Webinar: Biomass for hydrogen – facilitating the contribution to the sustainable energy transition

14:00-15:15 CET (UTC+1), Wednesday 2 November 2022

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Agenda

1400 – 1405	Brief introduction to webinar and speakers *Maria Michela Morese (Executive Secretary, GBEP)*
1405 – 1420	Perspectives for hydrogen from biomass in Brazil *Suani Coelho (University of São Paulo, Brazil)*
1420 – 1435	European research frontiers in biohydrogen production *Franco Cotana (University of Perugia, Italy)*
1435 – 1450	Considerations on biomass deployment in Power-to-X systems *Torsten Schwab (PtX-Hub, GIZ, Germany)*
1450 – 1510	Discussion session *Moderator: Marco Colangeli (FAO/GBEP)*
1510 – 1515	Concluding remarks *Maria Michela Morese (Executive Secretary, GBEP)*

Overview

Hydrogen is seen as an attractive fuel option for transport and electricity generation as it is a clean energy carrier that can be produced from multiple sources, including biomass. Hydrogen produced using biological activity is called biohydrogen, which is primarily produced through three production processes: fermentation, biophotolysis and microbial electrolysis. Biohydrogen production, storage, distribution and use are extremely important research areas, with still many challenges to overcome for widespread commercialisation.

This webinar will present recent research in the field of biohydrogen from both Europe and Brazil, whilst also providing perspectives on the use of biomass in integrated renewable fuel systems, such as Power-to-X. The discussion session will delve into the sustainability criteria for the deployment of these technologies and necessary policy frameworks.

The webinar is hosted by the Global Bioenergy Partnership (GBEP) as part of the Scope of Work of Activity Group 4. More information on this activity group can be found on the GBEP website.

Photos: UPM Biofuels, Penn State News, Eni, Great Lakes Bioenergy Research Center, NREL

Speakers

Suani Coelho, ***Professor, Coordinator, Research Group on Bioenergy, University of Sao Paulo, Brazil***

Suani Teixeira Coelho is a Chemical Engineer, Master and PhD in Energy in the Graduate Program in Energy from the University of São Paulo, where she is currently lecturer, thesis advisor, PD supervisor and coordinator of the Research Group on Bioenergy (GBIO). Prof Coelho has published several scientific articles in peer-reviewed journals. She has published several books and book chapters, including "Land and Water: Linkages to Bioenergy" at Global Energy Assessment (IAASA, University of Cambridge, 2013). Since December 2014 she is Associate Editor on Bioenergy for the journal Renewable and Sustainable Energy Reviews and since April 2015 in the Journal BIOMASS BR.

She is also a contributor of the Global Bioenergy Partnership (GBEP / FAO), being part of the Brazilian Delegation in GBEP meetings. Among other projects, she is now the coordinator of the project "Perspectives for the contribution of biomethane on natural gas offer in Sao Paulo State" (Project N. 27, in the Research Center on Gas Innovation – RCGI – Polytechnic School of the University of Sao Paulo), funded by FAPESP and Shell Co. She is also the coordinator of the Atlas of Bioenergy for Sao Paulo State, in a R&D CESP/ANEEL Project together with Polytechnic School of USP and UNESP.

Franco Cotana, ***Professor, University of Perugia, Italy***

Franco Cotana is full professor of Industrial Applied Physics at the Department of Engineering of the University of Perugia and founder of the National Research Center on biomass.

With more than 30 years of experience, he is the author of more than 300 scientific publications on different topics: energy, environment, energy saving, Biomass for energy , bio fuels, renewable energies, sustainable develop, pollution, Waste, Hydrogen, biomaterials and new materials, applied acoustics, heat transfer, thermo physical properties. He is also owner of 25 patents in biomass field, renewable energy, energy saving, sustainable transports, green hydrogen, Acoustic and Electroacoustic, green technologies.

Torsten Scwhab, ***Director of the International PtX Hub, GIZ, Germany***

Torsten Schwab has been with GIZ for over 15 years and is currently deployed as director of the "International PtX Hub" in Berlin, Germany. Before he took on this assignment in August 2020, he managed the project "Climate Neutral Alternative Fuels (ProQR)" in Brazil. He has always been promoting the use of Renewable Energies, first in Rural Electrification, then in Energy Planning for specific technologies (solar, wind, bioX), later as a source for clean aviation fuels, and most recently as the basic concept for complete defossilisation. He holds MSc degrees in both Engineering Cybernetics and WASTE ("Water, Air, and Solid Waste Treatment Engineering"), both from the University of Stuttgart.