress in the field."

Prof. Dr. Milan Martinov, Faculty of Technical Sciences, University of Novi Sad

"Exchange of knowledge, presentation of latest scientific findings as well as open discussion are essential to obtain the ambitious but necessary achievements for bioenergy. In this context the CEBC will provide a perfect communication platform."

Ao. Univ.-Prof. DI Dr. Werner Fuchs, University of Nat. Res. and Life Sciences, IFA Tulln

"The 5th Central European Biomass Conference will once again strengthen the whole biomass sector, both on a national and an international level."

DI Dr. Martin Weigl, Holzforschung Austria

"The Central European Biomass Conference is an important opportunity for an exchange between researchers and stakeholders from industry and administration in the biomass sector."

DI Dr. Johannes Schmidt, University of Natural Resources and Life Sciences
08:00–09:00 am Registration
08:00 am–12:30 pm Excursion I, p. 8
08:00 am–06:30 pm Excursions II–V, p. 8–9
09:00 am–05:00 pm 2nd Central European Pellet Day, Room 1, p. 11
09:00 am–05:00 pm Biogas Day, Room 11, p. 13
09:00 am–05:00 pm World Bioenergy Day, Galerie, p. 15
01:30–05:00 pm Bioenergy 2020+ Day, Room 12, p. 17
from 05:00 pm Come–together

08:00–09:00 am Registration
09:00 am–12:30 pm Plenary session, Room 1, p. 19
12:30–01:30 pm Lunch and Poster presentation
01:30–03:00 pm PB 1, Room 11, p. 20, Biogas
01:30–03:00 pm PB 3, Room 1, p. 21, Fuel pretreatment and upgrading
03:30–05:00 pm PB 2, Room 11, p. 20, Bioeconomy – system considerations
03:30–05:00 pm PB 4, Room 1, p. 21, New resources, potentials and supply chain risk management
01:30–05:00 pm Industry Forum, Galerie, p. 25
01:30 – 05:00 pm AEBIOM Workshop, Room 10, p. 26
01:30 – 05:00 pm Workshop: IEA Bioenergy Task 32 – practical test methods for small-scale furnaces, Room 12, p. 23
08:00 pm Conference dinner

08:00–09:00 am Registration
09:00–10:30 am PB 5, Room 1, p. 27, Lowest emission biomass combustion systems
09:00–10:30 am PB 9, Galerie, p. 31, Fuel characterization and quality assurance
11:00 am–12:30 pm PB 6, Room 1, p. 27, Biomass combustion based grids and hybrid systems
11:00 am–12:30 pm PB 10, Galerie, p. 31, Sustainability at regional and national scale
12:30–01:30 pm Lunch and Poster presentation
01:30–03:00 pm PB 7, Room 1, p. 29, Heat and electricity from biomass
01:30–03:00 pm PB 11, Galerie, p. 32, Sustainability considerations for different value chains
03:30–05:00 pm PB 8, Room 1, p. 29, Technologies for a biobased economy

03:30–05:00 pm PB 12, Galerie, p. 32, Policies, markets and consumer attitudes
09:00 am–03:00 pm Highlights of bioenergy research 2017, Room 12, p. 33
09:00 am–12:30 pm Workshop: New Markets – Africa meets EU, Room 10, p. 34
01:30–05:00 pm B2B-Matchmaking: New Markets Africa meets EU, Room 1a, p. 34
09:00 am–12:30 pm Workshop: Bioflex, Room 11a, p. 35
01:30–03:00 pm Workshop: BINE, Room 11a, p. 35
09:00 am–12:30 pm Workshop: Biostep, Room 11b, p. 37
03:30–05:00 pm Workshop: ErgoS, Saal 11a, p. 37

Language marked in detailed programme:  
Language English  
Language German  
Simultaneous translation
Excursions

Excursion I
Biogas

08:00 am Departure Graz
09:15 **Biogas plant Hauptmann 500 kW**
- Electricity and heat production
- Drying of pumpkin seeds and corn
- Slurry utilization
12:30 pm Arrival Graz

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Excursion II
Bioenergy in forestry and industry

08:00 am Departure Graz
09:00 am **Forestry Mayr Melnhof**
- CHP, pellets, saw, harvesting technology & recirculation of forest residues
01:00 pm Lunch
01:30 pm **Biomass courtyard Leoben, Hinterberg**
- Wood energy contracting Brücklwirt 300 kW
**Biomass courtyard Leoben, Niklasdorf**
- Biomass - logistics and processing
04:30 pm **Norske Skog**
- Paper machine and heat recovery
06:30 pm Arrival Messe Graz

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Excursion III
Corn cobs

08:00 am Departure Graz
09:30 am **Franz Tschiggerl, Halbenrain**
- Harvesting technology
- Thermal and material use of corn cobs
- Legal basics
11:00 am **South-east Styrian Pellet cooperative eGen**
- Pelletisation of agricultural biomass
12:15 pm Lunch
02:00 pm **Corn cobs combustion with a scroll burner**
- Thermal use of corn cob grit
03:15 pm **Corn cobs combustion with a grate burner**
- Thermal use of corn cob pellets
04:30 pm **Corn cobs combustion with a caterpillar burner**
- Thermal use of field falling corn cob
06:30 pm Arrival Graz
Excursions

Excursion IV
Small gasifier, woodgas-CHP-plant

08:00 am Departure Graz
09:30 am Bioenergie Grabner KG
- Fröling fixed bed gasifier CHP50 with 4x50 kWel und 400 kWth
12:00 pm Lunch
01:30 pm Green Power GmbH
- Woodgas-CHP-plant 180 kWel and 320 kWth from URBAS GmbH
04:00 pm HERZ Energietechnik GmbH
- Production of heating boilers
06:30 pm Arrival Graz

Excursion V
Research and development

08:00 am Departure Graz
09:00 am Condensation plant in biomass heating plant Leibnitz
- 3,6 MW heating plant with flue gas purification (SCHMID energy solutions GmbH) and heat recovery (SAVE energy AG)
11:15 am POSCH GmbH
- Innovations in the field of wood splitters & disk saws
01:15 pm Lunch
03:15 pm Bioenergy 2020+ GmbH
- Institute for heat technology, TU Graz & LEC GmbH
06:00 pm Arrival Graz

Organizational issues: The meeting point is at 07:45 am at the conference registration. Departure for the excursions starts from the parking lot Messe Graz.
Language: German speaking guide with English speaking support
Excursions

Excursion VI
Local heat from biomass combined with wood fired power plants

08:00 am Departure Graz

10:00 am Local heating plant in Murau, Stolzalpe
- 6 MW boiler output and supply of brewery Murau inter alia with hot water 120°
- Upgrade heating plant with 500 kWel wood fired power plant, project presentation

01:00 pm Hot water transmission station brewery Murau

02:30 pm Bio district heating plant Stadl an der Mur
- 1,2 MW Biomass boiler Polytechnik
- 324 kWel CHP wood fired power plant from SynCraft for summer heat supply

12:00 pm Lunch Brauhaus Murau

06:30 pm Arrival Graz
Neue Wege für Klimaschutz und Energieeffizienz – Zero Emission Austria
2nd Central European Pellet Day, Room 1, 09:00 am - 05:00 pm
Pellet production & consumption in Central and Eastern Europe - preliminary result and future developments

Chairman: Christian Rakos, CEO of proPellets Austria

09:00 am Opening
- Hermann Schultes, President Chamber of Agriculture, Austria
- Eric Vial, President European Pellets Council, Belgium

09:20 am The European Pellet Market - Facts and Figures
Gilles Gauthier, European Biomass Association (AEBIOM), Belgium

09:40 am EN Plus Certification - Experiences in Eastern Europe
Martin Englich, BEA Institut für Bioenergie GmbH, Austria

10:00 am BioUp: Europe’s largest pelletizing lab
Martin Weigl, Holzforschung Austria, Austria

10:30 am Coffee Break

11:00 am Current market developments for pellet stoves
Marco Palazzetti, Palazzetti Lelio S.p.A, Italy

11:20 am Future prospects for pellet and boiler markets
Christian Rakos, proPellets Austria, Austria

11:40 am The development of pellet use in large scale power and CHP plants in Europe
Arnold Dale, Ekman & Co, Sweden

12:00 pm Pellet burners – for industrial process
Björn Forsberg, World Thermal Service AB, Sweden

12:30 pm Lunch break

01:30 pm Development of pellet production and consumption
- Serbia and Bosnia
  Branko Glavonjic, University Belgrade, Serbia
- Croatia
  Ante Pašalić, BEA Institut für Bioenergie GmbH, Austria
- Ukraine
  Georgiy Geletukha, SEC Biomass, Ukraine
- Baltics
  Didzis Palejs, European Biomass Association, Belgium
- Canada
  Gordon Murray, Wood Pellet Association of Canada, Canada

03:10 pm Coffee break

03:30 pm Development of pellet production and consumption
- Italy
  Annalisa Paniz, Associazione italiana energie agroforestali, Italy
- Germany
  Martin Bentele, Deutscher Energieholz- und Pellet-Verband e.V., Germany
- Slovenia
  Gernot Stadlober, Stadlober GmbH Brennstoffhandel, Austria
- USA
  Ben Moxham, Enviva, United States of America

05:00 pm: Come-Together

“The production and use of pellets show a very positive development especially in Central and Eastern Europe. The 2nd Central European Pellet day offers a comprehensive overview of the developments in this area and on international pellet markets and provides an opportunity to get in touch with experts such as business partners.”
• Biomass heating plants
  (from 300 kW up to 30,000 kW)

• Cogeneration – Electricity out of Biomass
  (from 200 kWel up to 20,000 kWel)

• District heating plants

POLYTECHNIK Luft- und Feuerungstechnik GmbH
A-2564 Weissenbach (AUSTRIA),
Hainfelderstr. 69–71
Tel.: +43/2672/890-0, Fax: +43/2672/890-13,
E-mail: office@polytechnik.at,
Website: www.polytechnik.com
Biogas Day, Room 11, 09:00 am - 05:00 pm
The role of biogas within a decade

Chairman: Franz Kirchmeyr, ARGE Kompost & Biogas, Österreich

09:00 am Opening
Norbert Hummel, Vice-Chairman of ARGE Kompost & Biogas, Austria
Jan Stambasky, President European Biogas Association, Belgium

09:30 am Expected technical development of biogas technique
Frank Scholwin, Biogas & Energie, Deutschland

09:50 am GHG mitigation digesting agricultural by-products and biowaste
Franz Kirchmeyr, ARGE Kompost & Biogas, Austria
Stefanie Scheidl, European Biogas Association, Belgium

10:10 am Discussion

10:20 am Coffee break

10:50 am Biogas done right
Lorenzo Maggioni, Consorzio Italiano Biogas e Gassificazione, Italy

11:10 am Digesting corn stover and catch crops – what can we expect?
Josef Höckner, BioG GmbH, Austria

11:30 am Measures achieving high yields seconds

11:50 am Fertilization and other effects of digestate: soil properties, weed seeds, pathogens
Erwin Pfundtner, AGES, Österreich

12:10 pm Discussion

12:30 pm Lunch break

02:10 pm BIOSURF: A concept for enabling European biomethane trade
Attila Kovacs, European Biogas Association, Belgium

02:30 pm Development of an international biomethane registry
Andreas Wolf, AGCS, Austria

02:50 pm Biomethane trade – from production and trading perspective
Stefan Malaschofsky, Biogas Margarethen am Moos, Austria

03:10 pm Biomethane’s role within Energy master plan of the state of Salzburg
Gerhard Löffler, Land Salzburg, Austria

03:30 pm Biowaste management in Ljubljana, transformation to biomethane and its use for transport
Snaga Javno podjetje d. o. o., Slowenien

03:50 pm Discussion

04:10 pm Closing remarks & Come-together
Wood gas power plant without compromise

The fuel makes the difference

www.syncraft.at
Chairman: Douglas Bradley, World Bioenergy Association, Sweden

09:00 am Opening
- Josef Plank, President Austrian Biomass Conference
- Mark Bailey, Ambassador Canadian Embassy
- Roswitha Schipfer, ICS, Austria

Fossil fuel exit strategy and CO2 taxation
Heinz Kopetz, Honorary President Austrian Biomass Association

Paris and Bioenergy – does it fit?
Remigijus Lapinskas, President World Bioenergy Association, Sweden

10:30 am Coffee break

11:00 am Biomass as Export fuel
- Canada
  Gordon Murray, Wood Pellet Association of Canada, Canada
- Baltics
  Didzis Palejs, Latvian biomass association, Latvia
- USA
  Ben Moxham, Enviia, United States of America
- Southeast Asia
  Saku Rantanen, Tasma Bioenergy, Singapore
- South America
  Geraldine Kutas, Brazilian Sugarcane Ind. Assoc., Brasilia

Bioenergy as a key for success
Manfred Wörgetter, National Representative in IEA Bioenergy, Austria

Bioenergy in Austria – a good story to tell
Christoph Pfemeter, CEO Austrian Biomass Association, Austria

03:00 pm Coffee break

03:30 pm Biomass investments
- Australia
  Andrew Lang, World Bioenergy Association, Sweden
- Turkey
  Tanay Sidki Uyar, Bioenergy Association of Turkey, Turkey
- China
  Kelvin Hong, Great Resources, China
- Ukraine
  Georgiy Geletukha, Bioenergy Association of Ukraine, Ukraine
- Sweden
  Gustav Melin, Swedish Bioenergy Association, Sweden
- Japan
  Aikawa Takanobu, Renewable Energy Institute, Japan

05:15 pm Come-together

In this session, speakers from all continents will emphasize the importance of bioenergy in the global energy and climate scenario. 

Remigijus Lapinskas, President World Bioenergy Association
The specialists for renewable energy systems: HERZ & BINDER

- Biomass boilers 4 - 20,000 kW
- Boilers for non-standard fuels
- Warm water-, hot water- & steam boilers, hot air (drying) systems, thermal oil systems & CHP-systems
- Heat pumps 5 - 80 kW
  - Best comfort and high efficiency
  - CO₂ free, clean energy from biomass
  - Low emissions
  - Austrian quality products
  - Awarded for environmental-friendly products

Herz Energietechnik GmbH
Herzstraße 1, A-7423 Pinkafeld,
Mail: office-energie@herz.eu,
Web: www.hertz-energie.at

Binder Energietechnik GmbH
Mitterdorfer Straße 5, A-8572 Bärnbach,
Mail: office@binder-gmbh.at,
Web: www.binder-gmbh.at
01:30 pm Opening

Pellets off-gassing – evaluation, safety issues and prevention
Waltraud Emhofer, Senior Researcher, Biomass combustion systems

High and low temperature corrosion in biomass fired heating plants
Stefan Retschitzegger, Unit head, Biomass combustion systems

Synthetic biofuels by biomass steam gasification – status of development
Reinhard Rauch, Area Manager, Biomass gasification systems

Evaluation of dual fluidized bed gasification systems by means of cold flow modelling and CPFD simulation
Stephan Kraft, Junior Researcher, Biomass gasification systems

Production of biochemicals from CO₂ by Clostridia spp. via gas fermentation
Lydia Rachbauer, Researcher, Bioconversion and biogas systems

The algae biorefinery – status and research applications
Bernhard Drosg, Area Manager, Bioconversion and biogas systems

03:00 - 03:30 pm Coffee break

Pre-treatment of post-consumer and demolition wood for recycling and energetic utilisation
Christa Dißauer, Researcher, Sustainable supply and value chains

Pyrolysis of the fine fraction of municipal solid waste (MSW) and of sewage sludge
Martina Meirhofer, Researcher, Sustainable supply and value chains

Model based control of biomass combustion systems
Christopher Zemann, Researcher, Automation and control

Model predictive control of heat grids
Daniel Muschick, Senior Researcher, Automation and control

Modelling of inorganic aerosol formation in biomass combustion systems
Thomas Gruber, Senior Researcher, Modelling and simulation

Soot formation modelling in biomass combustion systems
Ali Shiehnejad-Hesar, Senior Researcher, Modelling and simulation

05:00 pm End and Come-together
Schmid energy solutions – Energie aus Holz
PLENARY SESSION
Bioenergy after Paris
Room 1, 09:00 am – 12:30 pm
Chairman: Ingmar Höbarth, Klima- und Energiefonds, Austria

09:00 am Scientific Opening
- Siegfried Nagl, Mayor of Graz, Austria
- Franz Titschenbacher, President Styrian Chamber of Agric., Austria
- Representative of the foreign trade office Austria*

Bioenergy technology for future markets – worldwide highlights
Hermann Hofbauer, Technical University Vienna, Austria

Biomass for heat in buildings and industry – perspectives up to 2030
Lukas Kranzl, Energy Economics Group, Austria

Active forest management and its role for climate change mitigation
Tomas Lundmark, Swedish University of Agricultural Sciences, Sweden

10:30 am Coffee break

11:00 am Political Opening
- Josef Plank, President Austrian Biomass Association
- Remigijus Lapinskas, President World Bioenergy Association, Sweden

Austria on the way to 100% renewable energy
Andrä Rupprechter, Federal Minister for Agriculture, Forestry, Environment and Water Management, Austria

EU Bioenergy 2030: Challenges and possibilities
Didzis Palejs, President European Biomass Assoc. (AEBIOM), Belgium

Myths vs. Facts in the Public Debate on Energy Transition
Georg Günsberg, Political consultant, Austria

12:30 – 02:00 pm Lunch and Poster presentation
Parallel Session 1

Biogas
Room 11, 01:30 – 03:00 pm

Chairman: Arthur Wellingher, Triple E&M, Switzerland

01:30 pm Opening

Intertillages for biogas plants: Increasing acceptance and effective protection of the environment
Manfred Szerencsits, Ökocluster, Austria

Wood ash from district heating plants for the upgrading of biogas from anaerobic digestion
Silvia Silvestri, Fondazione Edmund Mach, Italy

Scenario based balancing of nutrients from digestates and farm fertilizers
Markus Heberlein, Fraunhofer Umsicht, Germany

GHG mitigation effects due to the utilization of manure in biogas plants
Katja Oehmichen, Deutsches Biomasseforschungszentrum GmbH, Germany

The valence of flexible eco–electricity–production–units
Bernhard Stürmer, University College for Agrarian and Environmental Pedagogy, Austria

03:00 pm Coffee break

Parallel Session 2

Bioeconomy – system considerations
Room 11, 03:30 – 5:00 pm

Chairman: Hubert Röder, Hochschule Weihenstephan Triesdorf, Germany

03:30 pm Opening

Fostering a Circular Forest Bioeconomy
Barbara Hedeler, Wood K plus GmbH, Austria

Strategic Actions for the Biorefinery Development in the Pulp and Paper Industry: Insights from a Delphi Study
Natasha Gabriella, University of Graz, Institute of Systems Sciences, Austria

Survey of international RTD activities on biobased industries
Martin Beermann, Joanneum Research Forschungsgesellschaft mbH, Austria

LCB production based on corn stover – Preliminary feasibility study for Serbia
Milan Martinov, University of Novi Sad, Faculty of technical sciences, Serbia

The Biorefinery Innovation System: Lessons to be learned & questions to be asked
Tobias Stern, Karl-Franzens-Universität Graz, Austria

05:00 pm End
Parallel Session 3
Fuel pretreatment and upgrading
Room 1, 01:30 – 03:00 pm

Chairman: Stefano Grigolato, University of Padova, Italy

01:30 pm Opening

Monitoring of fuel wood drying efficiency through meteorological data based models
Gernot Erber, University of Natural Resources and Applied Sciences, Austria

Container trials to examine the effects of fuel screening on the storage behavior of wood chips
Theresa Mendel, Technologie- und Förderzentrum, Germany

Field trials to examine the storage behavior of wood chips from forests under practical conditions
Nicolas Hofmann, Bavarian State Institute of Forestry, Germany

Improvement of wood chip quality by screening and drying
Daniel Kuptz, Technologie- und Förderzentrum, Germany

Update on the status of torrefaction as biomass upgrading technology
Michael Wild, Wild&Partner KG, Austria

03:00 pm Coffee break

Parallel Session 4
New resources, potentials and supply chain risk management
Room 1, 03:30 – 05:00 pm

Chairman: Johannes Schmidt, University of Natural Resources and Applied Sciences, Austria

03:30 pm Opening

Weed competition and control in willow crops
Isabella Donelly, Teagasc CELUP, Ireland

Mobilization and supply of agricultural residues in Styria
Alfred Kindler, Styrian Chamber of Agriculture, Austria

Perspectives for establishing SRCs in Northern Greece
Ioannis Eleftheriadis, Center for Renewable Energy Sources, Greece

Developing and evaluating strategies to overcome biomass supply risks
Peter Rauch, University of Natural Resources and Applied Sciences, Institute of Production and Logistics, Austria

Modelling of the bioenergy potentials of urban sewage plants
Kerstin Schopf, Montanuniversität Leoben, Austria

05:00 pm End
Biomass – energy for the future.
We supply the technology.
Workshop: IEA Bioenergy TASK 32
Room 12, 01:30 – 05:00 pm
Practical test methods for small-scale furnaces

01:30 pm Welcome & Introduction
- Jaap Koppejan, Procede Biomass BV, Netherlands
- Hans Hartmann, TFZ Straubing, Germany
- Christoph Schmidl, Bioenergy 2020+ GmbH, Austria

Session 1: The „beReal“ project

01:40 pm The firewood method
Marius Wöhler, University of Applied Forest Sciences Rottenburg, Germany

02:00 pm The pellet method
Hans Hartmann, TFZ Straubing, Germany

02:20 pm Scientific highlights
Gabriel Reichert, Bioenergy 2020+ GmbH, Austria

02:40 pm Labelling concept
Christoph Schmidl, Bioenergy 2020+ GmbH, Austria

3:00 pm Coffee break

Session 2: Current method developments

03:40 pm Current developments of US testing protocols
Lisa Rector, NESCAUM, United States of America

Technological progress requires suitable test methods to become visible. At the same time test methods are important tools to stimulate and guide technological progress. The workshop provides an overview of new evaluation methods for domestic biomass combustion systems. One focus of the event will be on the real-life oriented „beReal“ test methods for firewood and pellet stoves.

Chairman: Christoph Schmidl, Bioenergy 2020+ GmbH

04:00 pm The EN–PME method
Michael Sattler, Ökozentrum Langenbruck, Switzerland

04:20 pm Load cycle test for biomass boilers
Elisa Carlon, Bioenergy 2020+ GmbH, Austria
Markus Schwarz, Bioenergy 2020+ GmbH, Austria

04:40 pm Emissions from small-scale pellet boilers
Lukas Sulzbacher, Josephinum Research, Austria

05:00 pm End
Bioenergy Opportunities in Africa
Workshop & B2B Matchmaking

• Unique opportunity to get informed on how to launch bioenergy business ventures in Africa.

• Participate in the B2B matchmaking session to network and discuss business opportunities.

B2B Matchmaking
This is an opportunity for African and European entrepreneurs to come together for networking and joint business development.

Access to Finance
A range of financing options will be showcased, and opportunities for support towards accessing finance presented.

Market Information
This workshop will provide participants with invaluable insights into Africa’s fast-evolving bioenergy markets.

Date: 20th Jan. 2017
Time: 9am–5pm (CET)
Where: CEBC, Graz (AT)

REGISTER:
www.cebc.at/en
or scan the QR code:

An event organised by
AEBIOM

In collaboration with
Africa Energy Cooperation Programmes

A project funded by the European Union
AEBIOM Workshop: EU winter package
Room 10, 01:30 – 5:00 pm

Jean-Marc Jossart, AEBIOM Secretary General

Impact of the EU winter package on the bioenergy sector

The EU's new sustainability policy: new rules for solid biomass
- Summary of the European Commission legislative proposal
- NGO attacks: Need for action for corporate communications?
Fanny-Pomme Langue, AEBIOM Policy Director

The Heating sector: Towards electrification?
Nathalie Hemeleers, AEBIOM Policy Advisor

The “clean energy for all package” covers the topics:
- Renewables & Bioenergy
- Energy efficiency
- Electricity markets
- Sustainability
- Funding
- Governance

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Industry Forum
Bioenergy, Galerie, 01:30 – 05:00 pm

Chairman: Walter Haslinger, Bioenergy 2020+ GmbH, Austria

In the Industry Forum national and international companies active in the fields of bioenergy will present their core competencies, activities and relevances in a short presentation. In the subsequent discussion forum the participants have the chance to meet members of the presented companies and can initiate possible future projects and cooperations on an individual basis. The Industry Forum is open to all conference participants.

01:30 pm Introduction Chairman
Herz Energietechnik GmbH, Wolfgang Karlovits
Komptech GmbH, Andreas Kunter
SynCraft Engineering GmbH, Marcel Huber
Hargassner GmbH, Anton Hofer
Urbas Maschinenfabrik GmbH, Peter Urbas
AEBIOM, Glen Wilson
Polytechnik Luft- und Feuerungstechnik GmbH, Bernhard Brenner
CEBCON Technologies GmbH, Valery Detzel
Valmet GmbH, Markus Bolhar
Bioenergy 2020+ GmbH, Dina Bacovsky
AGRANA Stärke GmbH, Horst Hartl

LEC GmbH, Andreas Wimmer
Fröling Heizkessel- und Behälterbau GmbH, Wolfgang Aichinger
ATech electronics d.o.o., Davor Jakulin
Schmid energy solutions, Wolfgang Horn

Following:
Discussion forum: Get-together (incl. Coffee & Cake)

This discussion forum will offer the opportunity for participants to contact representatives of the presented companies and to discuss possible future projects and cooperations. For individual discussions in relaxed atmosphere each company will have its own stand next to the hall where the company presentations take place, equipped with chairs and tables, where coffee and refreshments will be served. These information stands will be available on 19th January.

05:00 pm End

There are still some free places available! Send your request to bauderer@biomasseverband.at.
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### Parallel Session 5
**Lowest emission biomass combustion systems**
Room 1, 09:00 – 10:30 am

**Chairman:** Christoph Schmidl, *Bioenergy 2020+ GmbH, Austria*

**09:00 am Opening**

**Innovative technological solutions for a biomass boiler with near-zero particulate emissions**
Augusto Bianchini, *University of Bologna, Department of Industrial Engineering, Italy*

**Low emission retrofit producer gas burner for wood pellets**
Josef Wüest, *Fachhochschule Nordwestschweiz, Switzerland*

**Honeycomb catalysts integrated in firewood stoves – potentials and limitations**
Gabriel Reichert, *Bioenergy 2020+ GmbH, Austria*

**Design of domestic log wood and gasification boilers using CFD tools**
Nikolaos Nikolopoulos, *Chemical Process and Energy Resources Institute, Greece*

**Benzo(a)pyrene emission in the flue gas from modern biomass boilers**
Franziska Klauser, *Bioenergy 2020+ GmbH, Austria*

**10:30 am Coffee break**

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### Parallel Session 6
**Biomass combustion based grids and hybrid systems**
Room 1, 11:00 am – 12:30 pm

**Chairman:** Panagiotis Grammelis, *Centre for Research and Technology, Greece*

**11:00 am Opening**

**Development of an optimized controller for pellets/solarthermal central heating systems**
Daniel Büchner, *Deutsches Biomasseforschungszentrum gemeinnützige GmbH, Germany*

**BIG Solar with biomass: solarthermal and biomass based district heating systems for Styrian cities**
Moritz Schubert, *S.O.L.I.D. Gesellschaft für Solarinstallation und Design mbH, Austria*

**Optimizing the interaction of firewood boiler, heat storage and solarthermal facility using mathematical models**
Jonas Schulz, *Bioenergy 2020+ GmbH, Austria*

**Small, modular and renewable based heating grids for SE Europe**
Dominik Rutz, *WIP Renewable Energies, Germany*

**Improving the performance of heating grids – using Swedish know-how**
Roger Stahel, *IS SaveEnergy AG, Switzerland*

**12:30–01:30 pm Lunch and Poster presentation**
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Parallel Session 7
Heat and electricity from biomass
Room 1, 01:30 – 03:00 pm

Chairman: Matthias Gaderer, Technical University Munich, Germany

01:30pm Opening

Measuring the performance of biomass small-scale gasification plants by implementing mass and energy balances
Marco Baratieri, Free University of Bolzano, Italy

Biomass gasification in the stepped co-current fixed bed: experiences from field installations in Austria
Markus Huemer, Management Center Innsbruck, Austria

Power & biomass to gas – connecting Germany’s biomass potentials with power and gas transmission systems
Marcel Beirow, University of Stuttgart, Germany

Decreasing water vapour condensation in producer gas: experimental investigation
Roberto Mussi, Yanmar Research Europe, Italy

Torrefaction of woody residues at the small scale: first results of a fully automatic pilot plant operation
Jean-Bernard Michel, University of Applied Sciences of Western Switzerland, Switzerland

03:00 pm Coffee break

Parallel Session 8
Technologies for a biobased economy, Room 1, 03:30 – 05:15 pm

Chairman: Hermann Hofbauer, Technical University Vienna, Austria

03:30 pm Opening

bioCRACK: an unique process to produce 2nd generation biofuels
Edgar Ahn, BDI – BioEnergy International AG, Austria

Simultaneous production of valuable fuels and platform chemicals from biogenic residues by hydrothermal carbonization
Jakob Köchermann, Deutsches Biomasseforschungszentrum GmbH, Germany

Hydrogen from biomass – state-of-the-art and outlook
Hermann Hofbauer, Technical University Vienna, Austria

State-of-the-art dual fluidized bed gasification of biomass in industrial scale
Matthias Kuba, Bioenergy 2020+ GmbH, Austria

HCNG or hythane production from biomass steam gasification
Michael Kraussler, Bioenergy 2020+ GmbH, Austria

Efficient use of biomass residues for combined production of transport fuels and heat
Esa Kurkela, VTT Technical Research Centre of Finland, Finland

05:15 pm End
The biggest renewable energy source in the world: Mother Nature

Nature never runs out of energy. Flora and fauna renew themselves every day, creating bio mass as they do, which is wonderful for us to use to generate fuel, electricity and heat. Renewable raw materials, our sun, wind, water and energy efficiency, are the backbone of a sustainable and conscientious use of our resources. Talk to us about renewable energy – the most natural thing in the world.
Parallel Session 9
Fuel characterization and quality assurance
Galerie, 09:00 – 10:30 am

Chairman: Josef Rathbauer, Biomasse-Lehr- und Forschungszentrum Francisco Josephinum, Austria

09:00 am Opening

Characterisation methods for solid biomass fuels regarding their thermal utilisation in fixed-bed reactors
Peter Sommersacher, Bioenergy 2020+ GmbH, Austria

Quality control of wood chip production by validated simplified methods
Volker Zelinski, University of Applied Sciences and Arts, Germany

Stability of fast pyrolysis bio-oils: comparison of assessment methods
Mehmet Pala, Ghent University, Faculty of Bioscience Engineering, Department of Biosystems Engineering, Belgium

Evaluation of chemical wood chip quality using novel fuel indexes for solid biofuels
Daniel Kuptz, Technologie- und Förderzentrum, Germany

Experimental evaluation of the traceability of a pellet bulk flow using radio frequency identification technology
Peter Sundberg, SP Technical Research Institute of Sweden, Sweden

10:30 am Coffee break

Parallel Session 10
Sustainability at regional and national scale
Galerie, 11:00 am – 12:30 pm

Chairman: Gerfried Jungmeier, Joanneum Research Forschungsgesellschaft mbH, Österreich

11:00 am Opening

Evaluation of the effects of incentive programmes for biomass district heating grids
Harald Schrammel, AEE INTEC, Austria

Controlling the declared geographic origin of wood/timber
Micha Horacek, Biomasse-Lehr- und Forschungszentrum Francisco Josephinum (BLT), Österreich

The national economic relevance of biomass CHP plants in Austria
Lorenz Strimitzer, Österreichische Energieagentur, Österreich
Hans-Christian Kirchmeier, IG-Holzkraft, Österreich

Sustainable forest management in Canada
Dave Patterson, Forestry Innovation Investment Ltd., Canada

Options for Industry and Agriculture to Improve the Sustainability of Fatty Acid Methyl Esters
Gerfried Jungmeier, Joanneum Research Forschungsgesellschaft mbH, Austria

12:30 – 01:30 pm Lunch and Poster presentation
Parallel Session 11
Sustainability considerations for different value chains
Galerie, 01:30 – 03:00 pm

Chairman: Manfred Wörgetter, Bioenergy 2020+ GmbH, Austria

01:30 pm Opening

The role of grass digestion in the circular bio-economy
Vita Tilvikiene, Lithuanian Research Centre for Agriculture and Forestry, Kedainiai, Lithuania

BioEconomy with algae – life cycle sustainability assessment of an algae-based biorefinery
Maria Hingsamer, Joanneum Research Forschungsgesellschaft mbH, Austria

The benefits of regional bioenergy value chains from an ecological perspective
Silvia Scherhaufer, University of Natural Resources and Applied Sciences, Austria

Driving on biomass: biofuels vs. hydrogen vs. electricity
Reinhard Haas, Technical University Vienna, Austria

National and business economic assessment of typical value chains for providing heat from wood in Bavaria
Andrè Tiemann, Hochschule Weihenstephan Triesdorf, Germany

03:00 pm Coffee break

Parallel Session 12
Policies, markets and consumer attitudes
Galerie, 03:30 – 05:00 pm

Chairman: Lukas Kranzl, Technical University Vienna, Austria

03:30 pm Opening

New Markets– a Quantum Leap Forward in BioTrade
Douglas Bradley, World Bioenergy Association, Sweden

Why do we heat the way we heat?
Josef Walch, University of Applied Sciences Wiener Neustadt, Austria

Bioenergy policies and status of bioenergy implementation
Dina Bacovsky, BIOENERGY 2020+ GmbH, Austria

Pharoah Le Feuvre, International Energy Agency (IEA), Paris, France

Concepts and instruments for a rational bioenergy policy – a new institutional economics approach
Alexandra Purkus, Helmholtz-Zentrum für Umweltforschung GmbH, Leipzig, Germany

05:00 pm End
Highlights of Bioenergy Research 2017: National and international results achieved by IEA Bioenergy Tasks and ERA-NET Bioenergy, Room 12, 09:00 am – 03:00 pm

Moderator: Karin Granzer-Sudra, ÖGUT, Österreich

09:00 am Welcome and Introduction IEA Bioenergy TCP
Theodor Zillner, Austrian Federal Ministry for Transport, Innovation and Technologies, Austria
Luc Pelkmans, Technical Coordinator IEA Bioenergy, Belgium

Session 1: Highlights from the IEA Bioenergy TCP

09:30 am Gasification of Biomass and Waste – recent activities and results from IEA Bioenergy Task 33
Kevin J. Whitty, University of Utah, United States of America

09:45 Status of Biomass Gasification – Database developed by Austria for IEA Bioenergy Task 33
Reinhard Rauch, TU Vienna, Austria

10:00 am Energy from Biogas – international and national activities „Bioenergy Task 37“
Bernhard Drosg, University of Natural Resources and Life Sciences, Austria

10:30 am Coffee break

11:00 am Report on the State of Technology of Algae Bioenergy – IEA Bioenergy Task 39
Dina Bacovsky, Bioenergy 2020+ GmbH, Austria

11:15 am The European Wood Pellet Market for small-scale heating – data availability, price developments and drivers for trade
Fabian Schipfer, TU Wien, Energy Economics Group (EEG), Austria

11:35 am Global wood pellet industry – market and trade study – IEA Bioenergy Task 40 results
Kay Schaubach, DBFZ, Germany

11:50 am Biorefining – recent activities and results from IEA Bioenergy Task 42“
Michael Mandl, Tbw research GmbH, Austria

12:05 pm Highlights from Bioenergy Task 32: Combustion and Cofiring"
Jaap Koppejan, Procede Biomass BV, Netherlands

12:30 pm Lunch

01:30 Austrian contributions to Task 32: Combustion and Cofiring”
Christoph Schmidl, Bioenergy 2020+ GmbH, Austria

01:45 pm Task 41 – special project: The role of Bioenergy RES hybrids in a low-emission energy system
Ilkka Hannula, VTT – Technical Research Centre of Finland Ltd, Finland

Session 2: ERA-NET Bioenergy – overview and current projects

02:00 pm ERA-NET Bioenergy – support of transnational bioenergy R&D
Carina Lemke, Agency for Renewable Resources (FNR), ERA-NET Bioenergy Secretariat, Germany

02:15 pm MetHarmo – European harmonisation of methods to quantify methane emissions from biogas plants
Marlies Hrad, University of Natural Resources and Life Sciences, Austria

02:30 pm GrateAdvance – Advanced adjustable grate solutions for future fuel flexible biomass combustion technologies
Sabine Feldmeier, Bioenergy 2020+ GmbH, Austria

02:45 pm REFAWOOD – Resource-efficient fuel additives for reducing ash related operational problems in waste wood combustion
Peter Sommersacher, Bioenergy 2020+ GmbH, Austria

03:00 pm End
New Markets: Africa meets EU Workshop & B2B matchmaking

09:00 am – 05:00 pm
Workshop: Room 10
B2B matchmaking: Room 1a

9:00 am Opening
Christoph Pfemeter, Austrian Biomass Association, Austria

Austrian Expertise, African Opportunities
Andreas Karner, ADA

European Private-Sector Interest
Jean-Marc Jossart, European Biomass Association (AEBIOM)

Africa-EU Renewable Energy Cooperation Programme (RECP) Services
Alexander Huppertz, RECP

Focus on Nigeria
Godwin Eni Aigbokhan, National Competitiveness Council of Nigeria

Focus on Senegal
Aziz Fall, National Renewable Energy Agency (ANER), Senegal

10:30 am Coffee Break

11:00 am Focus on Rwanda
Dr. Ivan Twagirashema, Energy Private Developers (EPD), Rwanda

Focus on Uganda
Nolbert Muhumuza, Awamu Biomass Energy, Uganda

11:45 am Focus on Africa Panel Discussion
Moderator: Remigijus Lapinskas, President World Bioenergy Association
Aziz Fall, ANER, Senegal
Godwin Eni Aigbokhan, NCCN, Nigeria
Dr. Ivan Twagirashema, EPD, Rwanda
Nolbert Muhumuza, Awamu Biomass Energy, Uganda
Alexander Huppertz, RECP

12:30 pm Lunch Break & Last minute check-in

02:00 pm B2B Matchmaking Introduction

02:20 pm Slots 1 – 3 B2B Meetings

03:30 pm Coffee Break

03:45 pm Slots 4 – 6 B2B Meetings


Take this unique opportunity to...
- present your innovative ideas and projects
- search for brand new technologies, R&D projects and expertise
- meet numerous prospective cooperation partners at one location in one day
- promote your organisation and expertise worldwide
Workshop: BioFlex
flexible operations-management concepts for combined biomass heat and power plants
Room 11a, 09:00 am – 12:30 pm

Chairman: Christoph Rosenberger, Austrian Biomass Association

09:00 am Opening
- Christoph Rosenberger, Austrian Biomass Association
- Ralf Ohnmacht, VOIGT+WIPP Industrial Research, Austria

09:05 am Possible future methods for the marketing of electricity generated by combined biomass heat and power plants
Babette Hebenstreit, FH Vorarlberg (University of Applied Sciences), Austria

09:30 am Technical challenges to greater flexibility
Alfred Hammerschmid, BIOS Bioenergiesysteme, Austria

09:45 am Practical experiences
Hermann Unsinn, TIWAG, Austria

10:00 am Legal opportunities for combined biomass heat and power plants
Martin Seidl, ÖMAG, Austria

10:15 am Optimization potentials for combined biomass heat and power plants
Bernhard Kronberger, VOIGT+WIPP Industrial Research, Austria

10:30 am Discussion

11:00 am Coffee & Get-together

Workshop: Bi-directional integration of buildings with heat generators into heating networks
Room 11a, 01:30 pm – 03:00 pm

Chairman: Christoph Rosenberger, Austrian Biomass Association

01:30 pm Opening
- Christoph Rosenberger, Austrian Biomass Association
- Daniel Reiterer, AEE NÖ-Wien, Austria

01:45 pm Potentials and limitations of use for the bi-directional integration of decentralized heat generators within regional heating networks, using the example of the implementation of district heating in Großschönau
Andreas Leitner, University of Natural Resources and Life Sciences Vienna, Austria

02:15 pm Technical control concepts for the development of bi-directional heating networks – from overall thermal management to the hydraulic control of decentralized heat generators
Klaus Lichtenegger, Bioenergy2020+ GmbH, Austria
Daniel Muschick, Bioenergy2020+ GmbH, Austria

02:45 pm Development and discussion of possible future scenarios

03:00 pm Coffee & Get-together
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Workshop: A bioeconomy strategy for Austria: The role of civil society
Room 11b, 09:00 am – 12:30 pm

09:00 am Introduction and Welcome
Holger Gerdes, Ecologic Institut, Germany
Zoritza Kiresiewa, Ecologic Institut, Germany

09:10 am Presentation of the BioSTEP project & workshop goals
Holger Gerdes, Ecologic Institut, Germany
Zoritza Kiresiewa, Ecologic Institut, Germany

09:30 am Bioeconomy strategies in Austria: Status Quo
Elfriede Fuhrmann, Bundesministerium für Land und Forstwirtschaft, Umwelt und Wasserwirtschaft (BMLFUW), Österreich

09:45 am Insights: ‘Dialogue fora 2016’ for the bioeconomy RTI strategy
Erika Ganglberger, Österreichische Gesellschaft für Umwelt und Technik (ÖGUT)

10:00 am The role of civil society organizations in the bioeconomy: Stakeholder statements
Alexander Bachler, Österreichischer Forstverein, Austria
Barbara Hammerl, StadtLABOR Graz, Austria
Berthold Schleich, ARGE Abfallvermeidung Ressourcenschonung und nachhaltige Entwicklung, Austria
Rosemarie Stangl, Institut für Ingenieurbiologie und Landschaftsbau, Universität für Bodenkultur Wien, Austria
Bernhard Zlanabitnig, Umweltdachverband, Austria

10:30 am Coffee break

10:50 am Discussion

12:20 pm Zusammenfassung der Workshop-Ergebnisse
Holger Gerdes, Ecologic Institut, Deutschland
Zoritza Kiresiewa, Ecologic Institut, Deutschland

Workshop: Energy recovery through open sorption (ErgoS): An innovative technology for gas condensation in biomass combustion systems
Room 11a, 03:30 pm – 05:00 pm

03:30 pm ErgoS – the project
Ernst Höftberger, Bioenergy 2020+ GmbH, Austria

03:45 pm Open sorption – principles and process design
Babette Hebenstreit, Bioenergy 2020+ GmbH, Austria

04:00 pm Building a pilot plant for heat recovery from biomass-combustion flue gases with an open sorption process
Klaus Paar, Güssing Energy Technologies, Austria

04:15 pm 3D-CFD-simulation of the experimental absorber for open sorption
Stefan Kleindel, Institute of Thermal Engineering at the Graz University of Technology, Austria
Christoph Hochenauer, Institute of Thermal Engineering at the Graz University of Technology, Austria

04:30 pm Experimental evaluation of open sorption for heat recovery at an experimental scale
Rosemarie Schnetziger, Bioenergy 2020+ GmbH, Austria

04:45 pm Discussion
AustroPUR district heating systems
Minimal heat loss, maximum flexibility
Supporting programme

All conference participants and their companions are cordially welcome to participate in the evening and cultural programme:

- **Conference dinner**: Thursday, 19th January 2017, 08:00 pm

  The conference dinner takes place in the auditorium of the Old University of Graz, Hofgasse 14, A-8010 Graz, and is the highlight of the social programme. Please take into account the limited number of seats. Therefore we ask you to register in time.

- **Come-together**: Wednesday, 18th January 2017, 05:00 pm

  We cordially invite you to a common finale with goulash & beer.

- **City tour Graz**: Saturday, 21st January 2017, 10:00 am

  Graz is the second largest city of Austria and offers an abundance of sights and a historic old town, which is a must-see as well. For the registration please see the last page in the programme.

„Häuslbaier“ trade fair from 19th to 22nd January 2017

The „Häuslbaier“ trade fair for home builders from 19th to 22nd January 2017 in Graz is the leading industrial trade show in the field of house construction and energy. One main emphasis of the trade fair is to present bioenergy equipment.

Exhibitors include biomass producers, biomass suppliers and distributors, manufacturers of biomass combustion technologies (e.g. wood-pellet, wood-chip and log-wood boilers, wood-pellet and log-wood stoves), manufacturers of biomass CHP technologies, R&I organisations as well as technical and financial consultancy. Visitors include house owners intending to install a new heating system as well as key decision-makers from governments, economy and industry.

INFO: Your ticket of the 5th Central European Biomass Conference is also valid for all areas of the „Häuslbaier“ trade fair!
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Poster presentation

Selected conference contributions and projects will be presented within the scope of a poster presentation. The following topics will be presented:

- Bioeconomy
- Biogas
- Fuel characterization
- Biomass heat and combustion technology
- Biomass potential and markets
- Logistics and storage
- Electricity from solid biomass
- Energy crops and residues
- Fuel and substrate preparation
- Pellets
- Sustainability
- New technology markets

The exposition takes place in the foyer of the conference rooms and is accessible during the two days of lectures (19th and 20th January 2017).

Furthermore there will be individual poster sessions during the conference breaks during which the authors of the posters will be available for further information and questions.

Thursday 19 January 12:30–01:30 pm 03:00–03:30 pm
Friday 20 January 12:30–01:30 pm 03:00–03:30 pm
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Registration

Online
Register easily and quickly for the 5th Central European Biomass Conference on the web. Please find the online registration form at: www.cebc.at/en/registration

Registration form
You can also simply fill in the attached registration form and send it by post to the Austrian Biomass Association, Franz Josefs-Kai 13, A-1010 Vienna, Austria, or by fax to: +43 (0)1-533 07 97-90.

Closing date
Monday, 9th January 2017

Bank details
Please transfer your conference contribution to our account by 11th January 2017 (it is absolutely necessary that you state your name + invoice number):
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In case of local payment at the pay desk, a surcharge of 20% will be added. Please note that your registration is valid only if the registration fee is paid in full!

Conference fees

Conference programme
1st Conference day
- Pellet day, 18th January 2017 ........................................... 250,-
- Biogas Day, 18th January 2017 ........................................ 90,-
- Biogas Excursion 1 + Biogas Day (half-day), 18th January 2017 . 90,-
- World Bioenergy Day, 18th January 2017 .......................... 200,-
- Bioenergy 2020+ Day, from 02:00 pm 18th January 2017 ...... 50,-
2nd Conference day, 19th January 2017 ................................. 250,-
3rd Conference day, 20th January 2017 ............................... 250,-
- Highlights bioenergy research 2017, 20th January 2017 ........ free

Combination offer
- 19th and 20th January 2017 .............................................. 390,-
- 18th to 20th January 2017, Pellet Day ............................... 590,-
- 18th to 20th January 2017, Biogas Day ............................ 470,-
- 18th to 20th January 2017, World Bioenergy Day ............... 550,-
- 18th to 20th January 2017, Bioenergy 2020+ Day ............... 440,-

Prices including conference proceedings, lunch, coffee breaks, excl. excursions and side events

Excursions
- Excursion I: 18th January 2017, 08:00 am–12:30 pm ............ 30,-
- Excursion II–V: 18th January 2017, 08:00 am–06:30 pm ...... each 60,-

Side events
- Conference dinner: 19th January 2017, 08:00 pm ............... 50,-
- City tour Graz: 21st January 2017, 10:00 am ..................... 10,-

Discounts
- Students ............................................. (fee per conference day) 30,-
- Group discount from 10 persons ................................... 10% 

All prices in euro and including 20% VAT
Conference information

Date
18th to 20th January 2017

Conference languages
Simultaneous translation

Language German

Language English

Registration
Wednesday, 18th January 2017, 08:00–09:00 am and 12:00 pm–07:00 pm
Thursday, 19th January 2017, 08:00-09:00 am
Friday, 20th January 2017, 08:00-09:00 am

Organisation
Austrian Biomass Association
Franz Josefs-Kai 13
A-1010 Vienna, Austria
Tel: +43 (0) 1-533 0797-0
Fax: +43 (0) 1-533 0797-90
E-mail: office@biomasseverband.at
Website: www.biomasseverband.at

Hotel reservation
Graz Tourist Office
Tel: +43 (0) 316-8075-0
Fax: +43 (0) 316-8075-15
E-mail: info@graztourismus.at
Website: www.graztourismus.at
Closing date: 21st December 2016
Online hotel reservation form:
https://www.graztourismus.at/kongress/en/5-mitteleuropaeische-bio-
massekonferenz_kongressformular-6414

Location
Messe Congress Graz, Messeplatz 1, 8010 Graz, Austria

Directions

Imprint: Austrian Biomass Association, Franz Josefs-Kai 13,
A-1010 Vienna, Austria; Programme contents are subject to change
Messe Congress Graz: Route map

Arrival by train: Central Station Graz - Tram 1, 3, 6 or 7 to main square - Tram 4 or 5 to Stadthalle or Jakominigürtel/Messe
Arrival by car: Underground parking entrance via Fröhlichgasse (daily flat rate: EUR 8,-)
Arrival by plane: International Airport Graz-Thalerhof (distance 10km)
Messe Congress Graz: Floor plan

The rooms for the 5th Central European Biomass Conference are located in the 1st floor of the Messe Congress Graz. After the registration at the main entrance you will reach the conference rooms through the escalator right next to the registration.
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I want to register for the following contents of the programme:

Conference programme

1st Conference day
- Pellet day, 18th January 2017 ...................................................... 250,-
- Biogas Day, 18th January 2017 ..................................................... 90,-
- Biogas Excursion 1 + Biogas Day (half-day), 18th January 2017 .................. 90,-
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2nd Conference day, 19th January 2017 .............................................. 250,-

3rd Conference day, 20th January 2017 ............................................... 250,-
- Highlights bioenergy research 2017, 20th January 2017 . free

Combination offer
- 19th and 20th January 2017 ....................................................... 390,-
- 18th to 20th January 2017, Pellet Day ............................................... 590,-
- 18th to 20th January 2017, Biogas Day .............................................. 470,-
- 18th to 20th January 2017, World Bioenergy Day ................................... 550,-
- 18th to 20th January 2017, Bioenergy 2020+ Day ..................................... 440,-

Prices including conference proceedings, lunch, coffee breaks, excl. excursions & side events

Excursions
- Excursion I: 18th January 2017, 08:00 am–12:30 pm .......................... 30,-
- Excursion II–V: 18th January 2017, 08:00 am–06:30 pm .................. je 60,-

Side events
- Conference dinner: 19th January 2017 , 08:00 pm .................................... 50,-
- City tour Graz: 21st January 2017, 10:00 am ................................. 10,-

Discounts
- Students .................................................... (fee per conference day) 30,-
- Group discount from 10 ........................................................... 10 %

All prices in euro and including 20% VAT

My entire conference fee: _____________ euro

Please transfer your payment to our account before 11th January 2017. In case of payment directly at the conference desk there will be a surcharge of 20%. All prices are in euros, 20% VAT included.

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Central European Biomass Conference
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Optimisation of biomass-to-end-use chains through densification

Authors: Schipfer Fabian*, Kranzl Lukas*, Daniela Thrän+

Schipfer Fabian, schipfer@eeg.tuwien.ac.at, *Technische Universität Wien, Energy Economics Group, Gusshausstraße 25-29/370-3, +Helmholtz Zentrum für Umweltforschung, bioenergy department, Permoserstraße 15, Leipzig

Themenbereich: Brennstoff- und Substrataufbereitung

Abstract:
The European Union plans to shift parts of its economy towards a biobased system commonly referred to as a Bioeconomy in order to reduce carbon emissions and dependencies on fossil fuel imports. Therefore biomass supply will have to scale up, probably also by means of developing and implementing novel densification processes. The objective of this paper is to describe and evaluate generic biomass-to-end-use chains based on densified biomass through pelletisation, torrefaction and pelletisation as well as higher temperature pyrolysis for liquid bioenergy carrier production. Impacts with regard to economic- and environmental criteria in contrast to comparative fossil based fuels and un-densified biomass feedstock are in the spot-light of this work. Therefore, we analyse the processing of wood chips and wheat straw as exemplary cellulosic biomass feedstocks to different bioenergy carrier types namely pellets, torrefied pellets and pyrolysis oil under various framework conditions. A set of transportation modes and distances is simulated to display the delivery of the bioenergy carriers to different types of end users for which the cumulated costs of the respective biomass-to-end-use chain is compared with reference fuels and raw biomass. Next to costs also required energy for bioenergy delivered is calculated for every step throughout the entire biomass-to-end-use chains. We find that optimal plant sizes for simple pelletisation are at 40 kt year\(^{-1}\) for wood chips while theoretical production of torrefied pellets and pyrolysis oil exhibit more favourable economies of scale. For these, more expensive densification technologies about 150 kt year\(^{-1}\) and 390 kt year\(^{-1}\) with wood chips as feedstock are calculated with the same frame conditions respectively. Production costs for torrefied pellets (8.8 GJ t\(^{-1}\)) are comparable to production costs of traditional pellets (8.1 GJ t\(^{-1}\)) when based on wood chips while pyrolysis of wood chips and torrefaction and pyrolysis of straw are considerable higher. Higher bioenergy carrier production costs at the densification plant gates have to be outweighed by gains through transporting and storing higher energy contents under unchanged expenses. Delivered bioenergy carrier costs at the end user, the consumers’ conversion efficiencies and priced in conversion advantages for altered bioenergy carrier specifications through densification determine in the end the most cost effective bioenergy carrier type. Results are expected to vary for different end users of which FT-Diesel via gasification, residential heating and industrial process heat as well as electricity production in co-fired coal plants are considered.