

## CHAIRMAN'S MESSAGE



Dear Colleagues of the Global Scientific Biomass Community,

Biomass is a raw material with a multitude of applications, suitable to replace fossil resources, for use both as an energy source as well as for material utilization.

For a sustainable energy supply, biomass is indispensable; but it is also limited, is not sufficient for all applications, and it ranks in priority after food and feed.

Biomass technology has changed from an ancient but newly discovered technology to a serious, modern form of supply for the society of today and tomorrow, a key element of sustainability and a significant economic factor.

Thus the tasks of the biomass community include finding solutions to overcome the competition between the different methods of utilization, identifying conversion paths with the highest degree of sustainability and bringing together bioenergy concepts with other renewable energies. These tasks, in their full spectrum, also will be reflected in the 20th European Biomass Conference and Exhibition and its motto: "Setting the course for a biobased economy".

The variety of topics linked to these tasks is manifold, leading to the horizontal approach of the Conference, which is typical for the biomass sector and essential for finding concepts with a holistic background. Nevertheless the problems to be solved need highly sophisticated approaches. This evokes the need for dedicated events with a high degree of thematic profundity. This is the reason why we decided to complement the proven horizontal concept of the Conference with new vertically-oriented elements dedicated to the following topics: "Biogas Upgrading and Grid Injection", "Biogas goes Europe", "Biowaste to Energy" and "Bioenergy in Smart Grids".

With this "Conference-in-Conference" concept, we enable the delegates to gather information on a special topic presented by selected experts in a very condensed form and discuss such with the essential stakeholders during the course of only one day.

It is our great pleasure to welcome the global biomass community in June 2012 to the marvelous City of Milan, which is the capital of Lombardy, the heart of Italy's bioenergy industry. The city will also host the World Expo 2015 with the theme: "Feeding the Planet, Energy for Life", that obviously brings our challenge to the point and will mobilize the region's efforts towards achieving our targets. I look forward to welcoming you to the 20th European Biomass Conference and Exhibition from 18th - 22nd June 2012. Let us face the challenge and confront together one of the greatest tasks of our century: the transformation towards sustainability. Let us together set the course for a biobased economy!

Dr.-Ing. B. Krautkremer  
Fraunhofer Institute IWES  
Head of Bioenergy System Technology

## Conference General Chairman:

Dr.-Ing. B. Krautkremer  
Fraunhofer Institute IWES  
Head of Bioenergy System Technology



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## Where Biomass Science Meets Industrial Application

### Institutional Support

European Commission  
UNESCO - United Nations Educational, Scientific and Cultural Organization, Natural Sciences Sector  
Ministry for the Environment, Land and Sea  
Regione Lombardia  
WCRE - World Council for Renewable Energy  
EUBIA - European Biomass Industry Association

### Coordination of the Technical Programme

European Commission DG Joint Research Centre

### Sustainable Energy for All

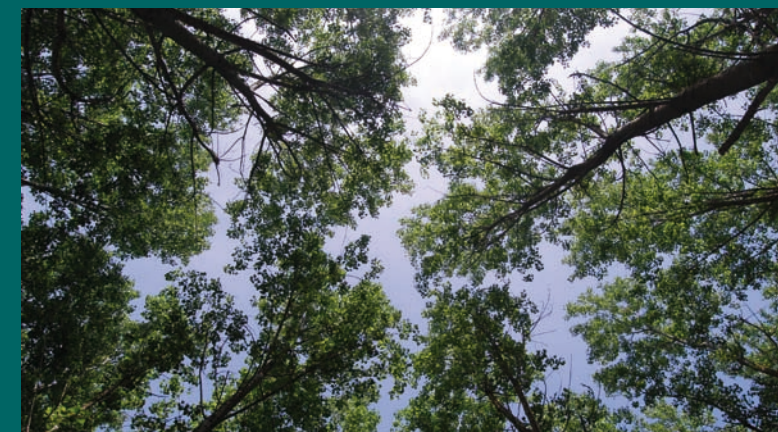
Biomass Science and Technology Platform for the 2012 "International Year of Sustainable Energy for All"



### FURTHER INFORMATION:

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## Call for Papers

abstracts to be submitted by 30 January 2012

# EU BC&E 2012 20th European Biomass Conference and Exhibition Setting the course for a biobased economy

**2012 a special focus on: Biogas,  
Biowaste, Bioenergy in Smart Grids**

**Milano Convention Centre - MiCo  
Milan, Italy**

**Conference 18 - 22 June 2012  
Exhibition 18 - 21 June 2012**

## Conference General Chairman:

Dr.-Ing. B. Krautkremer  
Fraunhofer Institute IWES  
Head of Bioenergy System Technology

## Coordination of the Technical Programme:

Dr. H. Ossenbrink / D. Baxter / J.-F. Dallemand  
European Commission  
DG Joint Research Centre  
Institute for Energy and Transport

## Jointly realised by:

ETA-Florence Renewable Energies  
WIP-Renewable Energies

## PROGRAMME

The international science and technology Conference of the 20th EU BC&E is the leading Conference in the field of Biomass, comprising more than 800 presentations, in plenary, oral and visual sessions. The 20th EU BC&E attracts policy and industry decision makers through several parallel events addressing special topics which are currently in the centre of discussion.

## NEW

In addition to the Conference Programme, the 20th EU BC&E features four thematic highlights with strong industry relevance. These are “conference-in-conference” events that focus on current “hot topics” in the biomass sector:

- A parallel event on “Biogas upgrading and grid injection”
- A special industry show on “Biogas goes Europe”
- A further side event on “Biowaste to Energy”
- A forum on “Bioenergy in Smart Grids”

## CONFERENCE SUBJECTS

### SUBJECT 1: BIOMASS RESOURCES

#### 1.1 Biomass potentials and biomass mobilisation

Assessments of biomass potentials and land availability at regional / national / international levels; Biomass mobilisation; Biomass logistics; Spatial modelling and remote sensing.

#### 1.2 Biomass feedstock, residues and by-products

Supply of bio-wastes, residues and by-products from agriculture and forestry: mobilisation, characterisation, harvest technologies, logistics and storage.

#### 1.3 Energy crops and energy grasses

Agricultural production of non-woody plant biomass: plant breeding, cultivation, characterisation, harvest technologies, logistics and storage; Novel crops and alternative cropping systems.

#### 1.4 Short rotation forestry and short rotation coppice

Agricultural production of woody biomass: plant breeding, cultivation, characterisation, harvest technologies, logistics and storage.

#### 1.5 Algae production systems

Identification, assessment and optimisation of algae strains; Technologies and systems for algae cultivation, nutrition and harvesting; Oil and chemical extraction.

### SUBJECT 2: R&D ON BIOMASS CONVERSION TECHNOLOGIES FOR HEATING, ELECTRICITY AND CHEMICALS

#### 2.1 Solid biofuel combustion for small and medium scale applications

Innovative concepts for stoves, boilers, micro-CHP, steam and stirling engines, organic rankine cycles, etc.; Abatement of corrosion and sintering;

Emission control; Auxiliary equipment; Tri-generation (power, heat and cooling).

#### 2.2 Solid biofuel combustion for large utility

Co-firing plants; Process monitoring; Control systems; Abatement of corrosion and sintering; Emission control.

#### 2.3 Gasification for power, CHP and polygeneration

Fundamentals and studies; Technology development; Gas cleaning and upgrading; Gas utilisation and engine innovations; By-product utilisation.

#### 2.4 Gasification for synthesis gas production

Fundamentals and studies; Technology development; Gas cleaning and upgrading; By-product utilisation.

#### 2.5 Pyrolysis and other biomass liquefaction technologies

Production of liquid bioenergy carriers from solid biomass: Fundamentals and studies; Technology development; Process characterisation and modelling; Bio-crude-oil upgrading and utilisation (combustion tests, chemical extraction, gasification, etc.); By-product utilisation.

#### 2.6 Anaerobic digestion for biogas production

Characterisation and optimisation of anaerobic digestion; Plant and fermenter concepts; Anaerobic fermentation of innovative feedstocks; Biogas utilisation for power, CHP and poly-generation.

#### 2.7 Biorefineries

Integrated multi-product approaches; (Combined) production of fuels, chemicals and materials from biomass; Sugar fermentation to other chemicals than ethanol; Drop in fuels, bioplastics, hydrogen, etc.

### SUBJECT 3: R&D ON PROCESSES FOR SOLID, LIQUID AND GASEOUS FUELS FROM BIOMASS

#### 3.1 Production and supply of solid biofuels

Technologies for solid biofuel production: chipping, pelletising, briquetting, etc.; Production, characterisation, and combustion properties of solid biofuels from innovative feedstocks; Solid biofuel logistics and storage.

#### 3.2 Advanced solid biofuels

Thermal upgrading of solid biofuels: torrefaction, (hydrothermal) carbonisation, charcoal production, etc.

#### 3.3 Oil-based biofuels

Innovative processes for the production of oil-based fuels (biodiesel, jet fuel, etc.) from oilseeds, algae, wastes, etc.

#### 3.4 Production and supply of biomethane

Upgrading of methane rich gases (biologically and thermochemically produced) and biomethane grid injection.

#### 3.5 Bioethanol production and sugar release from lignocellulosic biomass

Lignocellulosic ethanol: Pre-treatment of lignocellulosic biomass, cellulose hydrolysis, C6 and C5 fermentation; Innovations in bioethanol production from starch / sugar plants.

#### 3.6 Biofuel production from synthesis gas

Production of fuels (FT-diesel, aviation fuels, etc.) and chemicals from syngas.

### SUBJECT 4: INDUSTRIAL DEMONSTRATION AND BUSINESS CONCEPTS

#### 4.1 Biofuels utilisation for heating and cooling

Bio-heat integration into household heating; District heating; Heat and cool supply to industry; Recovery of process heat and waste heat.

#### 4.2 Biofuels utilisation for power generation

Biomass use by utilities; CHP projects; Innovative business concepts such as virtual power plants pooling decentralised micro-CHP plants and stationary engines.

#### 4.3 Biofuels for transport

Liquid and gaseous biofuel utilisation in cars, heavy transport, aviation; Transportation fuel markets; Biofuel blending, distribution and logistics.

#### 4.4 Industrial biorefineries and bio-products

Industrial initiatives on biorefineries and utilisation of lignocellulosic biomass; Integration into existing industrial processes; (Combined) production of fuels, chemicals, materials, bioplastics, fertilizers, etc.

### SUBJECT 5: BIOMASS POLICIES, MARKETS AND SUSTAINABILITY

#### 5.1 International bioenergy trade

Global bioenergy markets; Bioenergy commodities trading, contracting and long distance transports; Externalities assessment; Impacts on markets.

#### 5.2 Sustainability assessment and criteria

Life cycle analyses, sustainability certification, standardisation, and labelling for bioenergy and bio-products; Support programmes; Scientific monitoring; Sustainable resource management.

#### 5.3 Standardisation

National and international standards.

#### 5.4 Assessment of bioenergy effects

Indirect land use change (ILUC); Agricultural intensification; Assessment of GHG reduction and carbon capture; Estimated contribution to the mitigation of climate change; Agro-environmental assessments in temperate and tropical regions.

#### 5.5 Investments and financing of bioenergy projects

Economic viability of bioenergy projects; Availability of funding and financing instruments (Venture capital, Clean Development and Joint Implementation Mechanisms; etc); Financial support schemes.

#### 5.6 International cooperation

Cooperation for supply security, knowledge and technology transfer; Bioenergy for poverty reduction, rural development and energy security.

#### 5.7 Competition between various types of biomass use

Use of biomass for food, feed, fiber, fuel, biomaterials and green chemistry.

#### 5.8 Biomass strategies and policies

National, regional, local bioenergy strategies; Biomass utilisation concepts for bioenergy and biobased products; National Renewable Energy Action Plans; Integration of bioenergy with other renewable energies; Support policies; Public perception and acceptance.

## REVIEW PROCEDURE

Papers will be presented in plenary, oral and poster sessions and all presented papers will be published in the Proceedings. Authors wishing to submit a contribution should read the following instructions carefully and send an abstract by using the Online Submission Form on [www.conference-biomass.com](http://www.conference-biomass.com) by 30 January 2012.

The abstract, single spaced and in English, should include:

- Applicable subject number (1 to 5) and subsection (e.g. 1.2)
- Full title
- Full name and address of one author for all correspondence
- For each author and co-authors, full name, affiliation, address, phone/fax/e-mail
- Purpose of the work
- Approach
- Scientific innovation and relevance
- Results
- Conclusions

The abstract should be one full page (size A4, 210 x 297 mm) plus 1 to 3 explanatory pages, which will facilitate the reviewers' assessment. Each abstract will be reviewed by several independent experts from the global biomass community.

## DEADLINE FOR RECEIPT OF ABSTRACTS: 30 January 2012

Only contributions complying with the above specifications will be considered. Please send one copy of this complete information (abstract plus 1 to 3 explanatory pages) as a \*.pdf file by using the Online Submission Form on [www.conference-biomass.com](http://www.conference-biomass.com).

**For questions concerning abstract submission please contact:**

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All authors will be notified of the decision of the Programme Scientific Committee. Authors of accepted abstracts will receive special guidelines for the preparation of the final papers for the Proceedings.

## NEWS FOR AUTHORS

**Peer Review:** A selected number of submitted papers will be invited for a Peer Review Process for publication in a renowned scientific journal. Please indicate if you would be interested to submit a final scientific paper for Peer Review.

**EU BC&E Student Awards:** To encourage high-quality work amongst young researchers, the EU BC&E Student Awards will be given on the occasion of the 20th EU BC&E in recognition of outstanding students' research in the field of biomass.

**Citability of papers:** All submitted final papers of plenary, oral and visual presentations will be published online and coded by a digital identifier (DOI code) provided by the German National Library of Science and Technology. This guarantees an unequivocal and permanent identification and citability of all papers of the Conference Proceedings.