



Welcome to the Workshop

Bioenergy and biorefineries: innovations and futures

Co-Chairs:

Ulrich Schurr, Forschungszentrum Jülich and Bioeconomy Science Center (BioSC)

Steve Csonka, Commercial Aviation Alternative Fuels Initiative (CAAFI)

Rapporteur: **Moritz Leschinsky**, Fraunhofer CBP, Leuna, GER

(**Andreas Jupcke** , RWTH Aachen and Bioeconomy Science Center)

Bioenergy and biorefineries: innovations and futures:

Introduction into Workshop concept and aims

Rationale for the workshop

- Biorefineries are key elements for a future bioeconomy
- Concepts (and realisation) requires integrated approaches:
 - Feedstock
 - Conversion technologies
 - Product portfolio
 - Business case
- Aim is
 - NOT: concise overview on technology options
 - BUT: identify opportunities - current limitations – ways forward between all stakeholders

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Key Topics

- Key challenges and opportunities in **feedstocks and processing technologies**
- Ways forward towards **integrated biorefineries at industrial scale**
- Key **regulation** and (market) **obstacles**

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Expected outcome

- **Mapping** of opportunities and challenges for feedstock, processing, sustainability and market
- **Exchange on lessons learnt** regarding technological routes (incl. conversion and production), as well as incentive schemes for renewable resources and biorefineries with a focus on sustainable aviation fuel market and platform chemicals
- **Suggestions**, how to overcome these obstacles en-route to commercialization at industrial scale

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Input Speeches from different parts of the value chain

- (Alternative) Feedstocks:

- **Andreas Schmidt** UFZ – Center for Environmental Research, Leipzig, GER
- **Lauri Hetemäki** European Forest Institute, FIN

- Biorefinery Technologies

- **Moritz Leschinsky** Fraunhofer CBP, Leuna, GER
- **Jörn Viell** AVT, RWTH and BioSC

- Business cases

- **Paul Colona** INRA, FRA
- **Steve Csonka** CAAFI, USA

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Concept for Small Discussion Groups (4 groups)

- Groups of 5-7 people hosted by a one chair/ table
- One rapporteur/ table summarizes the results on the questions
- (short) presentation at the end of the workshop and
- (even shorter) presentation in the plenary (Friday afternoon)

Tables organized in colors

- Each table has one main question and two „secondary“ questions

Further contribution

- Each participant can deliver her/ his answers to the questions in a box at the exit of the room

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Guiding Questions

- What are the challenges and gaps in upscaling integrated biorefinery concepts?
- What is the best strategy to develop a vibrant biorefinery industry, what is the route to commercialization?
- How can policy support the development of sustainable biorefinery and bioenergy concepts?
- Where is the market? Which will the most successful products be and why?
- What is most needed in research and development?

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Guiding Questions 1

Host: Matthias Zscheile

- What are the challenges and gaps in upscaling integrated biorefinery concepts?

Role of

- Industry
- Research
- Politics/policies

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Guiding Questions 2

Host: Alberto Bezama

- What is the best strategy to develop a vibrant biorefinery industry, what is the route to commercialization?

Role of

- Industry
- Research
- Politics/policies

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Guiding Questions 3

Host: Heike Slusarczyk

- How can policy support the development of sustainable biorefinery and bioenergy concepts?

Role of

- Industry
- Research
- Politics/policies

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Guiding Questions 4

Host: Malanie Form

➤ Where is the market? Which will the most successful products be and why?

Role of

- Industry
- Research
- Politics/policies

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