e-EUBCE 2020
28th European Biomass Conference & Exhibition

Bioeconomy’s role in the post-pandemic economic recovery

VIRTUAL | 6 - 9 JULY

CONFERENCE PROGRAMME
and
EXHIBITION CATALOGUE

Status of 5 July 2020

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A4F is a biotechnology company, located in Portugal, with more than 20 years of accumulated experience in microalgae Research & Development and Industrial Production.

Specialized in the design, build, operation and transfer (DBOT) of commercial-scale microalgae production units, deploying different scalable production technologies that better adapt to our Customers' business.

Also develops standard operating procedures for optimized microalgae production, according to production goals and with industry best practices.
e-EUBCE Live Opening

Monday 6 July 2020

Main Auditorium / web-streamed
Join us for free

Bioeconomy’s role in the post-pandemic economic recovery
The recovery packages as a new window of opportunity for a massive European renewable energy industry

09.00 – 10.00 Scientific Opening Session

CHAIR:
Nicolae SCARLAT
European Commission, Joint Research Centre, Technical Programme Chair

with

David CHIARAMONTI
Polytechnic of Turin, Energy Department, Italy
The effects of the pandemic and energy security coupled to energy storage

Andrè FAAIJ, Director of Science
TNO Energy Transition, Director of Science, The Netherlands
An integral view on the biobased economy in Europe

Q&A

Philippe Mauguin
INRAE President, e-EUBCE General Chair
Welcome Addresses

10.00 - 11.00 Live Panel Debate: Bioeconomy from Concepts to Practices
The International Vision

CHAIR:
Giovanni DE SANTI
European Commission, Director of the Directorate for Sustainable Resources
Bio-economy as an opportunity to increase resilience after the pandemic crisis

with

Maria DA GRAÇA CARVALHO
European Parliament, MEP

Arnaud LEROY
ADEME President, France

Monique AXELOS
INRAE Scientific Director for Food and Bioeconomy, France

Paolo FRANKL
IEA - International Energy Agency, Head of Renewable Energy Division

Jennifer HOLMGREN,
LanzaTech CEO, US

Q&A

11.00 - 12.00 Live Panel Debate: The European Green Deal and Bioenergy

CHAIR:
Paolo FRANKL
IEA - International Energy Agency, Head of Renewable Energy Division
Bioenergy in the Green Deal in international competition with lowest Oil prices

with

Claude TURMES
Minister of Energy of Luxembourg

Giulio VOLPI
European Commission DG Energy Renewables and CSS Policy

Jim SPAETH
IEA Bioenergy ExCo Chair & U.S. Department of Energy, Energy Efficiency & Renewable

Jean-Louis BAL
SER - Syndicat des énergies renouvelables, President, France

Gloria GAUPMANN
LSB Advanced Biofuels Coalition, Chair & Clariant Head of Public Affairs, Technology & Innovation

Freddie STAERMOSE
Generation Fuels and Dry Bulks - Vice President, ARGUS

Q&A

VIRTUAL e-EUBCE FACILITATOR, ANIMATING Q&A MODERATOR:
Heinz OSSENBRINK
Former European Commission, JRC, Renewable Energy and Energy Efficiency

Networking & Exhibition Visiting Time 12.00 - 14.00

Under the High Patronage of
Mr Emmanuel MACRON
President of the French Republic
MONDAY 06 JULY 2020 - ORAL PRESENTATIONS

ORAL SESSION 1AO.1
14.00 - 15.00    Territorial Biomass Assessment

Case studies of territorial biomass assessment and mobilisation from around the world.

CHAIR & MODERATOR:
Enrico CEOTTO
CREA- Council for Agricultural Research and Economics, ITALY

1AO.1.1
M. Ooba, T. Togawa, S. Nakamura
National Institute for Environmental Studies, Fukushima, Japan
An Evaluation of Woody Biomass Production and Consumption by Using of an Integrated and Dynamic indicator of Carbon Sequestration

1AO.1.2
N. Ghasemi, B. Elbersen, M. Van Eupen, S. Mantel
Wageningen Environmental Research, The Netherlands
Identifying Agricultural Abandoned Lands for Biomass Monitoring and Managing Using Landsat Imagery

1AO.1.3
A. Younis, Y. Trujillo, R. Benders, A. Faaij
Energy and Sustainability Research Institute Groningen, University of Groningen, The Netherlands
Subnational Assessment of the Biomass Cost-Supply Potential: Spatial Distribution of Energy Crops and Residues in Colombia

1AO.1.4
LNBR/CNPEM - Brazilian Biorenewables National Laboratory, Brazilian Center for Research in Energy an, Campinas, Brazil
Guidelines for Sugarcane Straw Removal: A Decision-Making Tool for Assessing the Potential and Availability of Biomass

ORAL SESSION 2AO.2
14.00 - 15.00    Production, Characterization and Quality of Solid Biofuels

The session covers presentations regarding the development of innovative methods for solid biofuels characterization, factors influencing fuels quality and biomass management procedures to improve the fuel quality, as well as the combustion behaviour of solid biofuels.

CHAIR & MODERATOR:
Thomas Andreas SCHLEKER
European Commission DG RTD, EU

Peter Arendt JENSEN
Danish Technical University, DENMARK

2AO.2.1
N. Kirstein, C. Hennig
DBFZ -German Biomass Research Centre, Leipzig, Germany
D. Thran
UFZ - Helmholtz Centre for Environmental Research, Leipzig, Germany
Current Status of Solid Biogenic Fuels in the European Union: Overview on Qualities, Standards and Applications

2AO.2.2
A. Pollex, J. Muhlenberg
DBFZ Deutsches Biomasseforschungszentrum gemeinnützige GmbH, Leipzig, Germany
T. Zeng
DBFZ Deutsches Biomasseforschungszentrum gemeinnützige GmbHDBFZ Deutsches Biomasseforschungszentrum, Leipzig, Germany
Development of A Simple and Rapid Test Method for Potassium to Ensure Fuel Quality of Woody Biomass Fuels

2AO.2.3
S. Lavergne, M. Campargue
RAGT Energie, Albi, France
S.H. Larsson
SLU, Umeå, Sweden
M. Marchand
CEA, Grenoble, France
C. Dupont
IHE, Delft, The Netherlands
Effect of Process Parameters and Biomass Composition on Flat-Die Pellet Production from Underexploited Forest and Agricultural Feedstocks
MONDAY 06 JULY 2020 - ORAL PRESENTATIONS

ORAL SESSION 3AO.3

14.00 - 15.00    New Processes for Bioproducts

This session addresses new approaches to bio-based chemicals and materials, and new products types.

CHAIR & MODERATOR:
Tanja BARTH
University of Bergen, NORWAY

Kevin CRAIG
DOE - Golden Field Office, USA

3AO.3.1
S. Kakadellis, Z. M. Harris
Imperial College, London, United Kingdom

Don't Scrap the Waste: Bioplastic Food Packaging is Not Inherently 'Green' but Offers Benefits Through Alternative End-of-Life Management of Food Waste

3AO.3.2
E. Heracleous, E. Pachatouridou, A. A. Lappas
CPERI-CERTH, Thessaloniki, Greece
B. Russell, B. Lee, D. Dugar
VISOLIS, Geleen, The Netherlands

A Novel Hybrid Bio-Thermochemical Route for the Production of Bio-Isoprene Via Decarboxylation of Mevalonolactone (MVL)

3AO.3.3
I. Mediavilla, R. Bados, L. S. Esteban
CEDER-CIEMAT, Lubia-Soria, Spain
M. A. Blázquez
University of Valencia, Valencia, Spain

Characterisation of the Essential Oil and the Biomass Obtained by Mechanised Harvesting of Cistus Ladanifer L.

3AO.3.4
V. Van-Dunem, L. Sanfins, F. Pires, L. C. Duarte, F. Girio, F. Carvalheiro
LNEG, Lisbon, Portugal

Effect of Catalysts on Organosolv Ethanol-Based Pre-Treatment for the Selective Fractionation of Polysaccharides and Lignin

14.00 - 16.00    R&I for Embedded Bioenergy in Energy Consuming Sectors

Networking & Exhibition Visiting Time   15.00 - 15.10

ORAL SESSION 3AO.4

15.10 - 16.10    Technological Improvements of Advanced Ethanol Production

Recent trends on bioalcohols production using new pre-treatments, simultaneous saccharification and fermentation are included in the latest advances addressed in this topic.

CHAIR & MODERATOR:
Francisco GIRIO
LNEG - Laboratorio Nacional de Energia e Geologia, PORTUGAL

James SPAETH
U.S. Department of Energy, USA

3AO.4.1
G. Prasoulas, D. Mamma, D. Kekos
National Technical University of Athens, Greece
A. Konti, N. Scarlat
Joint Research Centre, Ispra, EU

Assessment of the Food Waste as a Feedstock for Bioethanol Production: Simultaneous Saccharification and Fermentation Using Mixed Microbial Cultures and Hydrolytic Enzymes Produced on-Site

3AO.4.2
W. Sun, T. Greaves, M. Othman
RMIT University, Melbourne, Australia

Electro-Assisted Organosolv Pretreatment of Lignocellulosic Materials

3AO.4.3
J. A. Gonzalez-Rios, A. Sanchez
CEMIE-BIO/CINVESTAV, Zapopan, Jal., Mexico
L. Amaya-Delgado
CIATEJ, Zapopan, Jal., Mexico
D. Sauvageau
University of Alberta, Edmonton, Canada

ORAL SESSION 2AO.5

**15.10 - 16.10**  
**Novel Modeling Approaches and Application of Residue Based Fuels**

New models regarding packed bed conversion, alkali release from the fuel bed as well as emission modeling are presented. Moreover, the utilisation of residues from olive production as well as of used cooking oil in novel combustion systems is addressed.

**CHAIR & MODERATOR:**  
Ingwald OBERNBERGER  
BIOS Bioenergiesysteme, AUSTRIA

Jean-Michel COMMANDRE  
CIRAD, FRANCE

**2AO.5.1**  
M. Blank, C. Benesch, I. Obernberger  
Bios Bioenergiesysteme, Graz, Austria  
**Packed Bed Modeling for CFD Simulations of Pellet Combustion**

**2AO.5.2**  
Y. Ge, X. Kong, J. Pettersson  
University of Gothenburg, Sweden  
**Release of Alkali Metal during Biomass Pyrolysis and Combustion**

**2AO.5.3**  
C. Le Dreff, Lorimier DREFF, S. Aguinaga  
CSTB, Nantes, France  
R. Bounaceur, F. Battin-Leclerc, O. Herbinet  
LRGP, Nancy, France  
**AeroCAB Project: Towards a Method to Predict Pollutants from Residential Wood Heating Appliances**

**2AO.5.4**  
A. O’Connell, N. Scarlat  
JRC, Ispra, EU  
G. Vaitilingom  
CIRAD, Montpellier, France  
**Used Cooking Oil as a Blend Fuel for Domestic Heating**

ORAL SESSION 3AO.6

**15.10 - 16.10**  
**Biotechnology for Biobased Products and Materials**

This session focuses on biotechnology in production of chemicals and materials.

**CHAIR & MODERATOR:**  
Solange MUSSATTO  
Technical University of Denmark, DENMARK

Claude MIRODATOS  
CNRS, France

**3AO.6.1**  
P. Yaseneva, P.K. Aulakh, A.A. Lapkin  
University of Cambridge, United Kingdom  
**Analysis of the Influence of Feedstocks and Processing Technologies on Valorisation of Bio-Waste Terpenes**

**3AO.6.2**  
G. Lotti  
Renewable Energy Consortium for Research and Demonstration, ITALY  
**High-Value Compounds Production from Tetraselmis Suecica in a Biorefinery Concept: Lab Scale Investigation Test**

**3AO.6.3**  
C. Mihailof, A. Marianou, S. Karakoula, A. Lappas  
LEFH/CPERI/CERTH, Thessaloniki, Greece  
**Heterogeneously Catalysed Conversion of Cellulose to High-Added Value Chemicals**

Networking & Exhibition Visiting Time 16.10 - 16.20
MONDAY 06 JULY 2020 - ORAL PRESENTATIONS

**ORAL SESSION 1AO.7**

**16.20 - 17.20** Achieving Sustainable Biomass Potentials

Global biomass potentials and sustainability constraints.

**CHAIR & MODERATOR:**
Gerard OSTHEIMER
World Business Council for Sustainable Development, USA

**Andreas KLEINSCHMIT VON LENGEFELD**
FCBA, FRANCE

1AO.7.1
E. Garbolino, T. Pourbaix
MINES ParisTech, Sophia Antipolis, France
W. Daniel
University of Antwerp, Antwerp, Belgium
L. Dieckhoff, M.L. Rabot-Querci
EIFER, Karlsruhe, Germany

Potential Impacts of Climate Change Towards 2050 on Wood Resources in two Contrasted Bioclimatic Regions in France

1AO.7.2
J. Broeze, H. Bos, L. Garcia Chavez
Wageningen Food & Biobased Research, The Netherlands

Quantification of Agricultural Production Potential in Relation to Food and Biobased Demands

1AO.7.3
E.E. Silva Lora, D.M.M. Yepes, T.A.C Dias
UNIFEI, Itajubá, Brazil

Global Potential Assessment of Available Land for Bioenergy Projects in 2050 within Food Security Limits

1AO.7.4
F. Ginaldi, G.A. Cappelli, E. Ceotto
CREA-AA, Bologna, Italy
S.L. Cosentino, S.A. Corinza
Università degli Studi di Catania, Catania, Italy

Assessment of Giant Reed Biomass Potentials (Arundo Donax L.) in Marginal Areas of Italy Via the Application of Arungro Simulation Model

**ORAL SESSION 2AO.8**

**16.20 - 17.20** Innovative Measures Towards High Efficiency and Low Emissions in Large Scale Combustion

The session deals with retrofitting of existing combustion plants, in particular aiming at fuel flexibility and high efficiency. Innovative modeling and experimental methods are also addressed to decrease maintenance costs, support failure prediction and high availability.

**CHAIR & MODERATOR:**
Marco BARATIERI
Free University of Bolzano, ITALY

2AO.8.1
CERTH, Athens, Greece

Combustion of Olive Tree Pruning Pellets Versus Olive Tree Pruning Chips and Exhausted Olive Cake at Industrial Boiler. Monitoring of Emissions and Combustion Efficiency

2AO.8.2
P.A. Jensen, G. Wang, F.J. Frandsen
DTU, Lyngby, Denmark
B. Sander
Ørsted A/S, Fredericia, Denmark

Laboratory and Full Scale Power Plant Study on the Use of Solid Additives in Biomass Fired Pulverized Fuel Power Plants

2AO.8.3
H. Niederwieser, C. Zemann, M. Gölls
BEST - Bioenergy and Sustainable Technologies GmbH, Graz, Austria
M. Reichhartinger
Graz University of Technology, Austria


2AO.8.4
A.W. Mainassara Chekaraou, A. Rousset, B. Peters, X. Besseron
University of Luxembourg, Luxembourg
C. Galletti
University of Pisa, Italy
M.G. Gallo, F. Sansone
Enel Green Power, Rome, Italy

Detailed Numerical Three-dimensional and Transient Analysis of a Grate Firing Combustion Process by Innovative High Performance Computing

2AO.8.5
M.K. Cieplik
TNO, Petten, The Netherlands
J. Kiel
ECN part of TNO, Petten, The Netherlands

Project ARBAHEAT- Taking Coal Plant Repowering one Step Further
Under the High Patronage of
Mr Emmanuel MACRON
President of the French Republic

ORAL SESSION 3AO.9

16.20 - 17.20 Chemical Pathways to Biobased Products

This session focuses on chemical strategies for converting biomass to products.

CHAIR & MODERATOR:
Dieter BRYNIOK
Hochschule Hamm-Lippstadt of University of Applied Sciences, GERMANY

Monique AXELOS
INRAE, FRANCE

3AO.9.1
T. Istasse, G. Debroux, L. Bockstal, A. Richel
Laboratory of Biomass and Green Technologies, University of Liege, Gembloux, Belgium
V. Lemaur, R. Lazzaroni
Laboratory for Chemistry of Novel Materials, University of Mons, Mons, Belgium
Transformation of Monosaccharides to Furanic Compounds and Polymers in Deep Eutectic Solvents

3AO.9.2
S. Rautiainen, N. van Strien, H. Pöhler
VTT, Espoo, Finland
Unique Pathway to Platform Chemicals - 2,5-Furandicarboxylic Acid and Muconic Acid from Sugar Acids

3AO.9.3
C. Løhre, T. Barth
University of Bergen, Norway
R. Brusletto
Arbaflame, Oslo, Norway
Side-Stream Effluent from Large Scale Steam Explosion at Black-Pellet Plant Revealing High Furfural-Content and Added Product-Value

3AO.9.4
J. Köchermann, C. Klüpfel
DBFZ Deutsches Biomasseforschungszentrum, Leipzig, Germany
M. Klemm
DBFZ Deutsches Biomasseforschungszentrum, Leipzig, Gibraltar
Brönsted/Lewis-Acid Combinations for Hydrothermal Production of Levulinic Acid from Starch Residues

Networking & Exhibition Visiting Time 17.20 - 18.30

ORAL SESSION 1BO.1

09.00 - 10.00 Agricultural Residues for Energy Production

Agro-industrial residues for advanced biofuels, bioenergy carriers, heat and for soil amendment.

CHAIR & MODERATOR:
Emmanuel GARBOLINO
ASES France R & D / Climpact Data Science, FRANCE

Raphael SLADE
Imperial College London, UNITED KINGDOM

1BO.1.1
V. Dominov
Forschungszentrum Jülich GmbH, IBG-2: Plant Sciences, Jülich, Germany
H. Herzl, C. Vogel, C. Adam
Federal Institute for Materials Research (BAM, Thermochemical Residues Treatment and Resource Recove, Berlin, Germany
S. Willbold
Forschungszentrum Jülich, ZEA3, Jülich, Germany
G. Vettorazzi Levandowski
Universidade Federal de Goiás (UFG), Goiânia, Brazil
M. Meiler
Fraunhofer UMSICHT, Energy Technology, Sulzbach-Rosenberg, Germany
F. Müller
TU Clausthal (CUTEC), Clausthal-Zellerfeld, Germany
J.W. Zang, W.A. da Fonseca-Zang
Instituto Federal de Goiás (IFG), Goiânia, Brazil
N.D. Jablonowski
Forschungszentrum Jülich, IBG-2: Plant Sciences, Jülich, Germany
S.D. Schrey
Forschungszentrum Jülich, IBG-2: Plant Sciences, Jülich, Germany
Phosphorus Availability and Efficiency of Thermochemical Treatments of Bagasse-Based Fertilizers Depends on Co-Processed Biomass

1BO.1.2
M. Christou, K. Tsiotas, I. Papamichael
CRES, Pikermi, Greece
K. Panopoulos, T. Kraia, G. Karddaras
CERTH, Thessaloniki, Greece
Y. Fallas, N. Ntavos
CLUBE, Thessaloniki, Greece
Agroforestry Residues for Intermediate Bioenergy Carriers

1BO.1.3
M. Ugolini, L. Recchia
CA.RE. FOR. Engineering, Florence, Italy
European Regions Suitability for Advanced Biofuel Production Cases Scenarios for Residual Biomass Supply Chains

1BO.1.4
D.R. Negrao, L.Y. Ling, C. Driemeier
LNBR, Campinas, Brazil
Debris in Sugarcane Bagasse and Straw Zoomed through Microscale X-Ray Analyses
TUESDAY 07 JULY 2020 - ORAL PRESENTATIONS

ORAL SESSION 2BO.2

09.00 - 10.00 Innovative Integrated Gasification Systems Modeling and Demonstration

In this session, typical pilot-scale gasification systems are the focus dealing with aspects of integration of process units.

CHAIR & MODERATOR:
Wiebren DE JONG
Delft University of Technology, THE NETHERLANDS

Yann ROGAUME
University of Lorraine, FRANCE

2BO.2.1
M. Prestipino, F. Famoso, S. Brusca, A. Galvagno
University of Messina, Italy
Process and Location Optimization by GIS-Based Modeling of a Biomass Gasification-Power Plant for Planning Sustainable and Local Bioenergy Systems: A Sicilian Case Study

2BO.2.2
D. Barisano, F. Nanna, A. Villone, E. Catizzone
ENEA, Rotondella, Italy
C. Freda
ENEA, Portici, Italy
F. Cosentino, D. Carboni, F. Di Benedetto
ENEA, Brindisi, Italy
E. Bocci
USGM, Roma, Italy
Towards the Implementation of the BLAZE Technology for CHP Applications: Preliminary Gasification Tests at a Bench Scale Bubbling Fluidized Bed

2BO.2.3
N. Morselli, F. Ottani, P. Tartarini, P. Tartarini
UniMORE, Modena, Italy
Enhanced Heat Transfer in Tubes-In-Shell Heat Exchanger for Syngas Cooling: a Comparison between Conventional and Perforated Twisted Tape Inserts

2BO.2.4
V. Pérez, E. Borjabad, L. Esteban, R. Ramos
CEDER-CiEMAT, Lubia (Soria), Spain
Sewage sludge solar drying and gasification at pilot scale for CHP

ORAL SESSION 3BO.3

09.00 - 10.00 System Assessment in Biorefineries

Techno-economic and life-cycle assessment of biorefineries.

CHAIR & MODERATOR:
Alain QUIGNARD
IFPEN, FRANCE
Yukihiko MATSUMURA
Hiroshima University, JAPAN

3BO.3.1
P. Gurría Albusac
European Commission, Joint Research Center, EU
Biorefineries as Key Element of the Bioeconomy in the European Union

3BO.3.2
C.M. Nwachukwu, A. Toffolo, E. Wetterlund
Luleå University of Technology, Sweden
C. Wang
Swerim, Luleå, Sweden
Optimizing Biomass Utilisation in Iron and Steel Production

3BO.3.3
L. Menin, V. Benedetti, F. Patuzzi, M. Baratieri
Free University of Bolzano, Italy
Techno-Economic Modeling of a Liquid Scrubbing Process for the Co-Production of Biomethane and Biomethanol from Syngas

3BO.3.4
Karlsruhe Institute of Technology, Germany
Biorefinery of Microalgae Via Combination of Pulsed Electric Field Treatment and Hydrothermal Liquefaction - A Techno-Economic Assessment
Bioenergy is considered to play an important role in future scenarios that keep climate warming well below 2°C. Transition towards renewable technologies is a key measure in climate change mitigation. This session will discuss different technological options and conversion routes for bioenergy to develop energy systems towards the energy transition.

**CHAIR & MODERATOR:**
Heinz A. OSENBRINK
Former Head of Unit of European Commission, Joint Research Centre, EU
Pedro HARO
Universidad de Sevilla, SPAIN

**5BO.4.1**
Invited

**5BO.4.2**
X. Li, T. Damartzis, F. Maréchal
EPFL, Sion, Switzerland

**5BO.4.3**
E. Le Net, A. Chappaz, E. Le Goff, V. Lacroix
CEA, Grenoble, France
Carbon Cycle: Comparison of Different Systems Based on Several Sources of Carbon and Energy

**5BO.4.4**
L. Pelkmans
IEA Bioenergy, Mol, Belgium
J. Spaeth
US Department of Energy, Denver, USA
M. Brown
University of the Sunshine Coast, Maroochydore, Australia
K. Kwant
Netherlands Enterprise Agency, Utrecht, The Netherlands
P. Bennett
SCION, Rotorua, New Zealand
P. Buckley
IEA Bioenergy, Dublin, Ireland
U.R. Fritsche
IINAS, Darmstadt, Germany
G. Berndes
Chalmers University of Technology, Gothenburg, Sweden
A. Grassi
ETA Florence Renewable Energies, Italy
V. Djemelinskaia
Social Media Manager, Vienna, Austria
Creating Trust Through Effective, Fact-Based Communication is Key for Further Deployment of Sustainable Bioenergy

**Networking & Exhibition Visiting Time**
10.00 - 10.10
**ORAL SESSION 1BO.5**

**14.00 - 15.00** Biomass on Marginal Land

Land use change and environmental concern over biomass and bioenergy production have fueled research to support the production of biomass on marginal land. In this session presentations will cover a wide range of crops and management strategies for producing biomass on marginal conditions.

**CHAIR & MODERATOR:**
Efthymia ALEXOPOULOU  
CRES - Center for Renewable Energy Sources and Saving, GREECE
Danilo SCORDÌA  
University of Catania, ITALY

1BO.5.1  
M. Acciai, F. Zanetti, A. Monti  
DISTAL - University of Bologna, Italy
B. Elbersen  
Wageningen Environmental Research, The Netherlands
Are Camelina [Camelina sativa (L.) Crantz] and Crambe (Crambe abyssinica R.E. Fr.) Feasible non-food Crops under Sloppy Marginal Land?

1BO.5.2  
K.D.` Thelen  
Michigan State University, East Lansing, USA
G.R. Sanford  
University of Wisconsin, Madison, USA
Marginal Soils Affect Bioenergy Feedstock Yield and Quality

1BO.5.3  
J. Costa  
ISEC, Lisbon, Portugal
L. Gomes, M. Ferreira, G. Graça, A.L. Fernando  
FCT NOVA, Caparica, Portugal
M. Abias  
3UnUniv Católica Moçambique, Caparica, Mozambique
F. Germanà, F. Zanetti, A. Monti  
UNIBO, Bologna, Italy
Production of Oil Crops for Bioenergy Under Heavy Metal Contaminated Soils

**ORAL SESSION 2BO.6**

**14.00 - 15.00** Small Scale Gasification Advanced Testing and Characterisation Related to Emissions

This session concerns research works dedicated to small-scale laboratory characterisation of fuels for gasification and small-scale testing works.

**CHAIR & MODERATOR:**
Wolter PRINS  
Ghent University, BELGIUM
Donatella BARISANO  
ENEA Research Centre, ITALY

2BO.6.1  
K. Koido, K. Kurosawa, M. Sato  
Fukushima University, Japan
Catalytic Role of Ca and K in Erianthus Char Gasification

2BO.6.2  
F. Kerscher, J. Bolz, J. Stellwag, H. Spleithoff  
Technical University Munich, Munich, Germany
Experimental Investigation of Mineral Sorbents for Alkali Removal in Gasification and Combustion Plants

2BO.6.3  
E. Cordioli, M. Baratieri  
Free University of Bolzano, Italy
F. Patuzzi  
Free University of BolzanoFree University of Bolzano, Italy
M.J. Castaldi  
City College of New York, New York, USA
Toluene Cracking Using Char from A Commercial Gasifier without Activation

2BO.6.4  
H. Yokoyama, Y. Matsumura  
Hiroshima University, Higashi-Hiroshima, Japan
Decomposition Rate of Glycine as Protein Model Compound in Supercritical Water
### ORAL SESSION 3BO.7

**14.00 - 15.00** Concepts for Biorefineries

**Integrated concept development.**

**CHAIR & MODERATOR:**
Maria GEORGIADOU  
European Commission, DG RTD, EU  
Robert DASCHNER,  
Fraunhofer-Institut UMSICHT, Energy Management Dpt., GERMANY

**3BO.7.1**
S. Ghysels, A.E. Estrada Léon, N. Priharto, M. Pala, J. De Vrieze, K. Rabaey, W. Prins, F. Ronsse  
Ghent University, Belgium  
N. Acosta Ortiz  
Ghent University, Belgium  
**Improving the Biorefinery Output by Coupling Ethanol Fermentation, Anaerobic Digestion and Pyrolysis**

**3BO.7.2**
G. Haarlemmer, M. Peyrot, M. Briand  
CEA, Grenoble, France  
**Thermochemical Conversion of Industrial Wastes Produced at a Pulp and Paper Mill Into Biofuels**

**3BO.7.3**
J.R. Bastidas-Oyanedel, J.E. Schmidt  
University of Southern Denmark, Odense, Denmark  
**Unlocking Value from Food Waste - Chemicals and Biogas Production**

**3BO.7.4**
J.W. van Hal  
TNO, Petten, The Netherlands  
A.B. Bjerre  
DTI, Taastrup, Denmark  
**Driving on Seaweed: Major Achievements of the H2020 MacroFuels Project towards Producing Biofuels from Macroalgae.**

### ORAL SESSION IBO.8

**14.00 - 15.00** Strategies and Initiatives

**Successful strategies and policies for the industrialization of renewable energy production.**

**CHAIR & MODERATOR:**
Bruno GAGNEPAIN  
ADEME, FRANCE

**IBO.8.1**
D. Bacovsky  
Bioenergy and Sustainable Technologies, Wieselburg, Austria  
**The Contribution of Advanced Renewable Transport Fuels to Transport Decarbonisation in 2030 and Beyond**

**IBO.8.2**
R Mergner, R Janssen, D Rutz  
WIP Renewable Energies, Munich, Germany  
**Smart Strategies for the Transition in Coal Intensive Regions**

**IBO.8.3**
M Gómez, S Zapata, J Aranda, C Bartolomé  
CIRCE - Research Centre for Energy Resources and Consumption, Zaragoza, Spain  
B. Anneveleinik  
WFBR- Stichting Wageningen Research, The Netherlands, The Netherlands  
L. Urciuoli  
ZLC- Fundación Zaragoza Logistics, Spain  
M. Karampini  
CERTH- Ethniko Kefteri Erevnas Kai Technologikis, Greece, Greece  
M. Kougioumtzis  
CERTH- Ethniko Kefteri Erevnas Kai Technologikis, Greece  
C. Gunnarsson, J. Olsson  
RISE Research Institutes of Sweden, Sweden  
A. Kravchenko  
UCAB - Association Ukrainian Agribusinessclub, Ukraine  
A. Suardi  
CREA- Consiglio per la Ricerca in Agricoltura e L'analisi dell'Economia Agraria, Italy  
C. Senat  
APS - Agroindustrial Pascual Sanz, Zaragoza, Spain  
I. Boukis  
NUTRIA - Anonymi Biomichaniki Etairia Typiopisis Kai Emporias Agrotikon, Greece  
D. Karlsson  
LANTMÄNNEN - Lantmännen Ekonomisk Forening, Sweden  
T. Gustafsson  
PROCESSUM - RISE Processum AB, Sweden  
P. Fernández  
Spanish CO-OPS - Cooperativas Agro-Alimentarias de España. Sociedad Cooperativa, Spain  
C. Stavropoulou  
INASO - Institutto Agrotikis Kai Synetairistikis Okinomias INASO PASEGES, Greece  
B. Falcon  
AESA - Agriconsulting Europe S.A, Belgium  
"
TUESDAY 07 JULY 2020 - ORAL PRESENTATIONS

D. Stojiljkovic
UBFME - University of Belgrade. Faculty of Mechanical Engineer, Serbia
C. Jarauta
CIRCE, Spain
From Agroindustries to Integrated Biomass Logistics Centres. AGROinLOG Project: Summary of Final Results

1BO.8.4
G. Lammers
BMNT, Vienna, Austria
The Bioeconomy Strategy of Austria

Networking & Exhibition Visiting Time  15.00 - 15.10

ORAL SESSION 1BO.9
15.10 - 16.10  Annual and Perennial Crops

In this session presentations will tackle agronomic and environmental issues related to a range of annual and perennial biomass crops.

CHAIR & MODERATOR:
Ana Luisa FERNANDO
Universidade Nova de Lisboa, PORTUGAL
Vance OWENS
South Dakota State University, USA

1BO.9.1
W. Zegada-Lizarazu, A. Parenti, A. Monti
University of Bologna, Italy
Is Sunnhemp (Crotalaria Juncea L.) a Valid Biomass Feedstock Alternative in Temperate Climates?

1BO.9.2
D. Scordia, G. Testa, S. Calcagno, S.A. Corinzia, B.R. Ciaramella, A. Piccitto, S.L. Cosentino
UNICT-Di3A, Catania, Italy
Potential and Actual Yield of African Fodder Cane (Saccharum Spontaneum Ssp. Aegypticum) on Areas Affected by Biophysical Constraints

1BO.9.3
M. Christou, E. Alexopoulou
CRES, Pikermi, Greece
F. Zanetti, A. Monti
Unibo, Bologna, Italy
M. Krzyzaniak, M. Stolarski
UWM, Olsztyn, Poland
E.N. Van Loo
WUR, Wageningen, The Netherlands
Effect of Varieties, Sowing Dates and Densities on Camelina & Crambe Yields - Final Results of COSMOS Project
### ORAL SESSION 2BO.10

**15.10 - 16.10**  
**Innovations in Feedstock for Gasification for Synthesis Gas Production**

In this session various feedstocks for the gasification for synthesis gas production are discussed and analysed. Their behaviour on the quality of the fluid is studied.

**CHAIR & MODERATOR:**  
Markus BOLHÄR-NORDENKAMPF  
Valmet, AUSTRIA

David BAXTER  
Former European Commission, Joint Research Centre, EU

#### 2BO.10.1

S. Valin, F. Defoort, S. Ravel, P. Pons de Vincent, S. Thiery, H. Miller  
CEA, LITEN, Grenoble, France

**Fluidized Bed Gasification of New Feedstocks and Blends - Focus on Agglomeration**

#### 2BO.10.2

M. Schmid, G. Scheffknecht  
IFK University of Stuttgart, Stuttgart, Germany

**Closing the Loop for Carbon and Raw Materials by Sewage Sludge Gasification for Syngas and Ash Utilization**

#### 2BO.10.3

E. Paris, F. Gallucci  
CREA, Monterotondo, Italy

D. Borello, B. De Caprariis  
Università La Sapienza, Roma, Italy

V. Ancona

CNR, Bari, Italy

P. Plescia

CNR, Monterotondo, Italy

**Use of an Innovative Instrumental Apparatus for Sampling the Emissions Generated by the Simulation of Energy Conversion Processes of Biomass Obtained from PABR (Plant Assisted Bio-Remediation)**

### ORAL SESSION 3BO.11

**15.10 - 16.10**  
**Bio-Based Products from Biorefineries**

Development of bio-based products.

**CHAIR & MODERATOR:**  
Rene VAN REE  
Wageningen Research, THE NETHERLANDS

Tomasz CALIKOWSKI  
European Commission, EU

#### 3BO.11.1

L. Jasiunas, L. Miknius  
Kaunas University of Technology, Lithuania

**Biodiesel Plant-integrated Production of Biopolyols - A Bioeconomy Approach**

#### 3BO.11.2

S.U. Larsen, A.B. Bjerre  
Danish Technological Institute, Aarhus, Denmark

N. Ma, X. Hou  
Danish Technological Institute, Taastrup, Denmark

A. Bruhn  
Aarhus University, Silkeborg, Denmark

A. Macleod  
Scottish Marine Institute, Argyll, United Kingdom

U.G. Bak  
Ocean Rainforest, Kaldbak, Denmark

**Ensiling of Seaweed Biomass for Biorefining**

#### 3BO.11.3

National Renewable Energy Laboratory, Golden, USA

**Bio-oil as a Platform for Products: Improved Process Economics and Enhanced Utilization of Carbon and Oxygen by Expanding the Product Slate from Catalytic Fast Pyrolysis of Biomass**

#### 3BO.11.4

R. Daschner  
Fraunhofer-Institut Umsicht, Energy Management Dpt., Germany

A. Hornung, S. Eder  
Fraunhofer-Institut UMSICHT, Sulzbach-Rosenberg, Germany

M. Ouadi  
University of Birmingham, United Kingdom

T. Hornung  
Susteen Technologies, Sulzbach-Rosenberg, Germany

J. Zhou  
Verfahrenstechnik Schwedt GmbH, Schwedt/Oder, Germany

D. Lieftink  
HyGear Technology and Services BV, Arnhem, The Netherlands

S. Capaccioli  
ETA-Florence Renewable Energies, Italy
Under the High Patronage of
Mr Emmanuel MACRON
President of the French Republic

A. Contin, S. Bighi, D. Marazza, F. Baioli
Università di Bologna, Ravenna, Italy
I. Rapone, R. Miglio
ENI, Novara, Italy
M. Langley, C. Tuck
WRG, Exeter, United Kingdom
A. Claret, J. Bastos
Leitat, Terrassa, Spain

To-Syn-Fuel Project To Convert Sewage Sludge in Value-Added Products

ORAL SESSION 4BO.12
15.10 - 16.10  Strategy Guidance for Local and Regional Bioenergy Projects
This session will illustrate approaches how local and regional projects for non-food biomass projects for bioenergy and the wider bioeconomy can be fostered.

CHAIR & MODERATOR:
Martin JUNGINGER
Utrecht University, THE NETHERLANDS
Mirjam RÖDER
Aston University, UNITED KINGDOM

4BO.12.1
E. Alexopoulou
CRES, Pikermi, Greece
Non-Food Crops Producing Feedstocks for Bio-Based Products and Materials to Feed EU’s Circular Economy

4BO.12.2
J.S. Ford, P.G. Taylor, C.S.E. Bale
University of Leeds, United Kingdom
The Prospects for Reviving Perennial Energy Crop Cultivation in the UK

4BO.12.3
M. Torre, P. Tratzi, L. Tommassetti, M. Segreto, V. Rizza, P. Fazzini, V. Cozza, V. Paolini, F. Petrachini
CNR - IIA, Monterotondo, Italy
A. Palma, M. Carnevale, E. Paris, F. Gallucci
CREA, Monterotondo, Italy
Development and Evaluation of a Decision Support System for Energy Exploitation of Biomass

4BO.12.4
P. Canciani
Central European Initiative, Trieste, Italy
B. Elbersen
Wageningen University & Research, Wageningen, The Netherlands
C. Panoutsou
Imperial College London, United Kingdom
Fostering Bioeconomy in Central, East And South-East Europe. The Experience of Celebio Project in the Czech Republic, Slovakia, Hungary, Slovenia, Croatia and Bulgaria.

Networking & Exhibition Visiting Time  16.10 - 16.20
ORAL SESSION 1BO.13

16.20 - 17.20 Broadening Opportunities for Bioenergy Feedstock Production from Sustainable Agricultural Practices

The session 1BO.13 discusses integrated biomass production for energy purposes with particular focus on bioenergy production integrated into farming systems. It will give insights into how farming practices can improve by adopting bioenergy feedstock production.

CHAIR & MODERATOR:
Toshimasa MASUYAMA
IRENA - International Renewable Energy Agency, GERMANY

Marisol BERTI
North Dakota State University, USA

1BO.13.1
M. Francavilla, M. Marone, P. Marasco, M. Monteleone
University of Foggia – STAR*Facility Centre– Department of Agriculture, Food and Environment Science, Foggia, Italy

Artichoke biorefinery to obtain the vegetable (artichoke heads) and a range of high-value chemical compounds, feeds and bioenergy

1BO.13.2
C. Panoutsou
Imperial College London, London, United Kingdom
P. Anttila, J. Routa, J. Laitila, A. Asikainen
Luke, Joensuu, Finland
W. Baumgarten
FNR, Berlin, Germany
R. Spinelli
Consiglio Nazionale Ricerca, Rome, Italy
W. Gerwin
BTU Cottbus-Senftenberg, Cottbus, Germany
E. Alakangas
VTT, Juvaskyla, Finland

Opportunities and challenges for broadening biomass feedstock in Europe

1BO.13.3
M. Von Cossel, M. Wagner, J. Lask, E. Magenau, A. Bauerle, J. Lewandowski, B. Winkler
Department of Biobased Products and Energy Crops (340b), Institute of Crop Science, University of Hohenheim, Stuttgart, Germany
V. Von Cossel, K. Warrach-Sagi, V. Wulfmeyer
Institute of Physics and Meteorology (120), University of Hohenheim, Stuttgart, Germany
B. Elbersen, I. Staritsky, M. Van Eupen
Earth informatics, Wageningen University and Research Centre, Wageningen, The Netherlands
Y. Iqbal
College of Bioscience and Biotechnology, Hunan Agricultural University, Changsha, PR. China
N.D. Jablonowski
IBG-2: Plant Sciences, Institute of Bio- and Geosciences, Forschungszentrum Jülich, Jülich, Germany
S. Happe

Institute of Animal Breeding and Husbandry, Kiel University, Kiel, Germany
A.L. Fernando
METRICs, Departamento de Ciências e Tecnologia da Biomassa, Faculdade de Ciências e Tecnologia, Univ, Caparica, Portugal
D. Scordia, S.L. Cosentino
Dipartimento di Agricoltura, Alimentazione e Ambiente (Di3A), University of Catania, Catania, Italy

Bioenergy Cropping Systems of Tomorrow

1BO.13.4
A. Parenti, W. Zegada-Lizarazu, A. Borghesi, A. Monti
University of Bologna, Bologna, Italy

Agronomic performance of dedicated lignocellulosic feedstocks in a double cropping system following a cereal food crop
TUESDAY 07 JULY 2020 - ORAL PRESENTATIONS

Under the High Patronage of
Mr Emmanuel MACRON
President of the French Republic

ORAL PRESESSION 2BO.14

16.20 - 17.20 Advances in Gasification Processes for Synthesis Gas Production

In this session the process related factors for production of syngas are discussed as well as the cleaning and upgrading possibilities.

CHAIR & MODERATOR:
Frederik RONSSE
Gent University, BELGIUM

Jean-Henry FERRASSE
Aix Marseille Universite, FRANCE

2BO.14.1 Invited

2BO.14.2 E.H. Boymans, B.J. Vreugdenhil
TNO, Petten, The Netherlands
Towards Advanced Biofuels Production from Energy Crops; Gasification and Gas Cleaning

2BO.14.3 EUBCE Student Awardee Presentation
H. Boujjat, S. Rodat, G. Mitsuyoshi
CEA, Grenoble, France
S. Abanades, S. Chuayboon
CNRS PROMES, Odeillo, France
Experimentation, Simulation and Scale-Up Study of a Solar Hybrid Reactor for Continuous Biomass Steam Gasification

Institute of Combustion and Power Plant Technology, University of Stuttgart, Stuttgart, Germany
Upgrading of Synthesis Gas From Biomass Gasification by Reforming of Recycled Methane

ORAL PRESESSION 4BO.15

16.20 - 17.20 Resource Efficient Bioeconomy

Resource efficiency in industrial and policy related circular economy strategies.

CHAIR & MODERATOR:
Luc PELKMANS
CAPREA Sustainable Solutions, BELGIUM

Calliope PANOUTSOU
Imperial College London, UNITED KINGDOM

4BO.15.1 L. Visser, R. Hoefnagels, H.M. Junginger
Utrecht University, The Netherlands
G. Latta, R. Pokharel
University of Idaho, Moscow, Usa
Impact of Increased Pellet Production on Feedstock Allocation and Carbon Flux in the SE US

4BO.15.2 EUBCE Student Awardee Presentation
P. Stegmann, M. Londo, M. Junginger
Utrecht University, The Netherlands
V. Daiglou
PBL, Den Haag, The Netherlands
Integrated Assessment of the Role of the Circular Bioeconomy in Climate Change Mitigation: The Case of Plastics

4BO.15.3 A.K. Lutzenberger
KRU FEA, Siek, Germany
A Resource-Efficient Europe - A Programme for Climate, Competitiveness and Employment

4BO.15.4 K.W. Kwant, A.M. Hamer, D. Both, B. Braakman
Netherlands Enterprise Agency, Utrecht, The Netherlands
The Development of the Circular Economy and Role of Biomass in the Netherlands
TUESDAY 07 JULY 2020 - ORAL PRESENTATIONS

ORAL SESSION IBO.16
16.20 - 17.20 Industrial Power and Heat Process and Systems

A selection of innovative projects dealing with pyrolysis, anaerobic digestion, gasification and transport fuels, linked with the use of biomass feedstock or waste.

CHAIR & MODERATOR:
Thomas HABAS
ENGIE, FRANCE

Sylvie VALIN
CEA Grenoble, FRANCE

IBO.16.1
L. van de Bekd, E. Leijenhorst
BTG, Enschede, The Netherlands
S. Ramaswamy, M. Grote, D. Montmann
OWI, Herzogenrath, Germany
A. Toussaint
BTG Bioliqquids, Enschede, The Netherlands
T. Rütten
MEKU, Dauchingen, Germany
Residue2heat: Renewable Residential Heating with Fast Pyrolysis Bio-Oil

IBO.16.2
T.W.F.M. Bouten, J. Withag, A.L.U.E. Axelsson
OPRA Turbines International, Hengelo, The Netherlands
B.A. Putra, A.K. Pozarlik, G. Brem
University of Twente, Enschede, The Netherlands
C. Benesch, T. Brunner
BIOS Bioenergiesysteme, Graz, Austria
Experimental and Numerical Investigation of the Application of Fast-Pyrolysis Oil in a Gas Turbine Combustor

IBO.16.3
L. Wang, M. Perez-Fortes, J. Van, S. Diethelm
EPFL, Sion, Switzerland
Progress of EU project WASTE2GRIDS: Converting WASTE to Offer Flexible GRID Balancing Services with Highly-integrated, Efficient Solid-oxide Plants

IBO.16.4
J. Van Herle
EPFL, Sion, Switzerland
Biogas Cleaning and Integration with Solid Oxide Fuel Cells

Networking & Exhibition Visiting Time 17.20 - 18.30

ORAL SESSION 1CO.1
09.00 - 10.00 Valorization of Municipal and Industrial Wastes for Materials and Energy

This session will present the results from a range of research works focused on the recovery and the valorization of municipal and industrial waste both materials and energy. Experimental trials, concept studies and assessments are included.

CHAIR & MODERATOR:
Jens Bo HOLM-NIELSEN
Aalborg University, DENMARK

Matteo PRUSSI
European Commission, JRC, EU

1CO.1.1
H. Honkanen, T. Pennanen, L. Turunen
JAMK University of Applied Sciences, Jyväskylä, Finland
Testing of Applicability of Pulp Production Waste to Concrete and Concrete-Like Materials

1CO.1.2
L.A. Souza, A. Sanches-Pereira, I.L. Sauer
Institute of Energy and Environment, University of São Paulo, São Paulo, Brazil
Analysis of Energy Recovery from Domestic Wastewater: Identifying Characteristics that Influence Energy Recovery Implementation in Brazilian Municipalities

1CO.1.4
K. Kohansal, L.A. Rosendahl, S.S. Toor, T.H. Pedersen
Aalborg University, Denmark
Water and Nitrogen Management in Hydrothermal Liquefaction of Urban Waste
ORAL SESSION 5CO.2

09.00 - 10.00    Technological Options and Assessments for Energy Integration

This session will discuss different technological options for bioenergy to develop the future energy grids and energy systems.

CHAIR & MODERATOR:
Oskar MEIJERINK
SkyNRG, THE NETHERLANDS

Christian THIEL
European Commission, Joint Research Centre, EU

5CO.2.1
K. Guerra, P. Haro, A. Ronda-Gálvez, R. Gutiérrez, A. Gómez-Barea
Universidad de Sevilla, Spain

Renewable Hydrogen Production, Underground Storage and Highly Flexible and Synchronous Generation of Electricity to Balance the Future European Electric Grid

5CO.2.2
E. Lozano, T. Pedersen, L.A. Rosendahl
Aalborg University, Denmark

Integration of Hydrothermal Liquefaction and Carbon Capture for the Production of Advanced Liquid Biofuels With BECCS

5CO.2.3
A. Agostini, C. Carbone, F. Gracceva
ENEA, Rome, Italy
V. Motola
ENEA, Ispra, Italy
Y. Zong, S. You
DTU, Roskilde, Denmark
M. Perez Fortes, L. Wang
EPFL, Sion, Switzerland

Waste2Grids: The Potential of Waste-based Solid-oxide Plants for Grid-balancing Services

5CO.2.4
M. Dotzauer, K. Schering
DBFZ Deutsches Biomasseforschungszentrum gemmeinnützige GmbH, Leipzig, Germany
K. Deweß
Hochschule Merseburg, Merseburg, Germany

Flexible Bioenergy by Batteries? Comparison of Conventional Capacity Extension and Utilization of Battery Storage Systems for Demand Driven Power Generation of Biogas Plants

ORAL SESSION 3CO.3

09.00 - 10.00    Upgrade of Pyrolysis Products

This session deals with the upgrade of the liquid pyrolysis products by fractional condensation and esterification for chemicals, materials, fuels and energy.

CHAIR & MODERATOR:
Andreas APFELBACHER
Fraunhofer-Institut UMSICHT, GERMANY

Ralph P. OVEREND
Biomass & Bioenergy Journal, CANADA

3CO.3.1
P.J. de Wild
ECN part of TNO, Petten, The Netherlands

Biomass Pyrolysis with Fractionated Product Recovery for Chemicals, Materials, Fuels and Energy

3CO.3.2
M. Peters, T. Schulzke
Fraunhofer UMSICHT, Oberhausen, Germany

Esterification of Pyrolysis Oils with Higher Alcohols to Improve Liquid Properties
ORAL SESSION 4CO.4

09.00 - 10.00  Fostering Sustainability in Bioeconomy

This session will address the issue of sustainability in different biomass supply chains and regions around the world.

CHAIR & MODERATOR:
Alexa LUTZENBERGER
ALRENE, GERMANY

Peter CANCIANI
Central European Initiative, ITALY

4CO.4.1
T. Jayabalan, S. Schucht, E. Real, L. Letinois, S. Proust, M. Marlair
INERIS, Verneuil-en-Halatte, France
F. Sessa, J. Laffely
Quantis, Lausanne, Switzerland
M.C. Romano
Politecnico di Milano, Italy

Sustainability and Safety Assessment of DME Production from Biomass Gasification With Flexible Sorption-Enhanced Processes

4CO.4.2
S.E. Taelman, D. Sanjuan-Delmás, J. Dewulf
Ghent University, Belgium
D. Tonini

Comprehensive Sustainability Framework for European Waste Management Systems: A Case Study on Food Waste as Valuable Resource

4CO.4.3
T.D. Beuchelt
ZEF - University of Bonn, Germany
R. Schneider
Welthungerhilfe, Bonn, Germany
L. Gamba
WWF, Berlin, Germany

Paving a Way for Food Security in Global Biomass Supply Chains

4CO.4.4
R. Diaz-Chavez
SEI, Nairobi, Kenya

Sustainable Integration of Bioenergy And Bioeconomy The Global South. New Forms of Landscape Governance?

Networking & Exhibition Visiting Time  10.00 - 10.10
ORAL SESSION 2CO.5

14.00 - 15.00  Results from Industrial Anaerobic Digestion Plants and Related Research

This session will address the issues of efficiency and ways to improve control in anaerobic digestion plants and biogas cleaning.

CHAIR & MODERATOR:
Dominik RUTZ
WIP Renewable Energies, GERMANY

Serge BIOLLAZ
Paul Scherrer Institut, SWITZERLAND

2CO.5.1
M. Pohl, T. Barchmann, J. Liebetrau
DBFZ Deutsches Biomasseforschungszentrum gemeinnützige, Leipzig, Germany
Biogas Monitoring Programme III: Energy Efficiency Assessment of 61 Biogas Plants in Germany

2CO.5.2
M. Bavaria, S. Borzooei, G. Campo, A. Cerutti, D. Panepinto, B. Ruffino, V. Riggio, M.C. Zanetti
Turin Polytechnic, Italy
G. Scibilia
SMAT Research Center, Turin, Italy
L. Meucci
SMAT S.p.A., Turin, Italy
Optimizing Sewage Sludge Digestion in Wastewater Treatment Plants: A Case Study from the Largest WWTP in Italy

2CO.5.3
M. Kolano, M. Kräume
TU Berlin, Germany
Using Thrust to Control the Mixing Process in Biogas Fermenters

ORAL SESSION 4CO.6

14.00 - 15.00  Environmental Assessments of Biomass Systems

This session evaluates the environmental impacts of different biomass, bioenergy and biorefinery systems, ranging from pulp and paper to rice straw, grass and residues.

CHAIR & MODERATOR:
Uwe R. FRITSCHE
IINAS, GERMANY
Karen Mascarenhas
Imperial College, UNITED KINGDOM

4CO.6.1
A. Ekman Nilsson
RISE Research Institute of Sweden, Lund, Sweden
G. Croxatto Vega, J. Sohn, S. Irving Olsen
DTU Technical University of Denmark, Lyngby, Denmark
Upgrading Agricultural Residues in a Biorefinery Setting: Life Cycle Assessment Including Regional Parameters

4CO.6.2
M. Roeder, P. Thornley
Supergen Bioenergy Hub, Birmingham, United Kingdom
Environmental Performance and Trade-Offs of Biogas Production from Rice Straw

4CO.6.3
G. Balcioglu, H. Jeswani, A. Azapagic
Department of Chemical Engineering and Analytical Science, The University of Manchester, United Kingdom
Environmental Life Cycle Assessment of Energy from Anaerobic Digestion of Different Feedstocks in Turkey

4CO.6.4
L. Timma, T. Kristensen, M. Trydeman Knudsen
Department of Agroecology, Aarhus University, Tjele, Denmark
Dynamic Sustainability Analysis of Green Biorefineries by Combining Life Cycle Assessment and System Dynamics Methods. Case Study of Danish Agriculture
WEDNESDAY 08 JULY 2020 - ORAL PRESENTATIONS

ORAL SESSION 3CO.7
14.00 - 15.00  Pyrolysis Processes and Analytics

The session introduces advanced analytical technologies like Pyrolysis TG-MS. Furthermore, fast Pyrolysis of Lignite via fluidized bed will be discussed. Catalytic pyrolysis and TCR are presented. Detailed Grid Measurements in a Gas Turbine Combustor fueled with pyrolysis oil is focus as well.

CHAIR & MODERATOR:
Wim VAN SWAAIJ
University of Twente, THE NETHERLANDS

Ursel HORNUNG
Karlsruhe Institute of Technology, GERMANY

3CO.7.1
Q. Niu, N. Wu, J. Pieters, W. Prins, F. Ronsse
Ghent University, Belgium
Comparative Study of Microalgae Pretreatment Based on Py-GC/MS for Fast Pyrolysis

3CO.7.2
J. Grunwald, R. Daschner, A. Hornung
Fraunhofer UMSICHT, Sulzbach-Rosenberg, Germany
Thermo-Catalytic Reforming of Sewage Sludge and Hydrogenation of Resulting TCR® Oils - A Route to Renewable Chemicals and Fuels

3CO.7.3
A. Puente-Urbina
ETH Zurich, Switzerland
A. Singh-Morgan
ETH Zurich and University of Edinburgh, Zurich, Switzerland
J. A. van Bokhoven
ETH Zurich and Paul Scherrer Institute, Zurich, Switzerland
Stabilization of GVL-Lignin to Tune Product Selectivity of Fast Pyrolysis

ORAL SESSION ICO.8
14.00 - 15.00  Renewable Fuels: The Industry Perspective

Promising technologies to produce renewable energy from sustainable raw materials.

CHAIR & MODERATOR:
Philippe MARCHAND
Expert, FRANCE
Adam BROWN
REA - Renewable Energy Association, UNITED KINGDOM

ICO.8.1
M. Janhunen, L. Ranta
UPM, Helsinki, Finland
Climate Positive Fuels for Transport Decarbonization: Sequential Cropping Responding to the Need to Develop New Sustainable Feedstock for Lipid Biofuels

ICO.8.2
S. Bezergianni, A. Dimitriadis, L. Chrysikou, P. Manara
Centre for Research & Technology Hellas, Thessaloniki, Greece
M. Auerval, D. Kubicka
University of Chemistry & Technology Prague, Prague, Czech Republic
U. Pfisterer
BP Europa, Bochum, Germany
P. Kukula
Ranido, Prague, Czech Republic
L. Meca
Ranido s.r.o, Prague, Czech Republic
Towards Bio-oil Integration in an Underlying Refinery

ICO.8.3
A. Pekaretz
Wood Technology Company, Irkutsk, Russian Federation
O. Fedorova, Y. Mandre, E. Akin
SPGTUITD, St-Petersburg, Russian Federation
N. Vinogradov
St. Petersburg State University of Technology and Design, St-Petersburg, Russian Federation
Development of Industrial Implementation and Scientific Basis of Innovative Technology for Producing Fuel Wood and Wood-Coal Briquett from Sawdust

ICO.8.4
H. Horn, R. Modaresi
Trefenhkis, Oslo, Norway
J. Dibidiakova
NIBIO, Ås, Norway
A. Vestlund
Bergene Holm, Brandval, Norway
Environmental and Economic Impact of Rapid X-Ray Measurement of Forest Biomass at Bioenergy Plants

Networking & Exhibition Visiting Time 15.00 - 15.15
ORAL SESSION 5CO.9
15.10 - 16.10 Alternative Renewable Fuels

This session will discuss the opportunities of power-to-x, hydrogen and other alternative fuels and the opportunities of using alternative fuels to increase the efficiency of existing biofuels.

CHAIR & MODERATOR:
Patrik KLINTBOM
RISE, SWEDEN

Alain BENGHAOUER
CEA, FRANCE

5CO.9.1
G. Grim, Z. Huang, M. Guarnieri, J. Ferrell, L. Tao, J. Schaidle
National Renewable Energy Laboratory, Golden, Usa
What is the Technical and Economic Feasibility of Utilizing Electricity-Driven CO2 Reduction to Transform our Carbon Economy?

5CO.9.2
H. P. Schmid
WS Reformer, Germany
Analysis and Comparison of Transport Fuels from Biogas Origin

5CO.9.3
G. Zamboni, M. Capobianco
University of Genoa, Italy

5CO.9.4
M. Padella, R. Edwards, A. O’Connell, N. Scarlat
JRC, Ispra, EU

ORAL SESSION 4CO.10
15.10 - 16.10 Environmental Impacts of Biomass Systems

This session covers different conversion routes and their contribution to climate mitigation. The approaches are divers in relation to conversion technologies addressed, methodologies applied, and policy perspectives taken.

CHAIR & MODERATOR:
Guido REINHARDT
IFEU-Institut Heidelberg, GERMANY

Rocio DIAZ-CHAVEZ
Stockholm Environment Institute, KENYA

4CO.10.1
T. Mai-Moulin, R. Hoefnagels, M. Junginger
Utrecht University, The Netherlands

4CO.10.2
M. Kaltschmitt
Hamburg Technical University, Germany
H.M. Junginger
Utrecht University, The Netherlands
B. Buchspies
Hamburg University of Technology, Hamburg, Germany
Straw Utilization for Biofuel Production: A Consequential GHG Assessment of Bioethanol and Biomethane Provision with a Focus on the Time-Dependency of Emissions

4CO.10.3
S. Proskurina, E. Vakkilainen
LUT University, Lappeenranta, Finland
R. Sikkema
Wageningen University & Research (WUR), Environmental Sciences Group, The Netherlands
M. Banja
Air and Climate Unit, Directorate for Energy, Transport and Climate, JRC, RC, Ispra, Italy
How shall the EU Countries Contribute to the 2030 Renewable Energy Target in the New NECP’s and what is the Environmental Impact of using Solid Biomass?

4CO.10.4
Steven Mandley
Utrecht University, Energy & Resources Dpt., The Netherlands
Eu Bioenergy In 2050: The What, Where And Why - An Assessment of Global and Regional Climate Policy on Future EU Bioenergy Consumption, Trade Requirements and Mitigation Potential -
ORAL SESSION 3CO.11
15.10 - 16.10  Process Development, Modeling and Liquid Product Upgrading

Modeling and schemes for hydrothermal processes are presented in the first part of the session, followed by a detailed focus on catalytic hydrotreatment of HTL biocrudes: what are the challenges and how can they be addressed?

CHAIR & MODERATOR:
Scott TURN
University of Hawaii, USA

Pavlina NÁNOU
ECN part of TNO, THE NETHERLANDS

3CO.11.1
E. Moghaddam, W de Jong
TU Delft, The Netherlands
M. Siedlecki, K. Michalska
CBI Pro-Academia, Lodz, Poland

Supercritical Water Gasification of Multi-Sourced Wet Biomasses: From the Lab-Scale Experiments towards a Novel design of a SCWG Plant

3CO.11.2
C. Penke, L. Moser, V. Batteiger
Bauhaus Luftfahrt, Taufkirchen, Germany

Modeling of Cost Optimized HTL Fuel Production by Process Integration

3CO.11.3
D. Castello, M.S. Haider, L.A. Rosendahl
Aalborg University, Denmark

Denitrogenation: A Big Challenge for Biocrude Upgrading to Drop-In Fuels

ORAL SESSION ICO.12
15.10 - 16.10  Full Chain Demonstration of Advanced Biofuels

Various feedstocks are converted to a variety of products in complete demonstration plants. Operation experiences and next step of developments will be in focus.

CHAIR & MODERATOR:
Bert VAN DE BELD
BTG Biomass Technology Group, THE NETHERLANDS
Ingvar LANDÅLV
Fuel & Energy Consulting, SWEDEN

ICO.12.2
M. Hitzl, M. Hernandez
Ingelia, Valencia, Spain
M. Renz
ITQ, Valencia, Spain
C. Wang, P. Cobden
Swerim, Lulea, Sweden

Carbon sourcing of Cupola Furnace Industry with Hydrothermally Carbonised Paper Sludge, a Circular Economy Model

ICO.12.3
A. Koudil
Bionext, Solaize, France
G. Cheviron
Axens, Rueil-Malmaison, France
N. Ullrich
tKIS, Dortmund, Germany
L. Bournay
IFPEn, Solaize, France
M. Hecquet
Total, Harfleur, France

The BioTfuel Project for Second-generation Biofuels: Towards the Completion of more than 10 Years R&D Efforts

Networking & Exhibition Visiting Time  16.10 - 16.20
ORAL SESSION 5CO.13

16.20 - 17.20  Market Perspectives for Biomass in the Green Deal

This session presents the market perspectives and the required conditions to make this market grow within the EU Green Deal. All sectors: biofuels, bioproducts and sustainable biomass production are incorporated.

**CHAIR & MODERATOR:**
Giuliano GRASSI
European Biomass Industry Association, BELGIUM
Kees KWANT
Netherlands Enterprise Agency, Ministry of Economic Affairs, THE NETHERLANDS

**5CO.13.1**
A. Uslu, J. van Stralen
TNO Energy Transition, Amsterdam, The Netherlands
Systemic Analysis of Renewable Fuels (RESfuels) for 2030 and Beyond.

**5CO.13.2**
M. Prussi, N. Scarlat, J. Rejharova
EC-JRC, Ispra, EU
M. Acclaro, V. Kosmas KLU, Hamburg, Germany
Greening EU Waterborne Sector: The Potential Contribution of Biofuels

**5CO.13.3**
M.M.M. Overbeek
Wageningen Economic Research, The Hague, The Netherlands
A.C. Hoes
Wageningen Economic Research, The Netherlands
S. Albertini
FVA, Rome, Italy
Challenges for the Uptake of Bio-based Products

**5CO.13.4**
U.R. Fritsche
IINAS, Darmstadt, Germany
K. Moosmann
GIZ, Eschborn, Germany
T. Pirelli
FAO & GBEP, Rome, Italy
K. Sander
World Bank, Washington, DC, USA
Forest Landscape Restoration and Sustainable Bioenergy as a Bridge to Achieve the Paris Agreement, and the SDGs: Implementation Experiences and Financing Options

ORAL SESSION 3CO.14

16.20 - 17.20  Treatment and Analysis of Hydrothermal Process Streams

Advanced analytics on hydrothermal process streams and a detailed view of hydrothermal carbonization aspects are presented.

**CHAIR & MODERATOR:**
Lasse ROENDAHL
Aalborg University, DENMARK
Tim SCHULZKE
Fraunhofer UMSICHT, GERMANY

**3CO.14.1**
N.L. Taufer, V. Benedetti, M. Baratieri, M. Pecchi
Free University of Bolzano, Italy
Y. Matsumura
Hiroshima University, Japan
D. Basso
HBI, Bolzano, Italy
Experimental investigation into the Coupling of Hydrothermal Carbonization of Digestate and Supercritical Water Gasification of Liquid by-products

**3CO.14.2**
U. Kongjampree, T. Barth
University of Bergen, Norway
The Fate of Pharmaceutical Residues during HTL Conversion of Biogas Residues Relative to Bio-oil Yields

**3CO.14.3**
D. Baudouin, R. Wang, R. Deplazes, F. Vogel
PSI - Paul Scherrer Institut, Villigen, Switzerland
R. Kirsten, T. Wintgens
FHNW, Muttenz, Switzerland
The Behaviour of Black Liquor Salts Under Hydrothermal Conditions and their Continuous Extraction

16.20 - 18.20  Algae Industry Workshop

Networking & Exhibition Visiting Time  17.20 - 18.30
THURSDAY 09 JULY 2020 - ORAL PRESENTATIONS

Under the High Patronage of
Mr Emmanuel MACRON
President of the French Republic

ORAL SESSION 2DO.1

09.00 - 10.00  Biogas Cleaning and Use in Local Communities

This session covers biogas cleaning in the form of siloxane removal and small-scale treatment for use in fuel cells, and in addition, biogas production from residues for use in decentralized local communities.

CHAIR & MODERATOR:
Alessandro AGOSTINI
ENEA Research Centre, ITALY

Ioana IONEL
Politehnica University of Timisoara, ROMANIA

2DO.1.1
E. Takaluoma, A. Rimpiläinen
University of Applied Science Kajaani, Finland
Novel Geopolymer Adsorbents for Siloxane Removal from Biogas

2DO.1.2
B.A. Pereira, T.F. Sawatani, T.S.O. De Souza
Department of Hydraulic and Environmental Engineering, Polytechnic School, University of São Paulo, Brazil
Institute of Energy and Environment, University of São Paulo, Brazil
G.M.F.L Leite, A.A. Baptista
Department of Agribusiness, Food and Nutrition, University of São Paulo, Piracicaba, Piracicaba, Brazil
Energy Recovery of in Situ Shredded Kitchen Residues: Decentralized Municipal Organic Solid Waste Treatment and Bioenergy Generation Potential for a Local Community in Brazil

2DO.1.3
Paul Scherrer Institute, Villigen, Switzerland
M. Gandiglio, A. Lanzini
Politecnico di Torino, Italy
P. Gislon, S. McPhail, F. Santoni
ENEA CR Casaccia, Rome, Italy
Development of a Small-Size Cleaning Unit for Biogas Use in High-Efficiency Fuel Cells: Experimental Investigation of Different Sorbents Materials

ORAL SESSION 4DO.2

09.00 - 10.00  GHG Performance of Bioenergy Including Carbon Capture

This session addresses the potential, feasibility and challenges for different strategies for climate mitigation with bioenergy and carbon capture.

CHAIR & MODERATOR:
Monica PADELLA
European Commission, JRC, EU

Pierre COLLET
IFP Energies Nouvelles, FRANCE

4DO.2.1
S. Garcia-Freites
Tyndall Manchester, Manchester, United Kingdom
M. Roeder
Supergen Bioenergy Hub, Birmingham, United Kingdom
Feasibility of Bioenergy with Carbon Capture and Storage (BECCS) Under the Uk’s Net-Zero Emission Target

4DO.2.2
K.L.. Mascarenhas, S.T. Coelho, J.R. Meneghini
Research Centre for Gas Innovation (RCGI / FAPESP / Shell), São Paulo, Brazil
Challenges for BECCS Implementation through a Socio-technical Approach

4DO.2.3
M.P . van Veen, H.M. Junginger
Utrecht University, The Netherlands
K. Zagt
Bareau, Heerenveen, The Netherlands
Identifying the Greenhouse Gas Reduction Potential of Autogenerative High Pressure Digestion

4DO.2.4
Yuri Kroyan
Aalto University, Mechanical Engineering Dpt., FINLAND
End-Use Performance of Alternative Fuels in Aviation, On-Road and Marine Transportation
THURSDAY 09 JULY 2020 - ORAL PRESENTATIONS

ORAL SESSION 3DO.3

09.00 - 10.00 Innovations in Advanced Biofuels Production and Use

This session deals with innovations and progress in processes for advanced biofuels production from different feedstocks.

CHAIR & MODERATOR:
Guillaume BOISSONNET
Commissariat à l’Energie Atomique, FRANCE
Dimitrios SIDIRAS
University of Piraeus, GREECE

3DO.3.1
D. Chiaramonti, T. Barsali, D. Casini
RE-CORD/UniFi, Florence, Italy
S. Thion
Total, Courbevoie, France
O. Meijerink
SkyNRG, Amsterdam, The Netherlands
B. De Ulibarri
CENER, Sarriguren, Spain
Y. Herreras Yambanis
Camelina Company Espana, Fuente el Saz de Jarama, Spain
M. Cocchi
ETA Florence Renewable Energies, Italy
A. Jones
Joint Research Center, Brussels, Belgium

BIO4A: Bringing SAF to Scale and Delivering Sustainable Lipids for Aviation

3DO.3.2
C. Frilund, S. Tuomi, E. Kurkela
VTT, Espoo, Finland
M. Selinsek
Ineratec, Karlsruhe, Germany

Compact Gasification and Synthesis Process for Transport Fuels: PDU-Scale Validation of Complete BtL Process

3DO.3.3
S. Gori, C. Antonetti, F. Doveri, A.M. Raspolli Galletti, G. Pasini, G. Caposchiutti, S. Frigo
University of Pisa, Italy

A Green Approach for the Valorisation of Arundo Donax L. and Paper Mill Waste to Produce the Advanced Biofuel N-Butyl Levulinate

3DO.3.4
S. Rios, O. Lépine
AlgoSource Technology, Saint-Nazaire, France
S. Awad, D. Drouin, J. Pruvost, J. Legrand
GEPEA, Saint-Nazaire, France

Experimental Study on the Production of Biodiesel from Nannochloropsis Oceanica Microalgae and its Engine Tests

09.00 - 11.00 Overcoming Collaboration Challenges Between the Feedstock Owners and Bio-Based Industries

Networking & Exhibition Visiting Time 10.00 - 10.10
ORAL SESSION 2DO.4

10.10 - 11.10 Biological Methanation Processes

Biological methanation is the focus of this session with examples of a trickle bed reactor, ex-situ biotrickling filter methanation and in-situ methanation with hydrogen additions.

CHAIR & MODERATOR:
Bernhard DROSG
BEST - Bioenergy and Sustainable Technologies, AUSTRIA

Arthur WELLINGER
European Biogas Association, BELGIUM

2DO.4.1
J.M. Triolo, L. Yde
University of Southern Denmark, Odense, Denmark
Assay for Testing Packing Materials for Ex-Situ Bio-Methanation

2DO.4.2
Invited

2DO.4.3
T. Weidlich, T. Trabold, P. Treiber, M. Neubert, J. Karl
Friedrich-Alexander-Universität Erlangen-Nürnberg, Chair of Energy Process Engineering, Nuremberg, Germany
Experimental Performance of a Trickle-Bed Reactor for Biological Methanation

ORAL SESSION 4DO.5

10.10 - 11.10 International Strategies and Governance Systems for Bioenergy and the Bioeconomy

This session will focus on a variety of strategies and governance mechanisms to steer bioenergy and the bioeconomy in different world regions.

CHAIR & MODERATOR:
Birger KERCKOW
FNR - Agency for Renewable Resources, GERMANY

Robert M’BAREK
European Commission, JRC, EU

4DO.5.1
Y. Zhou, N. Pavlenko, B. Comer, S. Searle
International Council on Clean Transportation, Washington D.C., USA
D. Rutherford
International Council on Clean Transportation, San Francisco, USA
Biofuel’s Potential in International Shipping Decarbonization

4DO.5.2
C. Panoutsou, A. Singh, T. Christensen
Imperial College, London, United Kingdom
L. Pelkmans
Caprea, Brussels, Belgium
Informed Decision Making in Bioeconomy Through Use of Value Chain Indicators

4DO.5.3
F.X. Johnson, M. Fielding, G. Gladkykh, O. Olsson
Stockholm Environment Institute, Sweden
N. Canales
Stockholm Environment Institute, Bogota, Colombia
M. Ogeya
Stockholm Environment Institute, Nairobi, Kenya
R. Ballis
Stockholm Environment Institute, Boston, USA
M. Aung
Stockholm Environment Institute, Bangkok, Thailand
Governance Alternative Bioeconomy and Development Pathways: An International Comparison

4DO.5.4
Wageningen UR, The Netherlands
Governance in Transitions Towards A Circular and Climate Neutral Society
ORAL SESSION 3DO.6

10.10 - 11.10 Thermally Treated Biomass - From Fundamentals to Applications

Intermediate (commodity) bioenergy carriers are key in making forestry, agricultural biomass (residues) and organic wastes available for biochemicals/materials and bioenergy applications. They facilitate logistics and conversion, but also sustainability certification and trade. This session addressed production, production fundamentals and application of solid bioenergy carriers produced via thermal treatment.

CHAIR & MODERATOR:
Jaap KIEL
ECN part of TNO, THE NETHERLANDS
Liang WANG
SINTEF Energy Research, NORWAY

3DO.6.1
H. Demey, T. Melkior, A. Chatroux, M. Grateau, P. Pons de Vincent, S. Thiery, M. Marchand
Commissariat à l’Energie Atomique et aux Energies Alternatives, Grenoble, France
Torrefaction of Poplar Biomass: Manufacturing of Efficient Biocoal Materials for Cofiring Applications and as Reducing Agents in Metallurgical Industries

3DO.6.2
L.G.O. Galvão, B. S. Chaves
Forest Products Laboratory, Brazilian Forest Service, Brasilia, Brazil
E.A. Silveira, A. Caldeira-Pires, M.V. Girão de Morais
Mechanical Engineering Dpt., University of Brasilia, Brazil
P. Rousset
French Agriculture Research Centre for International Development, Montpellier, France
A.T. do Vale
Forest Engineering Department, University of Brasilia, Brazil
Combined Thermo-Acoustic Upgrading of Solid Fuel: Experimental and Numerical Investigation

3DO.6.3
R. Deutsch, S. Martini, N. Kienzl
BEST - Bioenergy and Sustainable Technologies GmbH, Graz, Austria
C. Strasser
BEST- Bioenergy and Sustainable Technologies GmbH, Graz, Austria
Customizing Biomass as Reducing Agent in Blast Furnace Ironmaking - Reduction Potential and Fluidization

3DO.6.4
EUBCE Student Awardee Presentation
C. Saavedra, L. Simonin, S. Martinet
CEA-LITEN, Grenoble, France
C. Mathei-Ghimbeu
CNRS, Mulhouse, France
C. Dupont
IHE, Delft, The Netherlands
This visual session covers different methodologies to assess sustainability for different regions and pathways, including resource efficiency in value chains for energy, fuels and biobased products for the bioeconomy are addressed. In addition, strategies and policies for bioeconomy in many different countries and regions of the world are addressed for a wide range of biomass substrates and their conversion to diverse bioproducts.

**CHAIR & MODERATOR:**

**Calliope PANOUTSOU**  
Imperial College London, UNITED KINGDOM

**Rocio DIAZ-CHAVEZ**  
Stockholm Environment Institute, KENYA

**4AV.1.1**
B. Sunmfleth, S. Majer  
DBFZ Deutsches Biomasseforschungszentrum, Leipzig, Germany

D. Thran  
Helmholtz Zentrum für Umweltforschung UFZ, DBFZ Deutsches Biomasseforschungszentrum, Leipzig, Germany

Low iLUC Risk Indicators for Certification in the EU Bioeconomy

**4AV.1.2**
C.M.T. Rocha, S.T. Coelho  
Institute of Energy and Environment, University of São Paulo, Brazil

T.A.G. Fuentes  
Institute of Ecology, National Autonomous University of Mexico, Mexico City, Mexico

A. Ghilardi  
Research Center in Environmental Geography, National Autonomous University of Mexico, Mexico City, Mexico

Energy Utilization of Biomass Residues in Underdeveloped Communities: Study Brazil and Mexico

**4AV.1.3**
A. Sánchez, M. López-Ortega  
Unidad Guadalajara de Ingeniería Avanzada, Centro de Investigación y Estudios Avanzados (CINVESTAV), Zapopan, Jalisco, Mexico

T. L. Junqueira, A. Bonomi  
Brazilian Biorenewables National Laboratory (LnBr), Campinas, São Paulo, Brazil

Enhancing Sustainable Sugarcane Bioethanol Production In Mexico with the Brazilian Experience

**4AV.1.4**
L. Zihare, I. Muizniece, A. Kubule, D. Blumberga  
Riga Technical University, Riga, Latvia

Country Level Sustainability Evaluation of Bioeconomy

**4AV.1.5**
B.S. Elbersen, R. Bugter  
Wageningen Environmental Research, Wageningen, The Netherlands

M. Leeuwen, van  
Wageningen Economic Research, Wageningen, The Netherlands

K. Meesters, J. Broeze  
Wageningen Food and Biobased Research, Wageningen, The Netherlands

R. Jongshaap  
Wageningen Plant Research, Wageningen, The Netherlands

P. Mostert, M. Vries, de  
Wageningen Livestock Research, Wageningen, The Netherlands

I. Fels-Klerx, van der  
Wageningen Food Safety Research, Wageningen, The Netherlands

G. Piet  
Wageningen Marine Research, Wageningen, The Netherlands

Monitoring Circularity in the Bioeconomy: The Example of the Netherlands

**4AV.1.6**
M. Von Cossel, C. Amarysti, H. Wilhelm, N. Priya, B. Winkler, L. Hoerner  
Dpt.of Biobased Products and Energy Crops (340b), Institute of Crop Science, University of Hohenheim, Stuttgart, Germany

Changes in Energy and Material Cycles of a Biogas Plant through Replacing Maize with Cup Plant

**4AV.1.7**
R. M’tbarek, G. Philippidis, T. Ronzon  
European Commission, JRC, EU

Synergies and Trade-Offs of Sustainable Development - A Bio-Economic Perspective with SDG Insights

**4AV.1.8**
M.C. Vivas-Cuellar, E.A. Collado Dominguez, D.A. Arias Durand, D. Jorge Rimachi  
Universidad Nacional de Ingenieria, Lima, Peru

O.G. Marin Flores  
Washington State University, Pullman, USA

Clean Technologies for Obtaining Feather Flour by the Physical Hydrolysis Method Using Chicken Feather Waste

**4AV.1.9**
D. Rutz, F. Colmorgen, R. Janssen  
WIP Renewable Energies, Munich, Germany

Biogas - Global Challenges, Markets and Cooperation Opportunities

**4AV.1.10**
L. Hagman  
Linköping University, Sweden

Creating a Circular Biorefinery Through Anaerobic Digestion

**4AV.1.12**
T. Ranta, M. Laihanen, A. Karhunen  
LUT University, Lappeenranta, Finland

Sustainability of Forest-Based Bioenergy- A Student Survey

**4AV.1.13**
B. Velázquez Martí  
Departamento de Ingeniería Rural y Agroalimentaria, Universitat Politècnica de València (Spain), Valencia, Spain

C. Mena Campoverde  
Facultad de Economia, Universidad Católica de Santiago de Guayaquil (Ecuador), Guayaquil, Ecuador

Model for the Distribution of Energy and Food Crops to Maximize GDP and Guarantee Food Sovereignty
MONDAY 06 JULY 2020 - VISUAL PRESENTATIONS

Under the High Patronage of
Mr Emmanuel MACRON
President of the French Republic

Wageningen University & Research Centre, The Netherlands
Higher Efficiencies First or Diversification of Support for Bio-Heat and -Electricity?

4AV.1.32
Z.M. Harris, J. Feng, D. Ying, E Sevigné-Itoiz, Y. Kountouris
Centre for Environmental Policy, Imperial College London, London, United Kingdom
T.J. Hudelson, H. Lieth, G. Taylor
Plant Sciences Department, University of California, Davis, Davis, USA

Vertical Farming as a Game Changer for BECCS Technology

4AV.1.37
E. Falch, V. Hjellnes
NTNU, Norwegian University of Science and Technology, Trondheim, Norway
R. Slizyte
SINTEF Ocean, Trondheim, Norway
N. Kaushik
Amity University, Nodia, India

The power of educating students to make an impact on food loss reduction in a global perspective

4AV.1.39
A. Pavlou, G. Penloglou
CERTH/CPERI, Thessaloniki, Greece
C. Kiparissides
CERTH/CPERI & AUTH, Thessaloniki, Greece

Chemicals and Polymers from Microalgae: an Economic Assessment

4AV.1.42
L. Fryda
TNO, Petten, The Netherlands
F. Carvalheiro, L. Duarte, C. Oliveira
LNEG, Lisbon, Portugal
I. del Campo
CENER, Navarra, Spain

The Role of Protocols and Benchmarks in a Bio Based Economy

Networking & Exhibition Visiting Time 15:00 - 15:10
VISUAL PRESENTATIONS 4AV.2

15:10 - 16:10 Environmental and Climate Impacts of Biomass Systems

This session deals with land and soil interactions associated with biomass production systems from an ecosystem perspective. This session also deals with a range of processes for reduced GHG emissions, carbon capture, BECCS/BECCUS, C-efficiency in energy systems including transport, and the impacts of biomass crops on soils in different regions of the world.

CHAIR & MODERATOR:
Monica PADELLA
European Commission, JRC, EU
Mirjam RÖDER
Aston University, UNITED KINGDOM

4AV.2.2
R.-U. Syrbe, T. H. Tran, K. Grunewald, H. Herold, G. Meinel
Leibniz Institute of Ecological Urban and Regional Development, Dresden, Germany
Biomass Based Residential Heating as Ecosystem Service - Spatial Implications and Service Trade-Offs of German Energy Transition

4AV.2.3
I. Fraboulet, F. Del-Gratta
INERIS, Verneuil-en-Halatte, France
J.S. Andersen, M.W. Warming-Jespersen
DTI, Aarhus, Denmark
D. Bäckström
RISE, Borås, Sweden
S. Janhäll
RISE, Borås, Sweden
F. Hugony
ENEA, Milan, Italy
C. Morreale
INNOVHUB, Milan, Italy
European Inter-Comparison Campaigns on PM and OGCs Atmospheric Emissions Test Methods from Residential Wood Combustion using a Stack Simulator Generating Real Biomass Combustion Gases

4AV.2.35
E. Alexopoulou
CRES - Center for Renewable Energy Sources and Saving, Biomass Dpt., GREECE
Growth Responses of Sorghum and Switchgrass to Heavy Metals

4AV.2.5
University of Gothenburg, Sweden
S. Carlsson, K. Davidsson
RISE Research Institutes of Sweden, Borås, Sweden
Å. Hallquist
IVL Swedish Environmental Research Institute, Gothenburg, Sweden
Factor Analysis and Molecular Characterization of Emissions from a Residential Wood Burning Boiler

4AV.2.6
E. Paris, A. Assirelli, B. Vincenti, M. Carnevale, V. Di Stefano, F. Gallucci
CREA, Monterotondo, Italy
V. Paolini, E. Guerriero
CNR, Montelibretti, Italy
Comparison Between VOCs Emitted from Orange With and Without Peel and Development of a Emission Abatement System

4AV.2.7
Brazilian Center for Research in Energy and Materials (CNPEM)/ Brazilian Biorenewables National Labo, Campinas, Brazil
Yield Estimation and Water Use Efficiency for Sugarcane Production in Center-South Brazil

4AV.2.8
A. Cecchin, M. Berti
North Dakota State University - Department of Plant Sciences, Fargo, USA
G. Pourhashem
North Dakota State University - Department of Coatings and Polymeric Materials, Fargo, USA
Evaluating Environmental Impacts of Introducing Winter Camelina and Field Pennycress into the Current Cropping Systems in the Upper Midwest of the USA

4AV.2.9
S. Righi, R. Guerra, L. Vogli, F. Baioli
University of Bologna, Ravenna, Italy
Polyhydroxybutyrate from Sewage Sludge: Life Cycle Assessment Methodological Choices and Inventory

4AV.2.10
S. Righi, F. Baioli
University of Bologna, Ravenna, Italy
S. Marinello
University of Modena and Reggio Emilia, Reggio Emilia, Italy
Life Cycle Assessment of a Biofuel Production System from Algal Biomass Cultivated in Photobioreactors

4AV.2.11
P. Arora
Indian Institute of Technology, Roorkie, India
V. Thomas, M.J. Reallff
Georgia Institute of Technology, Atlanta, USA
Y. Yuan, R. Chance
Algenol Biofuels, Fort Myers, USA
Sustainability Assessment of Hydrothermal Liquefaction of Algae for the Production of Refined Bio-crude: Effects of CO2 Sourcing

4AV.2.12
A. Hahn, N. Szarka
DBFZ, Leipzig, Germany
M. Ugluk
UFZ, Leipzig, Germany
D. Thran
DBFZ, UFZ, Leipzig, Germany
Retrofitting bioenergy Plants with Carbon Capture: Assessing the Near-term Potential for Biogenic CO2 in Germany

4AV.2.13
MONDAY 06 JULY 2020 - VISUAL PRESENTATIONS

Under the High Patronage of
Mr Emmanuel MACRON
President of the French Republic

VISUAL PRESENTATIONS - MONDAY 06 JULY 2020

VISUAL PRESENTATIONS 5AV.3

16:20 - 17:20
Deployment of Biomass and Alternate Fuels in Evolving Modern Energy Systems

The poster session addresses some options concerning technology integration and flexible feed-ins for energy grid stability, including energy storage using the products of biomass conversion. Also addressed are alternative fuels and their most important building blocks: CO₂ and H₂, as well as market perspectives for biomass production, the value chain, market and how to reduce financing risks.

CHAIR & MODERATOR:
Kees KWANT
Netherlands Enterprise Agency, Ministry of Economic Affairs, THE NETHERLANDS

Liang WANG
SINTEF Energy Research, NORWAY

5AV.3.1
E. Middelhoff, N. Florin
Institute for Sustainable Futures, University of Technology Sydney, Sydney, Australia

L. Andrade Furtado, J. Reis Parise
Pontificial Catholic University of Rio de Janeiro, Rio de Janeiro, Brazil

F. Ximenes
Forest Science, New South Wales Department of Primary Industries, Sydney, Australia

Concentrated Solar-Biomass Hybrid Plant for Electricity Generation in New South Wales, Australia

5AV.3.2
R. Gutiérrez, P. Haro, M. Suárez-Almeida, K. Guerra, A. Gómez-Barea
Universidad de Sevilla, Spain

Integration of Solar and Biomass for the Production of Electricity: Contributions to Face the Challenge of Flexible Operation in Thermochemical Bio-refineries

5AV.3.3
D. Rutz, R. Mergner, R. Janssen
WIP Renewable Energies, Munich, Germany

C. Winterscheid
Solites, Stuttgart, Germany

V. Lukoševicius, E. Cepulis
Lithuanian District Heating Association, Vilnius, Lithuania

A. Danulevic
4Salcininku Silumos Tinklai, Šalcininkai, Lithuania

S. Grimm
AGFW, Frankfurt, Germany

B. Doracic, T. Puklec
University of Zagreb, Zagreb, Croatia

R. Hummelshej
COWI, Copenhagen, Denmark

M. Pozzi, S. Morgione
OPTIT, Bologna, Italy

A. Krasatsenka

Networking & Exhibition Visiting Time  16:10 - 16:20

M. Aalto, O.J. Korpinen, T. Ranta
LUT-University, Mikkeli, Finland

Modeling Passenger Travels in a Low-Carbon Transportation System with an Agent-Based Simulation Approach

4AV.2.14
V. Larnaudie, M.D. Ferrari, C. Lareo
Depto. Bioingeniería, Facultad de Ingeniería, Universidad de la República, Montevideo, Uruguay

Impact Of Electricity Credits in the Life Cycle Inventory Analysis of Bioethanol Produced in a Biorefinery

4AV.2.15
C. Moretti, H.M. Junginger, L. Shen
Utrecht University, The Netherlands

A. López-Contreras, T. de Vrie
Wageningen University & Research, The Netherlands

A. Kraft
Fraunhofer Institute, Oberhausen, Germany

Techno-Economic Analysis and Life-Cycle Greenhouse Gas Emissions of a Novel Aviation Fuel from Residue Streams from the Potato Processing Industry

4AV.2.16
C.M. Sastre, J. Carrasco, R. Barro
CIEMAT, Madrid, Spain

J. Cabanillas, L. Royano, A. Parralejo, J. González
CICYTEX, Guadalajara, Spain

P. Cria
CIEMAT, Guadalajara, Spain

L.E. Pascual
CIEMAT, Guadalajara, Spain


4AV.2.17
K. Nemoto, T. Nakata
Tohoku University, Sendai, Japan

S. Nakamura, M. Ooba
National Institute for Environmental Studies, Miharu, Japan

Y. Mori
National Institute for Environmental Studies, Tsukuba, Japan

Comparison of Carbon Emissions Utilizing Different Residential Heating Systems in Mountainous Areas

4AV.2.18
A. Poluzzi, G. Guandalini, M. C. Romano
Politecnico di Milano, Italy

Potential Carbon Efficiency as a New Index to Track the Performance of Biofuel Production Processes

Networking & Exhibition Visiting Time  16:10 - 16:20

M. Aalto, O.J. Korpinen, T. Ranta
LUT-University, Mikkeli, Finland

Modeling Passenger Travels in a Low-Carbon Transportation System with an Agent-Based Simulation Approach

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Politecnico di Milano, Italy

Potential Carbon Efficiency as a New Index to Track the Performance of Biofuel Production Processes

Networking & Exhibition Visiting Time  16:10 - 16:20
MONDAY 06 JULY 2020 - VISUAL PRESENTATIONS

Euroheat & Power, Brussels, Belgium
S. Rossi
Gruppo Hera, Imola, Italy

Upgrading District Heating: The Upgrade DH Project

SAV.3.4
M. Steubing
Helmoltz-Centre for Environmental Research - UFZ, Leipzig, Germany
O. Can
Helmoltz-Centre for Environmental Research - UFZ

Concepts for the Promotion of Demand-Oriented Electricity Feed-In through Bioenergy Plants

SAV.3.5
M. Akbari, A. Kumar
University of Alberta, Edmonton, Canada

Comparative Techno-Economic Assessment of Renewable Natural Gas (RNG) Production Pathways from Various Biomass Feedstocks

SAV.3.6
T. Green, A. Ross, R. Crook
University of Leeds, United Kingdom

A Solar - Driven Thermochemical Process for the Production of Biofuel: With Application to Rural Uganda

SAV.3.7
R. Daschner, A. Apfelbacher, A. Hornung
Fraunhofer UMSICHT, Sulzbach-Rosenberg, Germany

Biobattery Concept: Integration of Biomass and Waste for Fuels, Heat and Power on Demand

SAV.3.8
EUBCE Student Awardee Presentation
A. Poluzzi, G. Guandalini, S. Guffanti, S. Moioli, C. Elsido, E. Martelli, G. Groppi, M.C. Romano
Politecnico di Milano, Italy

Techno-Economic Analysis of Flexible Power & Biomass-to-Methanol Plants

SAV.3.9
R. Maier, B. Thomas
Reutlingen University, Germany

Flexible and Robust Control Algorithm for Intelligent Control of Biogas CHP Units for Stabilising the Power Grid

SAV.3.10
M. Veress, A. Bartik, F. Benedikt, M. Hammerschmid, J. Fuchs, S. Müller, H. Hofbauer
TU Wien, Vienna, Austria

Development and Techno-Economic Evaluation of an Optimized Concept For Industrial Bio-SNG Production from Sewage Sludge

SAV.3.12
C. Perakis, L. Gavriil, I. Papamichail, K. Tsiotas, M. Christou
Centre for Renewable Energy Sources and Saving, Pikermi, Greece

Crop Residues in the Post-Coal Era - The Case of Amyntaio in Western Macedonia.

SAV.3.13
A. Pfeiffer, A. Mertens
Deutsches Biomasse Forschungszentrum gGmbH, Leipzig, Germany
D. Thiran
Deutsches Biomasse Forschungszentrum gGmbH and Helmoltz Centre for Environmental Research - UFZ, Leipzig, Germany

Supply Chain Management for Intermediate Bioenergy Carriers - Analysis of Four European Case Studies

SAV.3.14
M. Donner, I. Radic
INRA, Montpellier, France
T. Yatribi
ENA Meknès, Meknès, Morocco
Y. Erraach
INAT, Tunis, Tunisia
F. López-i-Gelats
UVIC, Vic, Barcelona, Spain

Collective Marketing Strategies and Circular Business Models for Valorising Local Food, Agro-Waste and By-Products: Example of the Olive Oil Chain

SAV.3.15
N.R. Mosteanu
American University of Malta, Bormla, Malta

Financial and Economic Policies for a Sustainable Development through Green Circular Economy and Artificial Intelligence

SAV.3.16
N.R. Mosteanu
American University of Malta, Bormla, Malta

Risk Assessment of Financing Bioeconomy Projects to Develop a Healthy Social and Business Environment

SAV.3.17
N.R. Mosteanu
American University of Malta, Bormla, Malta

Education, Qualification Awareness and Social Civism to Build and Sustain a Healthy and Developed Society

SAV.3.19
D. Rutz, I. Ball, R. Janssen
WIP Renewable Energies, Munich, Germany
H. Tretter, K. Kraus
Austrian Energy Agency, Vienna, Austria
S. Drexlmeier, C. Baumann
Civiv Foundation Energiewende Oberland, Penzberg, Germany
F. Puente
Escan, Madrid, Spain
V. Segon
Regionalna Energetska Agencija Sjeverozapadne Hrvatske, Zagreb, Croatia
MONDAY 06 JULY 2020 - VISUAL PRESENTATIONS

Under the High Patronage of
Mr Emmanuel MACRON
President of the French Republic

D. Balic
Energy Institute Hrvoje Pozar, Zagreb, Croatia

F. Silajdžić
ENOVA, Sarajevo, Bosnia And Herzegovina

A. Nikolaev
Black Sea Energy Research Centre, Sofia, Bulgaria

S. Jerotic
City of Sabac, Serbia

G. Stegnar
Institut Jožef Stefan, Ljubljana, Slovenia Republic

N. Markovska
SDEWES Skopje, Skopje, Macedonia

R. Ayuste Cupido
Regional Energy Agency of Castilla y León, Leon, Spain

P. Mazzucchelli
EUREC, Brussels, Belgium

M. Colla
Bioenergy Europe, Brussels, Belgium

Ø. Skreiberg
SINTEF, Trondheim, Norway

An Urgent Call for the Phase-Out of Fossil Space Heating Systems and for the Support of Renewables in the Heating Sector

SAV.3.20
M. Wojcieszyk, Y. Kroyan, O. Kaario, M. Larmi
Aalto University, Espoo, Finland

Impact of Alternative Transport Fuel Properties on Engine Performance

SAV.3.29
P. Karka, S. Papadokonstantakis, F. Johnsson
Chalmers University of Technology, Göteborg, Sweden

C. Panoutsou
Imperial College, London, United Kingdom

Key Challenges and Opportunities on the Development of Liquid Transport-Biofuel Technologies in Short- And Long-Term Timeframes

Networking & Exhibition Visiting Time 17:20 - 18:30

VISUAL PRESENTATIONS IBV.1

09:00 - 10:00 Strategies for and Deployment of Biomass in Energy Systems and in Industrial Process Chains

Chairs & Moderator:
Philippe Marchand
Expert, FRANCE

Bert Van De Beld
BTG Biomass Technology Group, THE NETHERLANDS

IBV.1.1
A.J. Grootjes, B.J. Vreugdenhil
TNO Energy Transition, Petten, The Netherlands

F.R. Groeneveld
TNO CBRN Protection, Rijswijk, The Netherlands

R.J.J. Zwart, A. van der Drift
Synova Renewable Technology, Maassluis, The Netherlands

E. Boymans
TNO Energy Transition, The Netherlands

Cyanide Removal for Synthesis Gases

IBV.1.2
F.M. Baena-Moreno, M. Rodríguez-Galán, B. Navarrete
University of Seville, Spain

Definition of a New CO2 Capture and Utilization Process from Biogas and Waste Valorization.

IBV.1.3
I. Ball, R. Janssen, D. Rutz
WIP Renewable Energies, Munich, Germany

S. Berger-Ruiz
Solagro, Toulouse, France

G. Descamps, P.-E. Rollet
APYGEC, Juillan, France

Ch. Triquenaux
Interis, Champs Sur Marne, France

The BABET-REAL 5 Project - Perspectives for a Second Generation (2G) Bioethanol Production Plant In Bavaria

IBV.1.4
F. Schäfer, L. Janke, J. Pröter
DBFZ, Leipzig, Germany

F. Niebling
GICON, Cottbus, Germany

A. Himmelstoss
AEV, Dresden, Germany

NovoHTK - A Novel Process for Anaerobic Digestion of Chicken Manure
IBV.1.5
C. Richard, G. Karakachian, F. Fallot, L. Thonat
ENGIE, Saint-Denis, France
C. Charnier, J. Budin, C. Marcilhac, L. Teuma, F. Novellis, J. Miroux
BioEnTech, Narbonne, France
G. Accarion, E. Baudu
Akajoule, Saint-Nazaire, France
E. Latrille
INRA-LBE, Narbonne, France
F. Beline
IRSTEA, Rennes, France
S. Houot
INRA-ECOSYS, Thiverval-Grignon, France
E. Le Cadre Loret
ENGIE, La Défense, France

Mapped: Digital Tools to Boost and Optimize the Biogas Production at Local And Territory Scales

IBV.1.6
A. Arjun, B. Patel, S.M.A. Biollaz
PSI, Villigen PSI, Switzerland
Chr. Ludwig
EPFL, Lausanne, Switzerland

Manure to Biomethane: A Techno-Economic Assessment of Small and Medium Scale Value Chains

IBV.1.8
L. Pari, V. Alfano, A. Suardi, N. Palmieri, S. Lazar
CREA, Rome, Italy
M. Karampinis
CERTH, Thessaloniki, Greece
M. Piccinni
FIUSIS, Lecce, Italy

FIUSIS, the First Biomass Power Plant in the World Powered Exclusively by Olive Tree Prunings. A Case Study in the AGROinLOG H2020 Project

IBV.1.9
I. Khozin-Goldberg, B. Zorin, S. Leu, S. Boussiba
Ben-Gurion University of the Negev, Sede-Boquer campus, Israel
T. Andreou, M. Andrielou, D. Kalias
VIO Chemicals, Zurich, Switzerland

Selection, Optimization and Implementation of “Biorefinery-Ready” Microalgae for the Production of Omega-3 Fatty Acids and Additional High-Value Functional Ingredients

IBV.1.10
F. Colmorgen, C. Khawaja, D. Rutz, R. Janssen
WIP Renewable Energies, Munich, Germany

Bio-Based Strategies and Roadmaps for Enhanced Rural and Regional Development in the EU - the Be-Rural Project

IBV.1.11
C.A. García-Velásquez, Y. van der Meer
Maastricht University, The Netherlands
S. Leduc
International Institute for Applied Science Analysis (IIASA), Laxenburg, Austria

Use of Optimization Tools for Decision-Making: Accounting for Externalities in the Production of Biobased Plastics

IBV.1.13
S. Arsenijevic
Provincial Secretariat for Energy, Construction, and Transport (Assistant Secretary), Novisad, Serbia
D. Berg
E3 International (Senior Advisor), Belgrade, Serbia
L. Bratic
Balkan Energy and Forest Trends (President), Belgrade, Serbia
D. Jovic
Republic of Serbia, Ministry of Agriculture, Forestry, and Water Management (Senior Advisor), Belgrade, Serbia
S. Karalic
Kovan International (CEO), Belgrade, Serbia
B. Norman
E3 International (President), Washington, DC, USA
R. Russo
E3 International (CEO), Washington, DC, USA

Recovery of Government-Owned Abandoned Land Using Short Rotation Wood Biomass Plantations to Achieve U.N. Sustainable Development Goals, Paris Climate Goals, and Bioeconomy Goals

IBV.1.17
R.A.J. Verlinden
Bioprocess Pilot Facility, Delft, The Netherlands

The Scale-Up Route for Fuels and Chemicals from Second Generation Biomass

IBV.1.19
L. Hongshen, L. Shizhong
Tsinghua University, Beijing, PR. China
C. Liping
BBCA Group, Anhui, P.R. China

Continuous Solid-State Distillation Technology for Cost-Effective Bioethanol Production

IBV.1.23
C. Khawaja, R. Janssen, D. Rutz
WIP, Munich, Germany
M. Colangeli, L. Travesso, M.M. Morese
FAO, Rome, Italy
M. Hirschmugl, C. Sobe
JR, Graz, Austria
A. Calera, D. Cifuentes, A. Simon
UCLM, Albacete, Spain

Promoting Sustainable Use of Underutilised Lands for Bioenergy Production through a Web-Based Platform for Europe

IBV.1.25
T. Habas, C. Richard, E. Le Cadre, G. Karakachian
ENGIE, Paris, France
G. Postec, D. Bouyiol
OpenForêt, Brioux sur Boutonne, France
S. Silvestri, L. Tomasi, G. Antonio Battisel
Fondazione Edmund Mach, San Michele, Italy

WEBio: the Web Platform to Identify Bioresources on your Territory
New Carbon Innovation for the Production and Application of Biochar, Wood Vinegar and Energy

Networking & Exhibition Visiting Time 10:00 - 10:10

VISUAL PRESENTATIONS 2BV.2

14:00 - 15:00 Solid Biofuels and Innovative Approaches for Biomass Use in Small to Large Scale Combustion Systems

The application of new challenging solid fuels and liquid fuels is addressed. Moreover, new methods to improve process control and combustion performance as well as novel approaches for combustion-based CHP technologies are outlined. This session also deals with measures aimed at increasing systems efficiency, fuel flexibility and reliability. In addition, relevant aspects regarding the energy chains of solid biofuels, from the characterization of fuel properties and analysis of factors affecting the biofuels quality and of fuel properties relevant to logistics and conversion behaviour are covered.

CHAIR & MODERATOR:
Hannariina HONKANEN
JAMK University of Applied Sciences, FINLAND

Thomas Andreas SCHLEKER
European Commission DG RTD, EU

2BV.2.1
S. Link, A. Trikkel
Tallinn University of Technology, Tallinn, Estonia
P. Yrjas
Åbo Akademi University, Turku, Finland
D. Lindberg
Aalto University, Espoo, Finland

Determination and Comparison of Ash Melting Temperature of a Biomass Blend by Using Laboratory Methods and Thermodynamic Modeling

2BV.2.2
C. Moliner, D. Bove, E. Arato
UNIGE, Genoa, Italy
R. Teruel, A. Ribes
UPV, Valencia, Spain

Incineration of Rice Straw Pellets in the Framework of LIFE LIBERNITRATE Project

2BV.2.3
G. Katsaros, S. Tassou
Brunel University, London, United Kingdom
D. Pandey
Anglia Ruskin University, London, United Kingdom
S. Retschitzegger
BEST, Graz, Austria

Modeling of Combined Heat and Power Production Unit Based on Experimental Findings of Poultry Litter Combustion in a Pilot Scale Plant.

2BV.2.5
P. Weimer, F. Kuehl, M. Pfeil, D. Denfeld, S. Pohl
Technische Hochschule Mittelhessen - University of Applied Science, Giessen, Germany

Process Performance Analysis of a Fuel Flexible Power Supply from Biogenic Residues by an Atmospheric Gas Turbine (IBC)
TUESDAY 07 JULY 2020 - VISUAL PRESENTATIONS

2BV.2.6  
D. Buechner, S. Theurich, Ö. Mutlu, Th. Zeng  
Deutsches Biomasseforschungszentrum, Leipzig, Germany  
Renewables-Based Drying Technology for Cost-Effective Valorization of Waste from the Food Processing Industry

2BV.2.7  
F. de Aquino Ximenes  
NSW DPI, Sydney, Australia  
W. Strauss  
FutureMetrics, Bethel, USA  
Opportunities for Increased Biomass Co-firing in New South Wales, Australia

2BV.2.8  
J.R. Reichelt  
IBR, Bruchsal, Germany  
G. Pfrang-Stotz, B. Bergfeldt  
KIT/ITC, Eggenstein-Leopoldshafen, Germany  
Increasing the Efficiency of Energy Production in Biomass Power Plants by Technical Application of a Biofuel Catalog: First Test Results

2BV.2.9  
B. Bergfeldt, G. Pfrang-Stotz  
Karlsruhe Institute for Technology, Eggenstein-Leopoldshafen, Germany  
J. Reichelt  
IBR, Bruchsal, Germany  
A New Approach to Predict Slagging and Fouling During Biomass Combustion

2BV.2.10  
C. Zemann, M. Gölles  
BEST - Bioenergy and Sustainable Technologies GmbH, Graz, Austria  
F. Hammer  
LAMTEC Meß- und Regeltechnik für Feuerungen GmbH & Co. KG, Walldor, Germany  
M. Horn  
Graz University of Technology, Austria  
Long Term Validation of a New Modular Approach for CO-Lambda-Optimization

2BV.2.11  
J. Föhr, T. Ranta, R. KC  
Lappeenranta-Lahti University of Technology LUT, Mikkeli, Finland  
Tests for Truck’s Hydraulically Powered Woodchip Blower

2BV.2.14  
R. KC, J. Föhr, T. Ranta  
Lappeenranta-Lahti university of technology LUT, Mikkeli, Finland  
Cost Analysis of Forest Chips Transportation with Biomass Blowing Container Truck

2BV.2.15  
F. Gallucci, E. Paris, A. Palma, A. Scarfone, A. Del Giudice, V. Civitarese, V. Di Stefano  
Crea, Monterotondo, Italy  
L. Bianchini, A. Colantoni  
Tuscia, Viterbo, Italy  
Different Pellet Mixtures Obtained from Spent Coffee Grounds: Energetic Characterization

2BV.2.16  
V. Civitarese, A. Acampora, G. Sperandio, A. Assirelli  
CREA-Center for engineering and agro-food processing, Monterotondo, Italy  
G. Caracciolo  
CREA-Center for olive, citrus and tree fruit engineering and agro-food processing, Forlì, Italy  

2BV.2.17  
A. Acampora, V. Civitarese, G. Sperandio, A. Assirelli  
CREA-Center for engineering and agro-food processing, Monterotondo, Italy  
G. Caracciolo  
CREA-Center for olive, citrus and tree fruit engineering and agro-food processing, Forlì, Italy  
G. Roccuzzo  
CREA-Center for olive, citrus and tree fruit, Forlì, Italy  
Pellets from Hazel and Olive Groves Pruning Residues. Characterization of the Product Obtained.

2BV.2.18  
Universidade de Aveiro, Portugal  
Charcoal Production from Alternative Agroforestry Woody Residues Typical of Southern Europe

2BV.2.20  
L. van de Beld  
BTG Biomass technology Group, Enschede, The Netherlands  
Smart And Flexible Heat & Power from Biomass Derived Liquids for Small-Scale CHP Application

2BV.2.21  
P. Abelha, J. Pels  
ECN part of TNO, Petten, The Netherlands  
J. Spaan  
Yilkins, Groningen, The Netherlands  
Biocoal Pellets Use in Small Scale Boilers

Networking & Exhibition Visiting Time  15:00 - 15:10
Under the High Patronage of
Mr Emmanuel MACRON
President of the French Republic

TUESDAY 07 JULY 2020 - VISUAL PRESENTATIONS

VISUAL PRESENTATIONS 3BV.3

15:10 - 16:10 Processes and Products of Pyrolysis and Hydrothermal Processing

Within the poster session analytical pyrolysis and catalytical upgrade technologies are presented. In addition, biomass and its application as fertilizer or soil conditioner are addressed. Molten salt pyrolysis is also presented along with coupling of pyrolysis to biological biomass conversion. The session also deals with effects of HTL process parameters on process efficiencies and products, process kinetics and modeling. The session addresses many different wet substrates and integration with solar energy.

CHAIR & MODERATOR:
Ralph P. OVEREND
Biomass & Bioenergy Journal, CANADA
Lasse ROSENDAHL
Aalborg University, DENMARK

3BV.3.1
C. Baehe, K. Raffelt, N. Dahmen
Institute of Catalysis Research and Technology, Karlsruhe Institute of Technology, Eggenstein-Leopoldshafen, Germany
Carbon Dioxide Solubilities in Pyrolysis Oil and Related Single Components

3BV.3.3
A.F. Ruy
Mechanical Engineering Dpt., Federal University of Santa Catarina, Florianopolis, Brazil
M. Puglia, N. Moroelli, G. Allesina
BEElab, University of Modena and Reggio Emilia, Modena, Italy
An Explicit Finite-Differences Heat Conduction Model for Slow Pyrolysis Time Calculation

3BV.3.4
M. Carnevale, E. Santangelo, E. Paris, A. Palma, M. Salerno, V. Di Stefano, F. Gallucci
CREA, Monterotondo, Italy
A. Colantoni
Università della Tuscia, Viterbo, Italy
V. Paolini, F. Petrachinini
CNR, Montelibretti, Italy
Thermogravimetric Analysis of Olive Tree Pruning as Pyrolysis Feedstock

3BV.3.6
M. Briand, G. Haarlemmer, A. Roubaud, M. Peyrot, A. Pitoy, P. Fongarland
CEA, Grenoble, France
Kinetic Model for Hydrothermal Decomposition of Food Residues and Distribution of Reaction Products into Different Phases

3BV.3.7
M.S. Haider, M.A. Isik, D. Castello, T.H. Pedersen, L.A. Rosendahl
Aalborg University, Denmark
Demetalization of Nitrogen Rich Biocrudes from Hydrothermal Liquefaction and the Deleterious Effect of Basic Nitrogen Containing Compounds: A Real Challenge is Ahead

3BV.3.8
P. Nanou, J.R. Pels, F. Sebastiani, C.M. van der Meijden
TNO, Petten, The Netherlands
H. Kuipers
Waterschap Zuiderzeeland, Lelystad, The Netherlands
W. Driessen, I. Vogelaar
Paques, Balk, The Netherlands
Demonstration of a Continuous TORWASH® Pilot Plant for Sewage Sludge Dewatering

3BV.3.9
H. Curmi
Université Grenoble Alpes, CNRS, Grenoble INP, LGP2, Grenoble, France
B. Lacaze
CEA LITEN, Université Grenoble Alpes, Grenoble, France
C. Chiarat, D. Lachenal
Université Grenoble Alpes, CNRS, Grenoble INP, LGP2, France
G. Haarlemmer
CEA LITEN, Université Grenoble Alpes, France
Hydrothermal Treatment of the Black Liquor: Study of the Degradation of Organic Components to Produce Interesting Phenolic Compounds

3BV.3.10
A. Cascioli
Free University of Bozen-Bolzano, Faculty of Science and Technology, Italy
Exploitation of Lignocellulosic Biomass from Para-Pharmaceutical and Herbal Medicine Production

3BV.3.11
T. Green, A. Ross, R. Cook
University of Leeds, United Kingdom

3BV.3.13
W. Waldmüller, M. Gaderer
Technical University of Munich, Straubing, Germany
Hydrothermal Carbonisation and Mono-Inceration of Sewage Sludge - An Energetic Evaluation

3BV.3.15
A.D.S. Nunes, K-Q. Tran
Norwegian University of Science and Technology, Trondheim, Norway
J. Sierra-Pallares
University of Valladolid, Spain
Critical Review on Engineering Aspects of Fast Hydrothermal Liquefaction

3BV.3.16
M. Vassou, A.A. Lappas, E. Heracleous
Chemical Process & Energy Institute, Thessaloniki, Greece
S.C. Chiaberghi, D. Bianchi
ENI, Novara, Italy
T.H. Pedersen, L.A. Rosendahl
Aalborg University, Denmark
Advanced Characterization of Supercritical HTL Biocrude from Digested Sewage Sludge

3BV.3.18
D. Salionov, S. Bjelic
Paul Scherrer Institut, Villigen, Switzerland

Status of 4 July 2020
Investigation of the Bio-Crude Composition Derived from the Hydrothermal Liquefaction of Spirulina, Miscanthus and Sewage Sludge by Liquid Chromatography - High-Resolution Mass Spectrometry

3BV.3.19
K.G.R.M. Jayathilake, S Rudra
University of Agder, Grimstad, Norway
J.A Godwin
Universitat Rovira i Virgili, Reus, Spain

Char Phase Behavior of Hydrothermal Conversion of Alkali Lignin in Subcritical Temperatures

3BV.3.20
S. Iannello, D. Macri, M. Materazzi
University College, London, United Kingdom
Z. Bond
University of Cambridge, United Kingdom

Dynamic Behaviour of a Single Biomass Particle in Bubbling Fluidised Bed Reactors

3BV.3.25
M. Elmously, J. Neidel, A. Apfelbacher, R. Daschner, A. Hornung
Fraunhofer Institute for Environmental, Safety, and Energy Technology, Sulzbach-Rosenberg, Germany

Thermo-Catalytic Reforming of Biological and Woody Biomass Wastes

3BV.3.28
S. Dell’Orco
University of Florence, Department of Industrial Engineering, Italy
E. Milotti, A.M. Rizzo, D. Chiaramonti
RE-CORD, Scarperia e San Piero, Italy
L. Rosi
University of Florence, Chemistry Department, Sesto Fiorentino, Italy

Hydrothermal Liquefaction of Ethanol Biorefinery Lignin Cake Co-product: Effect of Process Conditions and Additives

3BV.3.35
D. Basso
HBI, Italy

Hydrothermal Carbonization of Digestate: Semi-Continuous Analysis of Liquid Compounds

3BV.3.36
J. Eimontas
Lithuanian Energy Institute, Lithuania

Investigation of Seaweed Thermostability and Basic Parameters

3BV.3.40
F. Patuzzi
Free University of Bolzano, Faculty of Science and Technology, Italy

Apple Pomace Hydrothermal Carbonization for Downstream Valorization of Residues After Subcritical Water Extraction

3BV.3.43
L. Todaro, V. Lo Giudice, N. Moretti
University of Basilicata, Potenza, Italy
P. Cetera, L. Pari
Council for Agricultural Research and Economics - Research Centre for Engineering and Agro-Food Proc, Monterotondo, Italy
G. Bochicchio
National Research Council of Italy – Institute of BioEconomy (CNR-IBE), San Michele all’Adige, Italy

High Calorific Value and Ash Content of Lignin Derived from Turkey Oak Wood: Combined Effect of Steaming and Thermal Treatment

3BV.3.44
B. Wirth, M. Pohl
DBFZ, Leipzig, Germany

Anaerobic Treatment of Various Process Waters from Hydrothermal Carbonization (HTC): Challenges and Opportunities

Networking & Exhibition Visiting Time 16:10 - 16:20
TUESDAY 07 JULY 2020 - VISUAL PRESENTATIONS

VISUAL PRESENTATIONS 3BV.4

16:20 - 17:20 Biorefinery Development and Assessment

Biorefinery process innovations and developments and assessments are the theme of this session, based on a wide range of mainly biomass process residues and including algae, for a range of bio-based products.

CHAIR & MODERATOR:
Yukihiko MATSUMURA
Hiroshima University, JAPAN
Andreas APFELBACHER
Fraunhofer-Institut UMSICHT, GERMANY

3BV.4.1
A. Van Zomeren
ECN part of TNO, Bio-Energy Dpt., The Netherlands
Production of Bio-Based Building Materials from Lignin of Lignocellulosic Biomass Residues

3BV.4.2
G.F. Nogueira, C.K.N. Cavaliero
University of Campinas, Brazil
M.O.S. Dias
Federal University of São Paulo, São José dos Campos, Brazil
Eucalyptus Forest Residues as Feedstock for Biorefineries: Process Design and Simulation

3BV.4.3
G. Van Rensburg, S. Marx, R. Kruger, L. Pieterse
North-West University, Potchefstroom, South Africa
Increasing the Phenolic Content of the Aqueous Phase from Hydrothermal Liquefaction for Ease of Downstream Recovery

3BV.4.4
G. Rapp, R. Trethowan
The University of Sydney, Plant Breeding Institute, I.A. Watson International Grains Research Centre, Sydney, Australia
V. García-Montoto, B. Bouysiere
CNRS / UNIV Pau & Pays de l’Adour, Institut des Sciences Analytiques et de Physico-Chimie pour l’Env, Pau, France
S. Thiebaud-Roux
Université de Toulouse, INP-ENSIACET, LCA (Laboratoire de Chimie Agro-Industrielle), F-31030 Toulouse, France
A. Montoya
School of Chemical and Biomolecular Engineering, The University of Sydney, NSW 2006, Sydney, Australia
P. Pratt
Valtris Enterprises France, Z.I. Baleycourt CS 10095, 55103 Verdun Cedex, Verdun, France
K. Mozet, A. Dufour, L. Coniglio
Université de Lorraine - Ecole Nationale Supérieure des Industries Chimiques de Nancy, Laboratoire R, Nancy, France
Dry-Purification by Natural Adsorbents of Indian Mustard Seed Oil Ethyl Biodiesel and Biolubricants: Towards a Low-Cost and Environmentally-Friendly Production Route

Networking & Exhibition Visiting Time  17:20 - 18:30
This session covers a wide range of primarily biotechnological conversion routes for biomass to chemicals and materials, and also a wide range of chemical approaches to conversion of biomass to chemicals and materials.

CHAIR & MODERATOR:
Solange MUSSATTO
Technical University of Denmark, DENMARK
Tanja BARTH
University of Bergen, NORWAY

3CV.1.1
G. Penloglou, A. Pavlou
CERTH/CPERI, Thessaloniki, Greece
C. Kiparisssid
CERTH/CPERI & AUTH, Thessaloniki, Greece
Biodegradable Plastics from Food Industry Wastes

3CV.1.2
S. Morin, A. Richel
University of Liège Gembloux Agro Bio-Tech, Belgium
Critical Insight of the Cellulose Fibres Modification: A Study Case with Laccase Assisted Ferulic Acid Modifications

3CV.1.3
L. Blaesing, A. Jahn, M. Bertau
Technical University Bergakademie Freiberg, Germany
Comparison of Laccase and Peroxidase to Depolymerize Lignin

3CV.1.4
B. Hocevar, M. Grilc, B. Likozar
National Institute of Chemistry, Ljubljana, Slovenia Republic
M. Zula
Faculty of Chemistry and Chemical Technology, Ljubljana, Slovenia Republic
Selective Biobased Adipic Acid Synthesis from C6 Sugars

3CV.1.5
S. Pedrazzi, G. Allesina, P.E. Santangelo, M. Romagnoli, P. Tartarini
University of Modena and Reggio Emilia, Modena, Italy
Char as a Material for Fuel Cell Manufacturing

3CV.1.7
S. Selivanovskaya, N. Danilova, K. Karamova, P. Galitskaya
Kazan Federal University, Russian Federation
Composting of Chicken Manure with Biochar as a Tool to Reduce Antibiotic Resistance Genes Pollution of the Environment

3CV.1.8
A. Kovalcik
Brno University of Technology, Czech Republic
How Can Food Waste Oils Contribute to the Circular Economy?

3CV.1.9
M. Longis, A. Lemoine, P. Neubauer, S. Junne
Technische Universität Berlin, Germany
Parallel Cultivation Method for Standardized Measurements of Metabolic Activity and Acid Potential in Dark Fermentation with Biogenic Residues

3CV.1.10
D. Klüh, M. Gaderer
TU Munich, Straubing, Germany
Simulation of Renewable n-Hexane Production via Kolbe Electrolysis of Butyric Acid

3CV.1.11
D. Politi, D. Sidiras
University of Piraeus, Greece
Modified Wheat Straw For Adsorptive Removal of Hexavalent Chromium from Various Water Sources

3CV.1.12
K. Carbone, A. De Angelis
Consiglio per la ricerca e l’analisi dell’economia agraria (CREA), Roma, Italy
E. Santangelo
Consiglio per la ricerca e l’analisi dell’economia agraria (CREA), Monterotondo, Italy
L. Micheli
Università degli Studi di Roma “Tor Vergata”, Roma, Italy
R. Frosinini, E. Gargani
Consiglio per la ricerca e l’analisi dell’economia agraria (CREA), Firenze, Italy
C.A. Migliori
Consiglio per la ricerca e l’analisi dell’economia agraria (CREA), Torino, Italy
A. Mazzucato
Università degli Studi della Tuscia, Viterbo, Italy
Green Synthesis of Silver Nanoparticles from Hyperpigmented Tomato Skins and Preliminary Evaluation of the Insecticidal Activity

3CV.1.14
A. Normand, A.M. Charrier
CInaM, Marseille, France
R.H. Farahi, A. Passian
ORNL, Oak Ridge, USA
A.L. Lereu
Institut Fresnel, Marseille, France
Investigate Wood Morphogenesis Using Correlative Measurements at the Nanoscale

3CV.1.15
E. Montet
LGP2 and ADEME, Grenoble, France
C. Chirat, D. Lachenal
LGP2, Grenoble, France
Production of High Quality Cellulose by a Chlorine-Free Process
WEDNESDAY 08 JULY 2020 - VISUAL PRESENTATIONS

3CV.1.16
B. Hocevar, A. Prašnikar, M. Grilc, B. Likozar
National Institute of Chemistry, Ljubljana, Slovenia Republic
S. Gyergyek
Jožef Stefan Institute, Ljubljana, Slovenia Republic

Oxidation State of Rhenium and Related Catalyst Activity for the Dehydroxylation of Aldaric Acids to Adipic Acid

3CV.1.19
E. Vagi, Á. Kolay Kovács, M. Tolner, M. Molnár, E. Székely
Budapest University of Technology and Economics, Hungary

Optimization of Extraction of Bioactives from Different Wastes and By-Products of Agro- and Food Industry

3CV.1.22
J. Boon, H.A.J. van Dijk, J. van Kampen, B.J. Vreugdenhil
TNO, Petten, The Netherlands

Biofuels and Biochemicals by Separation Enhanced Reactions Maximising Carbon and Energy Efficiency

3CV.1.24
A. Zareihassangheshlaghi, D. Enke
Institute of Chemical Technology, Leipzig University, Linnéstr. 3, 04103 Leipzig, Germany, Leipzig, Germany
H. Beidaghy Dizaji, T. Zeng
DBFZ Deutsches Biomasseforschungszentrum gemeinnützige GmbH, Department Thermo-chemical Conversion,, Leipzig, Germany
P. Huth, T. Ruf, R. Denecke
Wilhelm-Ostwald Institute for Physical and Theoretical Chemistry, Leipzig University, Linnéstr. 2, 0, Leipzig, Germany

Evolution of Metal Impurities on Surface and in Bulk of Biogenic Silica from Rice Husk During Combustion

3CV.1.25
FCT/UNL, Lisbon, Portugal

Bionanocomposites of Chitosan Reinforced with Nanocellulose from Giant Reed Residues: Development and Physical Characterization

3CV.1.27
C. Jarauta-Córdoba, M. Gómez, J. Marcos, C. Bartolomé
CIRCE, Zaragoza, Spain
J.L. Pinilla, I. Suelves
CICIRCE Technological Center RCE Technological Center, Zaragoza, Spain

Agrobiomass-Derived Activated Carbons as Potential Materials for Supercapacitors: Wheat Straw and Corn Stalk Case Studies

3CV.1.28
J. Marcos
CIRCE Technological Center, Zaragoza, Spain
C. Jarauta-Córdoba, C. Bartolomé
CICIRCE Technological Center RCE Technological Center, Zaragoza, Spain
M. Gómez
CIRCE Technological Center CIRCE Technological Center, Zaragoza, Spain

Use of Natural Fibers for Enhancing Polymeric Materials

3CV.1.31
R. Picchio, R. Venanzi
Tuscia University, Viterbo, Italy
L. Pari, F. Latterini, A. Suardi, V. Alfano, S. Bergonzoli
CREA, Monterotondo, Italy

A New Mobile Kiln Prototype for Charcoal Production

3CV.1.35
S. Hassan
Technological University Dublin, Ireland

Production and Purification of Pectinase and Xylanase from Fermentation of Brewers’ Spent Grain by Mucor Sp.

3CV.1.43
G. Singh, P. Hariprasad, S. Sharma
Indian Institute of Technology, New Delhi, India

Valorization of Paddy Straw for Synthesis of Nanosilica using Sapindus Mukorossi and its potential application as Biopesticide

3CV.1.46
D. J. González-SERRANO
Universidad de Castilla-La Mancha, Organic Chemistry Dpt,, Spain

A green approach to the esterification of biomass-derived levulinic acid under microwave irradiation, a way to obtain alkyl levulinates as high value-added chemicals.

3CV.1.55
B. Koo
Korea Institute of Industrial Technology, Republic of Korea

Antioxidant and Whitening Evaluation of Natural Products in Jeju Island and a Development of Hybrid Extraction Process

3CV.1.56
B. Koo
Korea Institute of Industrial Technology, Republic of Korea

Enhancement of Mechanical Properties of Biopolyethylene Using Hydrophobized of Cellulose Nanofibers

Networking & Exhibition Visiting Time 10:00 - 10:10
This visual presentation session concerns innovations in biochemical conversion of biomass, including feedstock pre-treatments, enzymatic hydrolysis, fermentation systems and downstream processing. Also covered are tradable intermediate bioenergy carriers derived from forestry, agricultural biomass (residues) and organic wastes used for biochemicals/materials and bioenergy applications. In addition, this session also deals with renewable hydrocarbons and transesterification for biofuels production.
This session covers both integrated gasification and CHP systems as well as fuel characterization and emissions. In addition, posters also focus on various gasification feedstocks, the influence on different gasification agents, modeling and process condition. Gas cleaning and upgrading of syngas are discussed as well as techno-economical aspects.

**CHAIR & MODERATOR:**

David BAXTER  
Former European Commission, Joint Research Centre, EU  

Wiebren DE JONG  
Delft University of Technology, THE NETHERLANDS

**2CV.3.1**  
F. Ottani, N. Morselli, M. Puglia, G. Alesina  
Beelab, University of Modena and Reggio Emilia, Modena, Italy  

Implementation of Engine Exhaust Gas Recirculation in a Fixed Bed Gasification Reactor

**2CV.3.2**  
D. Basso, E. Cordioli, F. Patuzzi, M. Baratieri  
Free University of Bolzano, Italy  
S. Dal Savio  
NOI Spa, Bolzano, Italy  

Analysis on the Possible Strategies to Improve Woody Biomass Gasification in South Tyrol: Results from the Wood-UP project

**2CV.3.3**  
M. Puglia, N. Morselli, F. Ottani, P. Tartarini  
Università degli Studi di Modena e Reggio Emilia, Modena, Italy  

Implementation of a Portable Petrol - Powered Generator Fueled through a Tabletop Biomass Gasifier

**2CV.3.6**  
F. el Abdellaoui  
HEIG-vd/ IGT, TIN Dpt., Switzerland  

Thermogravimetric Analysis and Kinetics of Woody Biomass Pyrolysis in an Oxidative Atmosphere

**2CV.3.11**  
D. Antolini, F. Patuzzi, M. Baratieri  
Uniibz, Bolzano, Italy  
T.S. Tanoh, F.J. Escudero Sanz  
IMT-mines Albi, Albi, France  

Fuel Flexibility of a Pilot Plant Gasifier Using Torrefied Pellet as Feedstock

**2CV.3.12**  
R. Borooah  
Free University of Bozen-Bolzano, Italy  

Energy Valorization of Forestry Residues Through a Small-Scale Open Top Gasifier

**2CV.3.13**  
H. Honkanen  
JAMK University of Applied Sciences, Jyväskylä, Finland  
K. Puolamäki  
JAMK University of Applied Sciences, Saarijärvi, Finland  

Demonstration of Poultry Manure Combustion and Gasification in Small-Scale Applications

**2CV.3.14**  
P. Kumar  
IIT, Delhi, India  

Experimental and Numerical Analysis of Heat Dissipation from a Cylindrical Biomass Pellet for Gasification

**2CV.3.16**  
M.J. Hermoso-Orzáez  
University of Jaén, Spain  
R. Mota-Panizio, L. Carmo-Calado, P. Brito  
VALORIZA-IPP Portalegre, Portalegre, Portugal  


**2CV.3.17**  
D.S. Pandey  
Anglia Ruskin University, Chelmsford, United Kingdom  
G. Katsaros, S.A. Tassou  
Brunel University, London, United Kingdom  
S. Tuomi  
Technical Research Centre of Finland, Espoo, Finland  

Air-Steam Gasification of Poultry Litter in a Bubbling Fluidised Bed Reactor

**2CV.3.18**  
P. Brito  
IPP, Portalegre, Portugal  
L. Calado, R. Panizio  
Valoriza, Portalegre, Portugal  
A. Rodrigues  
INIAV, I.P., Oeiras, Portugal  
L. Nunes  
UA, Aveiro, Portugal  

Overall Comparison of Maritime Pine Biomass Chips Gasification with and without Pre-Torrefaction

**2CV.3.19**  
S. Piazzi, L. Menin, D. Antolini, F. Patuzzi, M. Baratieri  
Free University of Bozen-Bolzano, Italy  

Studies on Conversion of Biomass-Residues to Syngas for Biofuels through Steam Gasification

**2CV.3.20**  
P. Kumar  
IIT Delhi, India  

Thermo-Physical Properties of Agricultural Residues for Syngas Production Using Thermo-
Gravimetric Analysis

2CV.3.22
S. Pedrazzi, N. Morselli, M. Puglia, M. Parenti, F. Ottani
University of Modena and Reggio Emilia, Modena, Italy
Equilibrium Modeling of Hemp Hurd Gasification

2CV.3.23
L. Carmo-Calado, R. Mota-Panizio, P. Brito
VALORIZA -IPP Portalegre, Portalegre, Portugal
M.J. Hermoso-Orzáez
University of Jaén, Spain
Biomass Gasification - A Comparison of Syngas Yield between a Commercial Downdraft Gasifier and a Prototype Downdraft Gasifier

2CV.3.24
P. Leuter, P. Johne, S. Fendt, H. Spliethoff
Technical University Munich, Germany
Conception And Design of a Modular Facility for Synthesis Gas Purification from the Entrained Flow Gasification of Biogenic Residues for the Fermentative Production of Basic Chemicals

2CV.3.25
D. Barisano, L. Bianco, E. D’Amico, F. Nanna, A. Villone
ENEA, Rotondella, Italy
Syngas Cleaning Via Wet Scrubbing and Bioremediation of Produced Wastewater - Integrated Approach

2CV.3.46
M. Szul
Instytut Chemicznej Przeróbki Wegla, Poland
Use of CO₂ in Pressurized, Fluidized Bed Gasification of Waste Biomasse

Networking & Exhibition Visiting Time 16:10 - 16:20

VISUAL PRESENTATIONS 1CV.4
16:20 - 17:20  Biomass Potentials and Integrated Biomass Production for Energy Purposes

This session presents case studies and methodologies for biomass resource assessment in different countries and regions of the world and also covers a wide range of innovative applications of agricultural and forestry residues for energy use; among others, these include rice husks, artichoke, vine prunings in the wine production process, vinasse, and miscanthus.

CHAIR & MODERATOR:
Ana Luisa FERNANDO
Universidade Nova de Lisboa, PORTUGAL

1CV.4.1
E. Garbolino
MINES ParisTech, Sophia Antipolis, France
G. Hinojos Mendoza
ASES Ecological & Sustainable Services, Aubenas, France
D. Heredia Corral, C. Gutierre
ASES Inteligence geoespacial, Mexico, Mexico
R. Soto
ASES Ediciones & Ingeniería ecológica, Chihuahua, Mexico
W. Daniel
University of Antwerp, Wilrijk, Belgium
Expected Net Primary Productivity Evolution towards 2100 in Mexico Country: Implications for Wood Energy Supply Chain

1CV.4.3
S. Pedrazzi, N. Morselli, M. Puglia, G. Santunione, E. Turi, M. Parenti, F. Ottani
University of Modena and Reggio Emilia, Modena, Italy
Hemp By-Products Valorization

1CV.4.5
S.T. Coelho, V.P. Garcilasso, M.M. Santos, D. Perecin
GBIO/IEE/USP, São Paulo, Brazil
Brazilian Sugar/alcohol Sector: Biomass Residues for Efficient Energy Conversion Pathways

1CV.4.6
V. Voltr, M. Hruska
IAEI, Prague, Czech Republic
L. Nobilis
ECO Trend Research Centre, Prague, Czech Republic
P. Fuksa
University of Life Sciences, Prague, Czech Republic
Procedure Of Economic, Energy and Environmental Evaluation of Crop Production in the Czech Republic
WEDNESDAY 08 JULY 2020 - VISUAL PRESENTATIONS

Under the High Patronage of
Mr Emmanuel MACRON
President of the French Republic

1CV.4.7
M. Pfeil, S. Konradi, S. Pohl
Technische Hochschule Mittelhessen - University of Applied Science, Giessen, Germany
D. Denfeld
Technische Hochschule Mittelhessen - University of Applied Science, Giessen, Germany

Potentials of Biogenic Resources for Sustainable and Environmentally Friendly Energy Use in Cuba (BioReSCu)

1CV.4.8
S. Chan, R. Ogoshi, S. Turn
University of Hawaii, Honolulu, USA

Feedstocks for Sustainable Jet Fuel Production: An Assessment of Land Suitability in Hawaii

1CV.4.9
G. Ferrari, F. Marinello, A. Pezzuolo
University of Padova, Legnaro, Italy

Valorisation of Agricultural By-Products in Different Agro-Energy Districts: A Case Study in Northeast Italy

1CV.4.10
M. Christou
CRES, Pikermi, Greece
J. Carrasco, C. Martin, P. Perez
CIEMAT, Madrid, Spain

Agricultural/forest Residues for Advanced Biofuels

1CV.4.11
R. Picchio, R. Venanzi
Tuscia University, Viterbo, Italy
L. Pari, F. Latteneri, A. Suardi, S. Bergonzoli, V. Alfano
CREA, Monterotondo, Italy

Analysis of Woody Biomass Obtainable from Abruzzo Forests

1CV.4.12
R. Picchio, R. Venanzi
Tuscia University, Viterbo, Italy
L. Pari
CREA, Monterotondo, Ivory Coast
F. Latteneri, A. Suardi, W. Stefanoni, N. Palmieri
CREA, Monterotondo, Italy

Italian Coppices and their Economic Income

1CV.4.13
V. Schnorf, V. Burg, G. Bowman
WSL, Birmensdorf, Switzerland
E. Trutnevye
Université de Genève, Genève, Switzerland


1CV.4.14
K. Bao, R. Padsala, K. Kesnar, V. Coors, B. Schroeter
University of Applied Sciences Stuttgart, Germany

GIS-Based Assessment of Regional Biomass Potentials for Heat and Power Generation at the Example of Ludwigsburg County, Germany

1CV.4.15
C. Gunnarsson, J. Lund, J. Casimir, Å. Myrbeck
RISE, Uppsala, Sweden

Sustainable Straw Potential in Sweden - A Case Study to Supply Straw for Ethanol Production

1CV.4.16
R. Gaudel, M. Aalto, T. Ranta
LUT University, Mikkelin, Finland

Sustainable Promotion of Wood Supply Through Digitalization and Networking

1CV.4.17
F. Salamut
University of Mauritius, Reduit, Mauritius

Assessing the Potential of Developing Energy Crops on Marginal Lands in Mauritius

1CV.4.18
M. Puglia, G. Torri, V. Martinelli, P. Tartarini
Università degli Studi di Modena e Reggio Emilia, Modena, Italy

Vine Prunings Agro-energetic Chain: Experimental and Economical Assessment of Vine Pellets Use in Gasification Power Plants

1CV.4.19
M. Von Cossel, I. Lewandowski
Department of Biobased Products and Energy Crops (340b), Institute of Crop Science, University of Ho, Stuttgart, Germany
Y. Iqbal
College of Bioscience and Biotechnology, Hunan Agricultural University, Changsha, P.R. China

Intercropping miscanthus with flower-rich biennial wild plant species

1CV.4.20
M.M.R. Poveda, S.T. Coelho
GBIO/IEE/USP, São Paulo, Brazil

Integration of Vinasse Biogas in the Energy Matrix of Ribeirão Preto, State of São Paulo

1CV.4.21
A.P.S. Silva
IPT and IEE/USP, São Paulo, Brazil
S.T. Coelho
IEE/USP, São Paulo, Brazil

Biomass Residues from Sustainable Forest Management in Brazil.

1CV.4.22
M. Bachilava
Agricultural University of Georgia, Tbilisi, Italy
N. Goginashvili
Scientific-Research Center of Agriculture, Tbilisi, Georgia
F. Bertaina
Biopoplar, Cuneo, Italy

Early Growth Performance of New Poplar Clones for Georgia
VISUAL PRESENTATIONS 2CV.5

16:20 - 17:20 Anaerobic Digestion Optimization for Biogas and Biomethane Production

This poster session addresses a wide range of biomass substrates for biogas production, biomass pretreatment methods, co-digestion, gas cleaning and technologies for biogas upgrading to biomethane for pipeline injection. Also addressed are biogas process performance optimization, enhanced methane yield as a function of biomass substrate and integration of anaerobic digestion with other process wastes and residues.

CHAIR & MODERATOR:
Ioana IONEL
Politehnica University of Timisoara, ROMANIA

Bernhard DROSG
BEST - Bioenergy and Sustainable Technologies, AUSTRIA

2CV.5.1 C. Vasmara, R. Marchetti
CREA-ZA, San Cesario Sul Panaro (Modena), Italy
S. Ciachetta, S. Galletti, E. Ceotto
CREA-AA, Bologna, Italy
Enhancing Methane yield from Giant Reed (Arundo donax L.) through Pre-treatment and Co-digestion with Pig Slurry

2CV.5.2 D. Arias, C. Veluchamy, B. Gilroyed
University of Guelph, Ridgetown, Canada
Biogas Production and Process Performance of a Plug Flow Reactor Co-Digesting Swine Manure and Corn Stover

2CV.5.3 Ie. Morozova, H. Oechsner, B. Hülsemann, A. Lemmer
University of Hohenheim, Stuttgart, Germany
Assessment of Biogas Potential from Energy Crops in Ukraine

2CV.5.4 V. Dubrovskis, I. Plume, I Straume
Latvia University of Life Sciences and Technologies, Jelgava, Latvia
Degradation Of Colored Papers By Anaerobic Fermentation

2CV.5.6 V. Dubrovskis, A. Adamovics, I. Plume, M. Valko
Latvia University of Life Sciences and Technologies, Jelgava, Latvia
Anaerobic Co-Digestion of Cows Manure, Maizes Silage, Grass Silage and Flour, Theoretical, Laboratory Scale and Biogas Plant Yields

2CV.5.9 Y.M. Gu, S.Y. Park, J.H. Lee
Korea Institute of Ceramic Engineering and Technology, Cheongju, South Korea
B. Sang
Hanyang University, Seoul, South Korea

T.H. KIM
Hanyang University, South Korea
Improved Bioavailability of Foodwastes Using Attrition Ball Mill Pretreatment: From Laboratory Scale to Pilot Scale

2CV.5.10 S. Mlinar, R. Freitag
Chair for Process Biotechnology, University of Bayreuth, Germany
Mixing Intensity as a Key Parameter for the Kinetics Control of Anaerobic Digestion

IEEE/USP, São Paulo, Brazil
B.A. Pereira, T.F. Sawatani, R.C. Contrera
EP/USP, São Paulo, Brazil
Evaluation of Using Slaughterhouse’s Waste In Biogas Production for Energy Recovery

2CV.5.15 K. Dinh, K. Crippen, R. Bora
GTI, Des Plaines, USA
Developing an On-Line Analyzer to Monitor Trace Constituents in Biomethane for Pipeline Injection

2CV.5.16 S. O’Connor, E. Ehimen, S.C. Pillai, J. Bartlett
Institute of Technology Sligo, Ireland
G. Lyons, C. Johnson
Agri-Food and Biosciences Institute, Hillsborough, United Kingdom
Guaranteeing Steady Energy Outputs from a Farm-Scale Anaerobic Digestion Plant Despite Seasonal Environmental Factors and Feedstock Supply Variability

2CV.5.17 R. Bora, K. Dinh, K. Crippen
GTI, Des Plaines, USA
ASTM D8230-19 - A Standardized Testing Method for Siloxanes in Biomethane

2CV.5.19 R. Bora, A. Harmon
GTI, Des Plaines, USA
M. Deshusses, T. Dupnock
Duke University, Durham, USA
Evaluating Biogas Cleaning Technologies: Bio-trickling Filter Application for Removal of Siloxanes in Biogas

2CV.5.21 F.L. Kakar, E.E Elbeshbishy
Ryerson University, Toronto, Canada
Anaerobic Digestion of Thickened Waste Activated Sludge; Hydrothermal Pretreatment Impact

Institute of Energy and Environment, University of São Paulo, Brazil
Domestic Wastewater Valorization Analyses and the Challenging Energy Recovery Potential in Terms of Biological Methane Production: A Case Study for a Northeastern Brazilian State
VISUAL PRESENTATIONS 1DV.1
09:00 - 10:00  Agroforestry Residues, Aquatic Biomass and Valorization of Wastewater for the Bioeconomy

This poster session covers a range of topics, including agroforestry residues, harvesting methods and properties of the biomass for subsequent conversion to energy, and includes a number of cases for the production, quality and use of biochar. In addition, the contribution of aquatic biomass to the societal change towards a bio-based economy are presented. Finally, this session addresses a range of research projects focused on the recovery and the valorization of municipal and industrial waste in terms of both materials and energy recovery.

CHAIR & MODERATOR:
Emmanuel GARBOLOGIN
ASES France R & D / Climpact Data Science, FRANCE

Raphael SLADE
Imperial College London, UNITED KINGDOM

1DV.1.1
L. Pari, A. Suardi, V. Alfano, N. Palmieri, W. Stefanoni, P. Mattei
Consiglio per la ricerca in agricoltura e l’analisi dell’economia agraria, Italy
S. Bergonzoli
Consiglio per la ricerca in agricoltura e l’analisi dell’economia agraria, Italy
Recovery of Crop By-Product: Harvesting of Wheat Chaff

1DV.1.2
S. Sánchez Villasclaras
University of Jaén, Chemical Engineering, Environmental and Materials Dpt., Spain
Use of Olive Mill Wastewaters and Urban Wastewater as Nutrient Medium and CO2 Biofixation for Biomass Production of Microalgae

1DV.1.3
G. Santunione
University of Modena and Reggio Emilia, Modena, Italy
E. Turi
University of Modena and Reggio Emilia, Modena, Italy
R. Paris
Centro di ricerca per l’Agricoltura e le Colture Industriali, Bologna, Italy
G. Grassi
Centro di ricerca per l’Agricoltura e le Colture Industriali, Rovigo, Italy
Production and Use of Co-Composted Biochar as Soil Amendment for Cannabis Sativa SP. Growth

1DV.1.4
G. Hodaifa, A. Mal visas
University of Pablo de Olavide, Seville, Spain
M. Maaitah, S. Sánchez
University of Jaén, Spain
Chlorella Pyrenoidosa Culture in Flocculated Olive Oil Mill Wastewater with the Double Benefit of Biomass Generation and Wastewater Treatment
THURSDAY 08 JULY 2020 - VISUAL PRESENTATIONS

1DV.1.5
F. Gallucci, B. Vincenti, E. Paris, A. Palma, M. Carnevale, M. Salerno
CREA, Monterotondo, Italy
E. Guerriero
CNR, Montelibretti, Italy
A. Proto
Università Mediterranea di Reggio Calabria, Reggio Calabria, Italy
Chemical and Physical Characterization of Pellet Composed by Biomass of Different Essences.

1DV.1.7
C. Driemeier, D.R. Negrão, L.Y. Ling, C.A. Oliveira Filho
CNPEM, Campinas, Brazil
Multi-Scale Understanding of Mineral Impurities in Agroindustry Residues: The Cases of Sugarcane Bagasse and Straw

1DV.1.9
A. Del Giudice, A. Scarfone, E. Paris, F. Gallucci, E. Santangelo
CREA, Monterotondo (RM), Italy
Qualitative Assessment of Residual Biomass from Turkey Oak (Quercus Cerris, L.) Coppicing in Central Italy

1DV.1.10
A. Assirelli, M. Pagano, E. Santangelo, C. Cedrola, R. Tomasone
CREA-Research center for engineering and agro-food processing, Monterotondo (RM), Italy
Residues from Mechanized Nut Harvesting: Preliminary Tests to Valorize Walnut Husks for Biochar Production and Possible Use as Soil Amendment

1DV.1.11
CERTH, Athens, Greece
Monitoring Feedstock Losses Over 6 Months Storage of Harvested Olive Tree Prunings in Piles. Comparison of Piles with or without Coverage

1DV.1.12
R. Picchio, R. Venanzi
Tuscia University, Viterbo, Italy
L. Pari, F. Latterini, A. Suardi, P. Mattei, S. Lazar
CREA, Monterotondo, Italy
Thinning: Working Times, Productivities and Utilization Costs in a Pine Forest

1DV.1.13
L. Pari, A. Suardi, S. Bergonzoli, W. Stefanoni, S. Lazar
CREA, Monterotondo, Italy
M. Sundberg, C. Gunnarson, N. Jonsson
RISE, Uppsala, Sweden
Chaff and Straw Harvesting Test in Sweden: Machine Performance and Quality of the Work

1DV.1.14
L. Pari, A. Suardi, V. Alfano, S. Bergonzoli, F. Latterini, S. Lazar
CREA, Monterotondo, Italy
M. Karampinis, M. Kougioumtzis
CERTH, Thermi, Greece
Olive Tree’s Pruning Harvesting Using the Greek Modified Mulcher Fotopoulos FSR2000, Machine Performances and Biomass Quality Evaluation

1DV.1.15
C. Howard, V.C. Griess
University of British Columbia, Vancouver, Canada
Potential for Climate Change Mitigation in B.C.: Utilizing Harvest Residues for the Production of Regional Heat and Liquid Biofuels

1DV.1.18
A. Assirelli
CREA-Center for engineering and agro-food processing, Monterotondo (RM), Italy
F. Stagno, G. Roccuzzo
CREA-Center for olive, citrus and tree fruit, Forlì, Italy
R. Roberti
Agromillora, Subirats, Spain
L. Catalano
Agrimeca, Turi, Italy
A Novel Approach to Direct Field Separation of Almond Hulls

1DV.1.20
S. Hassan
TU Dublin, Ireland
Optimization of Process Conditions Using Response Surface Methodology for Fermentable Sugars Release from Ultrasound Pretreated Brewers’ Spent Grain

1DV.1.23
S. Bergonzoli
CREA, Italy
R. Leal
LNBR/CNPEM, São Paulo, Brazil
Innovative Solution for Sugarcane Straw Recovery

1DV.1.24
P. Cetera, L. Pari
Council for Agricultural Research and Economics -Research Centre for Engineering and Agro-Food Proce, Monterotondo, Italy
M. Bruno, L. Milella, L. Todaro
University of Basilicata, Potenza, Italy
M. Fioravanti
University of Florence, Italy
From Biomass of Poplar Utilizations to Byproducts
<table>
<thead>
<tr>
<th>Session</th>
<th>Title</th>
<th>Authors/Institutions</th>
</tr>
</thead>
<tbody>
<tr>
<td>1DV.1.25</td>
<td>Integrated Approach to Microalgae Cultivation as an Urban Wastewater Treatment Step</td>
<td>J. Tallec, Capacites, Saint Nazaire, France</td>
</tr>
<tr>
<td>1DV.1.26</td>
<td>Effect of Light Intensity on the Growth of Three Microalgae in Laboratory Batch Cultures</td>
<td>B. Ievina, F. Romagnoli, Institute of Energy systems and environment, Riga Technical university, Riga, Latvia</td>
</tr>
<tr>
<td>1DV.1.27</td>
<td>The Resilience of Typha Domingensis Pers. To Nutrient-Depleted Water in a Floating Biomass Production System</td>
<td>M.D. Curt, P.L. Aguardo, M.I. Martin-Girela, A. Martinez, J. Fernandez, Universidad Politecnica de Madrid, Spain</td>
</tr>
<tr>
<td>1DV.1.28</td>
<td>Valorisation of Industrial Wastewater Streams Containing Metal-Organic Residues</td>
<td>J Walter, I Aubel, M Bertau, Freiberg University of Mining and Technology, Freiberg, Germany</td>
</tr>
<tr>
<td>1DV.1.29</td>
<td>Techno-Economic and Environmental Analysis of Pyrolysis, Gasification and Incineration Waste-to-Energy Technologies: Application to Mediterranean Regions</td>
<td>A. Ronda, P. Haro, S. Nilsson, D. Fuentes-Cano, A. Gómez-Barea, Universidad de Sevilla, Seville, Spain</td>
</tr>
<tr>
<td>1DV.1.30</td>
<td>An Integrated GIS-based Framework for Optimal Siting of Biorefineries</td>
<td>Md. S. Islam, R.M. Sebastian, V. Kurian, A. Kumar, University of Alberta, Edmonton, Canada</td>
</tr>
<tr>
<td>1DV.1.31</td>
<td>Bio-Energy from Municipal Waste - A Potential Economic and Friendly Environmental Solution in Romania</td>
<td>I. Ionel, Politehnica University of Timisoara, Romania</td>
</tr>
<tr>
<td>1DV.1.32</td>
<td>Torrefaction of Lignocellulosic Municipal Solid Waste: Thermal Upgrade for Energy Use</td>
<td>M.S. Santanna, Mechanical Engineering Dpt., University of Brasilia, Brazil</td>
</tr>
<tr>
<td>1DV.1.33</td>
<td>BEFWAM-Bioenergy, Fertiliser And Clean Water from Invasive Aquatic Macrophytes</td>
<td>A. Brown, University of Leeds, School of Chemical and Process Engineering, United Kingdom</td>
</tr>
<tr>
<td>1DV.1.34</td>
<td>Biofuel precursors from microwave catalytic conversion of lignocellulosic agri-food industrial wastes.</td>
<td>J. Cencerrero, UCLM, Organic, Spain</td>
</tr>
<tr>
<td>1DV.1.35</td>
<td>Gas Consumption and Growth Performance of N. Oleoabundans in the 30 L Photobioscrubber</td>
<td>M. Altunoz, M. Puglia, N. Morselli, J. Tioli, G. Allesina, S. Pedrazzi, L. Arru, University of Modena and Reggio Emilia, Modena, Italy</td>
</tr>
</tbody>
</table>

Networking & Exhibition Visiting Time: 10:00 - 10:10
VISUAL PRESENTATIONS 1DV.2

10:10 - 11:10 Decarbonising the Economy with Biomass Crops

This poster session brings together agronomic, physiologic and environmental research on biomass crops to support a decarbonised economy.

CHAIR & MODERATOR:
Myrsini CHRISTOU
Center for Renewable Energy Sources and Saving, GREECE

1DV.2.1
B. Valpradinhos, L. Gomes, C. Rodrigues, M. Gonçalves, A.L. Fernando
FCT NOVA, Lisboa, Portugal
J. Costa
FCT NOVA/ISEC, Lisboa, Portugal
Combining Camelina Sativa Production with Phytodepuration of Contaminated Effluents
Obtained in Hydrothermal Carbonization Processes - An Opportunistic Approach

1DV.2.2
L. Pari, A. Suardi, V. Alfano, N. Palmieri, W. Stefanoni, P. Mattei
Consiglio per la ricerca in agricoltura e l’analisi dell’economia agraria, Italy
S. Bergonzoli
Consiglio per la ricerca in agricoltura e l’analisi dell’economia agraria, Italy
Effect of Wood Debranching on Eucalyptus Storage Performance

1DV.2.3
L. Pari, A. Suardi, V. Alfano, N. Palmieri, W. Stefanoni, P. Mattei
Consiglio per la ricerca in agricoltura e l’analisi dell’economia agraria, Italy
S. Bergonzoli
Consiglio per la ricerca in agricoltura e l’analisi dell’economia agraria, Italy
Giant Reed Storage, Assessment of Comminuted Biomass Behaviour

1DV.2.4
L. Pari, V. Alfano
CREA, Rome, Italy
G. Magagnini, G. Grassi
CREA, Rovigo, Italy
Seed Losses Evaluation during Hemp Harvesting with a Modified Combine Header

1DV.2.5
M. Krzyzaniak, M.J. Stolarski
3B, Olsztyn, Poland
Camelina: The Multipurpose Oil Crop Cultivated on Marginal Land in the North-Eastern Poland

1DV.2.6
J. Lund, C. Gunnarsson
RISE, Uppsala, Sweden
Broadening of the Raw Material Base for Straw Based Ethanol Production by Adding Ley in the Crop Rotation

1DV.2.7
L. Gomes, A.L. Fernando
Universidade Nova de Lisboa, Almada, Portugal
J. Costa
Instituto Superior de Educação Científica, Lisboa, Portugal
F. A. Santos
Universidade Estadual do Rio Grande do Sul, Porto Alegre, Brazil
F. Zanetti, A. Monti
Università di Bologna, Bologna, Italy
Switchgrass Cultivation Potential in Soils Contaminated with Heavy Metals
Towards Regional Recommendations for Energy Cover Crops in Double Cropping Systems A New Stakeholder Collaboration

1DV.2.11
S. Marsac, C. Quod, E.A. Sanner
Arvalis, Baziège, France
T. Habas, C. Richard, C. Flamin
ENGIE, Paris, France
Comparing the Growth and Yield of Kenaf (Hibiscus Cannabinus L.) Produced in Two Different Climatic Types in Soils Contaminated by Zinc, Copper, Chromium and Lead

1DV.2.14
M.J. Stolarski, M. Krzyzaniak
3B, Olsztyn, Poland
Selected Non-Food Crops Cultivated For Industrial and Energy Purposes in Poland

1DV.2.15
M. Von Cossel, A. Mangold, I. Lewandowski
Department of Biobased Products and Energy Crops (340b), Institute of Crop Science, University of Hohenheim, Stuttgart, Germany
Y. Iqbal
College of Bioscience and Biotechnology, Hunan Agricultural University, Changsha, P.R. China
Methane Yield Potential of Miscanthus Established under Maize

1DV.2.16
M. Von Cossel
Department of Biobased Products and Energy Crops (340b), Institute of Crop Science, University of Hohenheim, Stuttgart, Germany
Biomass from Perennial Wild Plant Mixtures - Lessons from 10 Years of Research and Practice
THURSDAY 08 JULY 2020 - VISUAL PRESENTATIONS

1DV.2.17
M. Von Cossel
Department of Biobased Products and Energy Crops (340b), Institute of Crop Science, University of Ho, Stuttgart, Germany

Methane Yield Performance of Perennial Wild Plant Species Common Tansy, Common Knapweed and Mugwort

1DV.2.18
N. Rezaie
CREA, Rome, Italy
E. D'Andrea, G. Matteucci
ISAFoM, Ercolano, Italy

How Different Forest Management Options Affect Woody Biomass Quality?

1DV.2.20
E. Santangelo, C. Beni, E. Paris, A. Del Giudice, F. Gallucci
Consiglio per la ricerca e l'analisi dell'economia agraria (CREA), Monterotondo, Italy
M. Zacchini, F. Pietrini
Consiglio Nazionale delle Ricerche (CNR), Monterotondo, Italy

Effect of Groundwater Level on Giant Reed (Arundo Donax, L) Plants Grown in Mesocosms

1DV.2.21
L. Pari, W. Stefanoni, A. Suardi, N. Palmieri, S. Bergonzoli, V. Alfano, S. Lazar
CREA, Monterotondo, Italy

Cultivation Of Castor in Romania: A Case of Study

1DV.2.31
M. Sanz, J.E. Carrasco, J. Pérez, P. Pilar Ciria
CIEMAT, Madrid, Spain

Biomass Yield of Siberian Elm Under Different Crop Conditions on Marginal Agricultural Land

Networking & Exhibition Visiting Time 11:10 - 11:20
## Live Stage agenda

### Monday 6 July 2020

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Speaker/Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>17.20 – 17.40</td>
<td>BRISK2, enhance your research with Transnational Access</td>
<td>Alanna Boden</td>
</tr>
</tbody>
</table>

### Tuesday 7 July 2020

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Speaker/Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>11.00 – 12.00</td>
<td>BIOCOGEN 2030 stories of innovation from the cogeneration world</td>
<td>Giulio Poggiaroni, Dr. Jan Van Herle, Dr. Wang Ligang, Mr. Egbert Freiherr von Crumm, Dr. Burghard Knolle, Dr. Daniella Johansson, Dr. Marta Gandiglio</td>
</tr>
<tr>
<td>12.10 – 13.00</td>
<td>ETIP Project</td>
<td>Dina Bacovsky, Philippe Marchand, Uwe Fritsche, Calliope Panoutsou, Patrik Klintborn</td>
</tr>
<tr>
<td>17.20 – 18.20</td>
<td>Getting your Bioenergy research published in top journals biomass &amp; bioenergy MDPI Energies, EUBCE</td>
<td>David Baxter, Former European Commission, Joint Research Centre</td>
</tr>
</tbody>
</table>

### Wednesday 8 July 2020

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Speaker/Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>11.00 – 11.20</td>
<td>Idea-biotech, Italy Innovative technologies and bioreactors for lab experiments and process optimization</td>
<td>Aronne Teli</td>
</tr>
<tr>
<td>11.40 – 12.00</td>
<td>Marcopolo Green Energy CO., LTD, Taiwan</td>
<td>Marco Benedetti, Tammy Chang, Daniel Ku</td>
</tr>
<tr>
<td>12.10 – 12.30</td>
<td>BIOFIT Project</td>
<td>Patrick Reumerman</td>
</tr>
<tr>
<td>12.40 – 13.00</td>
<td>BlueSens gas sensor GmbH, Germany Professional off-gas analysis for biogas and residual gas applications</td>
<td>Dr. Holger Müller</td>
</tr>
<tr>
<td>16.20 – 18.20</td>
<td>Algae Industry Workshop</td>
<td>Daniel Fishman, Nuno Coelho, Vitor Verdelho, Ramesh BhuJade, Frank Rogalla, Craig Behnke, Jean-François Sassi, Rebecca White, Philippe Potin, Edgar Santos</td>
</tr>
</tbody>
</table>

### Thursday 9 July 2020

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Speaker/Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>09.30 – 09.50</td>
<td>ADVANCEFUEL Visual Journey Removing Barriers to Advanced Renewable Fuels</td>
<td>Vanessa Vivian Wabitsch</td>
</tr>
<tr>
<td>10.00 – 10.20</td>
<td>TNO – your partner for biofuels R&amp;D, The Netherlands</td>
<td>Stephan Janbroers</td>
</tr>
<tr>
<td>10.30 – 10.50</td>
<td>Vanguard Initiative – Bioeconomy Pilot, EU</td>
<td>Maurizio Bettiga</td>
</tr>
<tr>
<td>11.00 – 11.20</td>
<td>SYNCRAFT, Austria The world’s first climate positive power plant</td>
<td>Marcel Huber</td>
</tr>
</tbody>
</table>

### Exhibitors

(Status of 4 July 2020)

<table>
<thead>
<tr>
<th>Company</th>
<th>Country</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advancefuel</td>
<td>EU project</td>
</tr>
<tr>
<td>Anaero Technology</td>
<td>UK</td>
</tr>
<tr>
<td>BEES - Bioenergy Events and Services</td>
<td>France</td>
</tr>
<tr>
<td>BECOOL Project</td>
<td>EU project</td>
</tr>
<tr>
<td>BEST – Bioenergy and Sustainable Technologies GmbH</td>
<td>Austria</td>
</tr>
<tr>
<td>BIOBRIDGES Project</td>
<td>EU project</td>
</tr>
<tr>
<td>Bioprocess Control</td>
<td>Sweden</td>
</tr>
<tr>
<td>BlueSens gas sensor GmbH</td>
<td>Germany</td>
</tr>
<tr>
<td>BRISK2</td>
<td>Sweden</td>
</tr>
<tr>
<td>CELEBIO Project</td>
<td>EU project</td>
</tr>
<tr>
<td>ETA FLORENCE RENEWABLE ENERGIES</td>
<td>Italy</td>
</tr>
<tr>
<td>EUBIA</td>
<td>Belgium</td>
</tr>
<tr>
<td>idea-biotech</td>
<td>Italy</td>
</tr>
<tr>
<td>LECO</td>
<td>The Netherlands</td>
</tr>
<tr>
<td>Marcopolo Green Energy CO., LTD</td>
<td>Taiwan</td>
</tr>
<tr>
<td>BlueSens gas sensor GmbH</td>
<td>Germany</td>
</tr>
<tr>
<td>Netherlands Lounge (The Netherlands Pavilion)</td>
<td>The Netherlands</td>
</tr>
<tr>
<td>NextGenRoadFuels Project</td>
<td>EU project</td>
</tr>
<tr>
<td>Ritter Apparatebau</td>
<td>Germany</td>
</tr>
<tr>
<td>SYNCRAFT</td>
<td>Austria</td>
</tr>
<tr>
<td>TNO Energy Transition (The Netherlands Pavilion)</td>
<td>The Netherlands</td>
</tr>
<tr>
<td>TOSYNFUEL Project</td>
<td>EU project</td>
</tr>
<tr>
<td>Vanguard Initiative – Bioeconomy Pilot</td>
<td>EU</td>
</tr>
<tr>
<td>Wageningen-UR; Knowledge base program Circular and Climate Neutral (The Netherlands Pavilion)</td>
<td>The Netherlands</td>
</tr>
<tr>
<td>Weber Entec</td>
<td>Germany</td>
</tr>
</tbody>
</table>
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This project has received funding from the European Union’s Horizon 2020 Research and Innovation Programme under grant agreement No. 744821.

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EUBIA closely monitors and informs its members on the evolution of EU policy. We actively support initiatives to promote the development of the biomass sector.

EU Projects
EUBIA is actively involved in several EU projects promoting sustainable use of biomass in the bio-based economy, including agri-food and bioenergy sectors.

communication and events
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**NextGenRoadFuels** is an Horizon 2020 project to develop a competitive European technology platform for sustainable drop-in transport fuel production from low value urban feedstocks.

The project will prove the Hydrothermal Liquefaction pathway (HTL) as an efficient route to produce high-volume, cost-competitive, drop-in synthetic gasoline and diesel fuels, as well as other hydrocarbon compounds. The process consists of different combinations of thermo-catalytic, electro-catalytic and biochemical technologies, for a full scalable and flexible model.

**NextGenRoadFuels partners**

- Aalborg University
- Steeper Energy
- CPERI
- CENER
- TUM
- KIT
- SINTEF
- eni
- GoodFuels
- eta Florence

www.nextgenroadfuels.eu
info@nextgenroadfuels.eu

This project has received funding from the European Union’s Horizon 2020 Research and Innovation Programme under Grant Agreement No. 818413
The new RITTER Biogas Batch Fermentation System

with automatic data logging in real time

- Batches of up to 18 fermentation bottles (1 ltr) in all new and redesigned heating oven
- Up to 18 RITTER MilliGascounters in two all new MilliGascounter x9 Block units with individual calibration certificate
- Automated data acquisition of gas volume and flow rate through real time data logging with Windows® software »RIGAMO«
- Optional CO₂ absorption system with absorption rate better than 99%
- No absorption limit indicator necessary

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The Biomass to Fuels and Feedstock program of TNO Energy Transition is developing knowledge and technology for efficient and cost-effective thermochemical processing of biomass, biogenic residues and waste into biofuels, chemicals, materials and energy in the framework of a circular bio-based economy. Our work covers the entire process chain, from feedstock to product synthesis.

TNO Energy Transition provides R&D support and bio-based technology solutions in the areas:

- Biomass, biogenic residues and waste characterization and application
- Fractionation, pretreatment and upgrading
- Thermochemical conversion: e.g., torrefaction, hydrothermal treatment, gasification, combustion, pyrolysis
- Combined thermochemical-biochemical conversion concepts
- Syngas treatment and catalytic conversion to biofuels and biochemicals
- Smart co-production of energy, chemicals and materials involving cascading and biorefinery concepts
- Resource-efficient residues utilisation

Would you like to know more? Visit our website!
**Bioeconomy Pilot**

Interregional cooperation on innovative use of non-food biomass

The “Bioeconomy Pilot” brings together all European regions interested in the creation of a bioeconomy strategy: the purpose is to boost innovation in the bio-based sector.

For actors interested in the biobased business, the Bioeconomy Pilot can:

- Support the creation of new integrated bio-based value chains between the chemistry, agrofood and bioenergy sectors
- Promote new business opportunities
- Encourage project upgrading and business exploitation
- Supporting the establishment of private-public investment pipelines based on industry-driven business cases

We are currently developing new projects within the areas of

Liquified Biomethane, Lignocellulose Biorefinery, Bioaromatics and Biopolymers.

The next business case can be yours!

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**Circular and Climate Neutral**

Wageningen University & Research is working on solutions to make the circular, biobased economy a reality.

Come and visit our booth and learn more about research in Wageningen. We will show you what projects we do within the research program ‘Towards a circular and climate-positive society’.

You will also get an overview of EU research projects with

Wageningen participation in the field of biobased economy and circularity.

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'We want our research to contribute to an environmentally friendly society in 2030, founded on closed-cycle biobased systems that are beneficial to humans, animals and the world. Translating research to practice, that is what drives me.’

Saskia Visser
programme manager ‘Circulair and climate-neutral society’
TROUBLES WITH HIGH VISCOSITY AND MECHANICAL BREAKDOWNS?

SUFFERING FROM LOW BIOMASS YIELD?
NEED TO SAVE MONEY ON FEEDSTOCK COSTS?

Our ultrasound disintegration technology will increase your overall plant efficiency

Return-on-Investment less than 3 years

Maintenance free ultrasound cell

Proven and tested in more than 100 plants

- Substrate in digester more liquid
- Improved flow properties
- Overall operational and biological improvement
- Decrease of energy consumption (pumping, stirring)
- Usage of difficult cosubstrates possible

MORE THAN 100 REFERENCES WORLDWIDE!