# Expert workshop

## Deployment perspective of green hydrogen from biomass and green hydrogen use in bio-based processes

WP1 workshop of IEA Bioenergy inter-Task project 'Synergies of green hydrogen and bio-based value chains deployment'

29 03 2023, 9:30 -15:45 CEST

**Location:** Berlin (hybrid)

**Date:** 29/03/23

**Organised by IEA Bioenergy TCP (the workshop is coordinated by IEA Bioenergy Task 40 in collaboration with IEA Bioenergy Tasks 32, 33, 34, 36, 37, 39, 42, 44, and 45)**
**"Inter-Task project on Synergies of green hydrogen and bio-based value chains deployment"**

**Participation will be by invitation only. Invited other organizations/TCPs: IEA Hydrogen TCP, IEA AMF (Task 64) and IEA Headquarters**

### Background & goal of the workshop

- Framing and describing possible value chains combining hydrogen production and deployment of hydrogen and bio-based processes for different bio-based end-products, including technologies at different development stages with different Tasks and stakeholders.
- Overview on the status and deployment perspective of concepts on **1) green hydrogen from biomass and 2) green hydrogen use in bio-based processes**
- Discussion and definition of an assessment framework for evaluating the deployment of **1) green hydrogen from biomass and 2) green hydrogen use in bio-based processes.**
  - Case study selection for in-depth presentation and analysis
  - Definition of boundaries, timeframe etc. (framing of the project)
  - Indicators for technical, economic, environmental, system and "H2-link" criteria
- Set of specific case studies and concepts for further assessment within the Inter-Task project on Synergies of green hydrogen and bio-based value chains deployment.

### Agenda (CEST)

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| **9:30** | **Welcome & intro to the workshop**<br>- Welcome from the German Federal Ministry of Food and Agriculture (invited)<br>- Presentation of the background and goal of the workshop, *Christiane Hennig, DBFZ, IEA Bioenergy Task 40*<br>- Presentation of the TCPs, IEA headquarters<br>*Speakers from IEA Bioenergy TCP (Luc Pelkmans), IEA AMF TCP (Sandra Hermle), IEA Hydrogen TCP (Marina Holgado), IEA Paris (Ilkka Hannula)* |

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| | **Industry Session** |
| **10:30** | **Presentation of case studies on green hydrogen from biomass**<br>*Speakers from Industry and IEA Bioenergy TCP*<br>*Speaker 1 Pathways for biobased hydrogen production, Joakim Lundgren, LTU, Task 33 (SE)*<br>*Speaker 2 Gasification of torrefied biomass, Robin Post van der Burg, Torrgas (NL)*<br>*Speaker 3 Ethanol reforming, Daniel Lopes, Hytron (BR)*<br>*Speaker 4 Methane pyrolysis, Ulla Lassi, Oulu University (FI)*<br>- Description of the technology/concept<br>- From which/country region?<br>- What is the TRL? Is the technology commercial available?<br>- Any specifics of the concept: flexible bioenergy, link to CCS/CCU, etc.? |
| **11:40** | **Break** |
| **11:45** | **Presentation of case studies on green hydrogen use in bio-based processes**<br>*Speakers from IEA Bioenergy TCP*<br>*Speaker 1 Pathways for green hydrogen use in bio-based processes, Axel Funke, KIT, Task 34 (DE)*<br>*Speaker 2 Synergies between biofuel production and hydrogen, Nicolaus Dahmen, KIT, Task 39 (DE)*<br>- Description of the concepts<br>- From which/country region?<br>- What is the TRL? Is the concept commercial available?<br>- Any specifics of the concept: flexible bioenergy, link to CCS/CCU, etc.? |
| **12:15** | **Moderated open discussion on case studies on green hydrogen from biomass and on green hydrogen use in bio-based processes.**<br>Commenting speeches from IEA Hydrogen TCP, IEA AMF and IEA headquarters<br>*Speakers from IEA Hydrogen TCP (Alberto Giaconia), IEA AMF TCP (Zoe Stadler) and IEA Paris (Ilkka Hannula)* |
| **13:00** | **Break** |
| | **Science Session** |
| **14:00** | **Presentation of an assessment framework for evaluating** the deployment of 1) **green hydrogen from biomass and 2) green hydrogen use in bio-based processes.**<br>*Speaker from IEA Bioenergy TCP, Christiane Hennig, DBFZ, Task 40 (DE)*<br>- Understanding of framing and criteria, and their role<br>- Specifics of green hydrogen and bio-based value chains system assessment<br>- Overview on assessment criteria |
| **14:30** | **Presentation of carbon footprint assessment for evaluating** the deployment of 1) **green hydrogen from biomass and 2) green hydrogen use in bio-based processes.**<br>*Speaker from IEA Bioenergy TCP, Martin Junginger, UU, Task 45 (NL)*<br>- Carbon footprint assessment |
| **15:00** | **Moderated open discussion on assessment framework**<br>- Round table discussion for case study assessment >> definition and selection of boundaries, timeframe, set of criteria for evaluating the deployment **green hydrogen from biomass and green hydrogen use in bio-based processes concepts** |

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| **15:40** | **Workshop summary and way forward** |
| **15:45** | **End of the workshop** |

**Contact information:**

If you wish to register for this workshop, please write to christiane.hennig@dbfz.de. Participation is free of charge, but registration is required. It is a hybrid event, an online participation is possible.

If you have any questions about the event, please do not hesitate to contact us: Christiane Hennig (christiane.hennig@dbfz.de), Elina Mäki (elina.maki@vtt.fi), Joakim Lundgren (joakim.lundgren@ltu.se), Axel Funke (axel.funke@kit.edu) and Martin Junginger (H.M.Junginger@uu.nl).