

Call for papers



EUBCE 2021

29th European
Biomass Conference
& Exhibition

26 – 29th April

Marseille and Online

*Message from the Technical
Programme Chair:*

**Biomass is part of our
low-carbon future.**

It is a great honour to invite you to attend the 29th European Biomass Conference and Exhibition (EUBCE) to be held in Marseille, France, from 26th to 29th of April 2021.

Decarbonisation is at the core of energy and climate policy in the European Union. The European Green Deal reasserts the European Commission's commitment to tackling climate and environmental challenges to reach a carbon-neutral society by 2050. The European Commission's proposal for the first European Climate Law at a legally binding target of net zero greenhouse gas emissions by 2050.

Biomass is part of our low-carbon future. Moreover, bioenergy has a critical role in the energy transition to reach the net zero carbon emission goals. Many biomass technologies have already made significant progress towards commercial applications. There is a need to focus now on industrial implementation to bridge the gap between research and

industry applications. In the context of the economic recovery after the pandemic, despite all challenges, there are major opportunities to enhance the role of biomass and bioenergy as part of a circular bioeconomy, in the context of sustainable development.

Biomass resources, availability and sustainability are key for the contribution of biomass to a low carbon economy. Sustainable bioenergy has a key role to delivering carbon-neutral solutions, in particular for sectors that are hard to electrify, such as aviation, shipping and heavy road transport. Therefore, EUBCE proposes to tackle the perspectives for biomass and to explore local solutions for global challenges.

EUBCE 2021 tackles as usual challenges ranging from cutting-edge research on biomass production and conversion to bioenergy, biofuels and bioproducts, as well as policies, markets and sustainability and industrial implementation. The EUBCE has also regularly debated

Deadline extended

27th November 2020



a wide range of key topics, from biomass production, to land use and land use change, GHG emissions, technology implementation and integration with other renewables. EUBCE proposes a refined programme structure, responding to the trends in biomass technologies and present societal challenges and opportunities addressing sustainable biomass, promoting industrial implementation and fostering international cooperation.

I warmly encourage you to submit an abstract and participate at the EUBCE 2021. The call for abstracts is open until 20 November 2020.

The scientific committee, composed of recognised experts from the global biomass community, is committed to select the best papers and propose a high scientific level conference programme. In this edition, we focus more on tackling the challenges to bridge the gap between research achievement and commercial applications and to analyse the

industry perspectives facing the current challenges and opportunities. We would like to attract in particular the biomass industry actors, by invitation in a dedicated Industry Track, and give them a wider space in the industry sessions to present their technology and the progress in the development of innovative technologies as well as to reveal their plans for demonstrating new technologies in pilot, demonstration and first-of-the-kind plants and other industrial applications.

I am convinced that EUBCE will again prove to be an excellent platform for interacting with others, sharing knowledge and innovation ideas on biomass, bioenergy and bioeconomy.



Dr. Nicolae Scarlat
European Commission,
Joint Research Centre
EUBCE Technical Programme Chair





Abstract submission

Authors wishing to contribute to the Conference Programme should submit the abstract latest by **20 November 2020**.

Abstract format & content

- Language: English
- Length: Four A4 pages max. (main page + 3 explanatory pages)
- Structure:
 - ◊ Aim and approach used
 - ◊ Scientific innovation and relevance
 - ◊ Results or preliminary results and conclusion

Note: This structure provides the basis for the evaluation.

- Authors need to provide:
- Applicable topic number and sub-topic number (e.g. 1.1) (see Annex 1 for the full list of 2021 conference topics and subtopics)
- Full paper title
- Full name, affiliation, address, e-mail and phone of one author for all correspondence
- Full name, affiliation, phone/e-mail for all addi-

tional authors

- **Note:** Industry-oriented abstracts must include at least one co-author from the industry.

Using the online portal

- Register for the online portal [Click here](#)

Note 1: The person registered in the User Area is automatically set as the primary author and contact person for the submission.

Note 2: Modifications to the submission in the online system are possible at any time until the submission deadline. Please avoid double submissions.

- Specify the most relevant EUBCE 2021 conference topic and sub-topic. (see Annex 1 for the full list of 2021 conference topics).

- Upload your abstract in PDF format.

Note: Please make sure that your abstract.pdf is not password protected.

- Receive an automatic email notification after successful submission. If you do not receive this email within 24 hours of submission, please write to papers@etaflorence.it.

- If you would like to withdraw your abstract after the submission deadline, please contact papers@etaflorence.it

Evaluation criteria

Each submission will be reviewed by 3 members of the EUBCE International Programme Committee, which is composed of a scientific-oriented and an industry-oriented sub-committee.

The International Programme Committee is composed of +150 leading scientific and industry experts from the global biomass community, and under the coordination of Dr. Nicolae Scarlat, European Commission's Joint Research Centre's Directorate for Energy, Transport and Climate, with the support of the Members of the Executive Committee.

The main selection criteria are:

Content

- Relevance to the selected conference topic and subtopic specified
- Relevance for stakeholders active in biomass
- Clarity of key messages & substance

Innovation

- Extent to which the key messages & content will advance the understanding, sustainability, applicability, and marketability of biomass.

Quality

- Scientific rigor
- Probability of an engaging conference presentation

Positively evaluated abstracts will be selected for a plenary, oral, or mini-oral-with-visual presentation.

- **Plenary and oral** presentations are reserved for contributions: (1) covering a wider scope, (2) with substance of interest to a broader audience, and (3) highlighting progress and novelties within that topic and subtopic. The plenary and oral presentations will be performed live. Presenters are visible to the audience and can share their screen during the presentation. Audience members can use the live Q&A chat to ask questions.

- **Mini-oral-with-visual** presentations will replace the conventional visual presentation and are predominantly dedicated to submissions of interest to specialists in a particular field. The author can present the poster during a live or pre-recorded mini-oral of three minutes, which can be followed by a live Q&A with audience members, if desired. Poster presentations will then be on display throughout the conference with a brief introductory video, that author can upload.

For questions please contact:
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Publications

• Scopus

The world's largest abstract and citation database of peer-reviewed research literature.

• Proceedings

3.551 Impact Factor. 6.6 CiteScore

All submitted contributions of plenary, oral and mini-oral-with-visual presentations will be published online on the EUBCE Proceedings website. Full papers will be indexed by SCOPUS. The conference proceedings reflect the latest science and technology for biomass & bioenergy. The proceedings have a full free access policy and are searchable online as soon as published.

• Biomass & Bioenergy Special Issue of EUBCE

3.551 Impact Factor. 6.6 CiteScore

A compilation of select works presented at the EUBCE. Biomass & Bioenergy is an international journal publishing original research papers and short communications, review articles and case studies on biological resources, chemical and biological processes, and biomass products for new renewable

sources of energy and materials. The scope of the journal extends to the environmental, management and economic aspects of biomass and bioenergy.

• Energies

Impact Factor: 2.702 CiteScore (2019 Scopus data): 3.8

A peer-reviewed open access journal of related scientific research, technology development, engineering, and the studies in policy and management and is published semi-monthly online by MDPI. Many presenters from previous editions of EUBCE have been featured in Energies.

• BE Sustainable Magazine

A source of news, information, and resources on biomass, bioenergy and the bioeconomy. BE-Sustainable is published by ETA-Florence Renewable Energies. An annual BE Sustainable Special Issue contains a selection of some of the most relevant and cutting-edge contributions presented during each EUBCE.

Full List of EUBCE 2021 Topics

Authors are invited to carefully read the topic descriptions and select the subtopic which most closely matches the key novelty of their work.

1. Sustainable resources for decarbonising the economy

1.1 Biomass potentials and biomass production models

- Assessments of biomass potentials and land availability at regional, national and international levels;
- Assessment of recoverable biomass potential;
- Biomass mobilisation and logistics;
- Spatial modelling and remote sensing;
- Resources mapping.

1.2 Agroforestry residues and by-products

- Supply of biomass and biomass by-products and residues from agriculture and forestry;
- Biomass mobilisation: characterisation, harvest technologies, logistics and storage;
- Resource efficient agriculture and forestry;
- Agro-food waste;
- Agro-industrial feedstocks and side streams.

1.3 Biomass crops and energy grasses

- Agricultural production of woody and non-woody plant biomass: plant breeding, cultivation, characterisation and

harvest technologies, logistics and storage;

- Novel crops, multi-purpose crops, intercropping and alternative cropping systems;
- Biomass plantations increasing sustainability and ecosystem services;
- Crops from marginal lands.

1.4 Algae and aquatic biomass production systems

- Identification, assessment and optimisation of algae strains;
- Technologies and systems for algae cultivation, nutrition and harvesting;
- Integration of wastewater treatment into algae systems;
- CO₂ use in algae systems;
- Marine farming;
- Aquatic plants and aquaculture feeds;
- Aquatic waste streams;
- Aquaculture and fishery residues;
- Algae harvesting, drying, oil and chemical extraction.

1.5 Municipal and industrial wastes

- Potential of Municipal Solid Waste (MSW) for bioenergy, biofuels and bioproducts;
- Availability of biowaste from MSW;
- Techniques for source separation;
- Industrial wastes;
- Downstream use of pulp and paper;
- Sewage sludge, slaughterhouse waste;
- Integrated waste management systems.
- Aquatic waste streams;
- Aquaculture and fishery residues;
- Algae harvesting, drying, oil and chemical extraction.

1.6 Innovative biomass production for energy integrated into traditional agri-forestry systems

- Innovative agri-forestry systems in energy transition;
- Bioenergy production integrated into farming systems;

- Sustainable management practices for agriculture and forestry integrated with biomass production for energy and material use;
- Sustainable farming systems;
- Multiple product opportunities;
- Agro-industry options and economic prospects;
- Low ILUC impact feedstocks;
- Soil fertility and soil productivity improvement – compost, digestate, biochar;
- Phytoremediation solutions for contaminated lands.

2. Biomass conversion for bioenergy

2.1 Production and supply of solid fuels and intermediates

- Innovative agri-forestry systems in energy transition;
- Bioenergy production integrated into farming systems;
- Sustainable management practices for agriculture and forestry integrated with biomass production for energy and material use;
- Sustainable farming systems;
- Multiple product opportunities;
- Agro-industry options and economic prospects;
- Low ILUC impact feedstocks;
- Soil fertility and soil productivity improvement – compost, digestate, biochar;
- Phytoremediation solutions for contaminated lands.

2.2 Biomass and bioliquids combustion for small and medium scale applications

- Innovative concepts for stoves, boilers, micro- and small-CHP, steam and Stirling engines, Organic Rankine Cycles, etc.;
- Abatement of corrosion and fouling;

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

2.3 Biomass combustion in large utilities

- Advanced combustion systems;
- Process modelling and monitoring;
- Control systems;
- Abatement of corrosion and fouling;
- Advanced emission control systems;
- Tri-generation (power, heat and cooling);
- Innovative concepts and thermodynamic cycles;
- High efficiency, increased steam parameters plants.

2.4 Gasification for power, CHP and polygeneration

- Fundamental studies;
- Technology development;
- Process modelling and monitoring;
- Gas cleaning and upgrading;
- Syngas utilisation in engines, turbines and fuel cells;
- Control systems;
- By-products utilisation.

2.5 Gasification for synthesis gas production

- Fundamental studies;
- Technology development;
- Advanced gasification systems;
- Gas cleaning, reforming and upgrading for BTL and SNG applications;
- Control systems;
- By-products utilisation.

2.6 Anaerobic digestion for biogas and biomethane production

- Anaerobic digestion process improvement;
- Advanced plant and fermenter concepts;
- Optimising conversion, improving design and process integration;
- Dry fermentation and thermophilic pro-

- cesses;
- Anaerobic digestion of innovative feedstocks (straw, waste, algae, etc.);
- Biogas utilisation for power, CHP and poly-generation;
- Biogas upgrading to biomethane;
- Biomethane injection into the grid.

3. Biomass conversion to intermediate bioenergy carriers, sustainable biofuels and bio-based products

3.1 Production of thermally treated solid fuels

- Thermal treatment and densification;
- Thermal upgrading of solid fuels: biomass torrefaction, charcoal production, etc.;
- Process optimisation;
- Products characterisation and utilisation.

3.2 Pyrolysis

- Production of liquid bioenergy carriers from solid biomass: Fundamentals and studies
- Technology development;
- Process modelling, improvement and optimisation;
- Bio-oil purification, upgrading and utilisation (combustion, chemical extraction, gasification, etc.);
- By-product utilisation;
- Energy balance and techno-economic analysis.

3.3 Hydrothermal processing

- Hydrothermal carbonisation, production of solid energy carriers;
- Hydrothermal liquefaction, production of liquid energy carriers;
- Fundamentals and studies;
- Technology and process improvement;
- Biocrude production, purification, upgra-

- ding;
- Value-added compounds extraction;
- Energy balance and techno-economic analysis.

3.4 Oil-based and renewable hydrocarbon biofuels

- Hydrothermal carbonisation, production of solid energy carriers;
- Hydrothermal liquefaction, production of liquid energy carriers;
- Fundamentals and studies;
- Technology and process improvement;
- Biocrude production, purification, upgrading;
- Value-added compounds extraction;
- Energy balance and techno-economic analysis.

3.5 Bio-alcohols from sugars, starch and lignocellulosic biomass

- Lignocellulosic ethanol, other alcohols: physical, chemical, physicochemical, biological pre-treatment of lignocellulosic biomass;
- Enzymatic hydrolysis and microorganism fermentation into alcohols;
- Novel C6 and C5 fermentation techniques;
- Innovations in bio-alcohol production from lignocellulosic biomass;
- Downstream wastewater treatment;
- Progress on ethanol production from sugar and starch.

3.6 Biorefineries

- Biorefinery platforms for bio-based products, energy and fuels;
- Combined production of fuels, chemicals and materials from biomass;
- Integrated concepts for bioenergy and bio-based products;



- Process design and business development;
- Process and technology integration into biorefineries;
- Integration of biochemical and thermochemical processes;
- Biofuels from biochemical, chemical and catalytic conversion of sugars;
- Thermochemical conversion of biomass to syngas, bioenergy carriers, synthetic fuels;
- Additional value creation;
- Multi-purpose and versatile schemes;
- Commodities combination;
- Renewable energy utilisation.

3.7 Bio-based chemicals and materials

- Ethylene, propylene, furans, specialist chemicals, etc.;
- Wood-based sugars;
- Advances in renewable chemicals;
- High added value organic compounds;
- Bio-catalysis;
- Bio-based polymers;
- Additives;
- Biolubricants;
- Geotextiles;
- Bioplastics;
- Production of organic fertilizers and compost;
- Nutrients cycles and recovery (nitrogen, phosphorus, potassium).

4. Sustainable bioeconomy: impacts and policies

4.1 Sustainability, socio-economic impacts and public acceptance

- Sustainability schemes, bio-based feedstocks and final products certification;
- National and international sustainability standards;

- Benefits and socio-economic opportunities;
- Competition and risk mitigation of the increased use of biomass;
- Bioenergy, food security and local, traditional use of biomass;
- Evaluation of social impacts;
- Actions for sustainable economic growth;
- Bioenergy contribution to the Sustainable Development Goals (SDG);
- Improving citizen awareness and acceptance, increasing public engagement;
- Promoting good practices for bioenergy.

4.2 Environmental impacts

- Biomass and land use, agricultural intensification, water and air emissions from biomass production and conversion;
- Biomass production preserving biodiversity;
- Agro-environmental assessments;
- Biomass production and ecosystem services;
- Land use change impacts, monitoring and addressing indirect land use changes;
- Land use and land governance;
- Biomass production and water use, energy, land and water interactions;
- Carbon and air emissions;
- Trade-offs between different impacts;
- Environmental Life Cycle Assessments.

4.3 Climate impacts and GHG performance

- Climate impacts of biomass, biofuels, bioenergy and bio-based materials production;
- Climate change mitigation potential;
- Carbon capture and storage potentials in soils, biomaterials, etc.;
- GHG emissions, LULUCF and sustainable forest management;
- Assessing direct and indirect land use change potential;
- Carbon storage on land and materials;

- Innovative carbon utilisation options;
- Assessing GHG of biomass pathways and prioritizing biomass pathways;
- Carbon pricing;
- GHG Life Cycle Assessment.

4.4 Biomass strategies and policies towards a bioeconomy

- Bioenergy policies and targets for 2030 and beyond;
- Bioenergy contribution to a low carbon economy, LULUCF emissions and Emissions Trading Scheme;
- National, regional, local bioenergy and bioeconomy strategies;
- Support programmes;
- Agriculture, forestry and rural development;
- Biomass and rural development, opportunities in the circular and bioeconomy;
- Strategies for international cooperation;
- Biomass utilisation concepts for bioenergy and bio-based products;
- Strategies for the integration of bioenergy into a bio-based economy.

4.5 Resource efficient bioeconomy

- Approaches for efficient management of natural resources (land and water);
- Promoting resource efficient value chains;
- Sustainable circular bioeconomy and cascading use of biomass;
- Competition and risks of the increased use of biomass;
- Opportunities of biomass use for food, feed, fibre, fuels, biomaterials and biochemicals;
- Innovation, growth and job creation;
- Exploiting the value of co-products;
- The role of bio-based chemicals in a sustainable and circular bioeconomy;
- Cross-sectorial synergies to avoid over-exploitation.

5. Bioenergy integration

5.1 Strategies for biomass integrated into energy systems

- National strategies for the integration of bioenergy and high share of renewables;
- Integrated bioenergy planning;
- Electricity and gas grid balancing concepts;
- Concepts and approaches for flexible bioenergy integration;
- Renewable energy communities and buildings;
- Bioenergy and off-grid systems;
- Bioenergy in integrated systems;
- Sustainable bioenergy solutions for local communities;
- Bioenergy in rural electrification concepts;
- Bioenergy and Carbon Capture and Storage (BECCS) enabling negative GHG emissions.

5.2 Technological options for energy grid balancing

- Innovative solutions for smart grids and energy (heat and power) storage;
- Bioenergy and renewable energy distributed generation and systems integration;
- Integrated bioenergy RES hybrid systems and technologies;
- Integrated solutions and biomass systems for short, mid-term and seasonal grid balancing;
- Biomass in district heating and cooling;
- Poly-generation energy networks;
- Greening the gas grids (biomethane, hydrogen etc.);
- Energy and power system modelling.



5.3 Alternative renewable fuels and hydrogen

- Technological innovations of Power-to-X (Power-to-gas, Power-to-liquids, etc.): synthetic fuels, hydrogen, methane, methanol, etc.;
- Renewable fuels of non-biological origin (RFNBO), Recycled Carbon Fuels (RCF);
- Bio-Synthetic Natural Gas (Bio-SNG);
- Algae biofuels production: technology progress and perspectives;
- Electrofuel production and use;
- Hydrogen production: thermochemical, electrolytic, photolytic, biological processes;
- Hydrogen storage systems, novel hydrogen carriers;
- Hydrogen and fuel cells for stationary and mobile applications;
- Alternative fuels and hydrogen infrastructure development.

5.4 Market implementation, investments & financing

- Market uptake initiatives and policies;
- Initiatives for decarbonisation of the economy;
- Policies for the circular, sustainable bioeconomy;
- Challenges of scale-up and market implementation of new technologies;
- Support schemes;
- Economics of bioenergy projects;
- Risk assessment of financing;
- Global bioenergy markets;
- Biomass trade, contracting and logistics;
- Innovative business models.

INSTITUTIONAL SUPPORTER

Coordination of the Technical Programme



INSTITUTIONAL BIOMASS INDUSTRY COOPERATION



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