

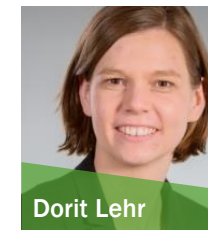


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New Technologies as Accelerator of a Sustainable Bioeconomy



Reported by:



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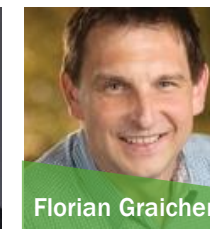
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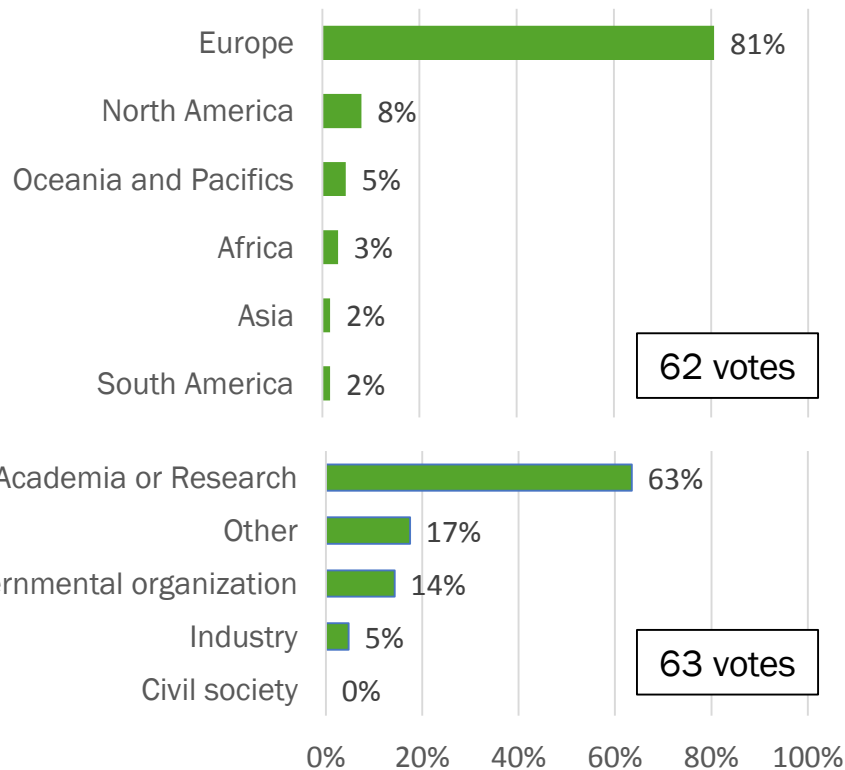
Luisa Marelli

Impressions

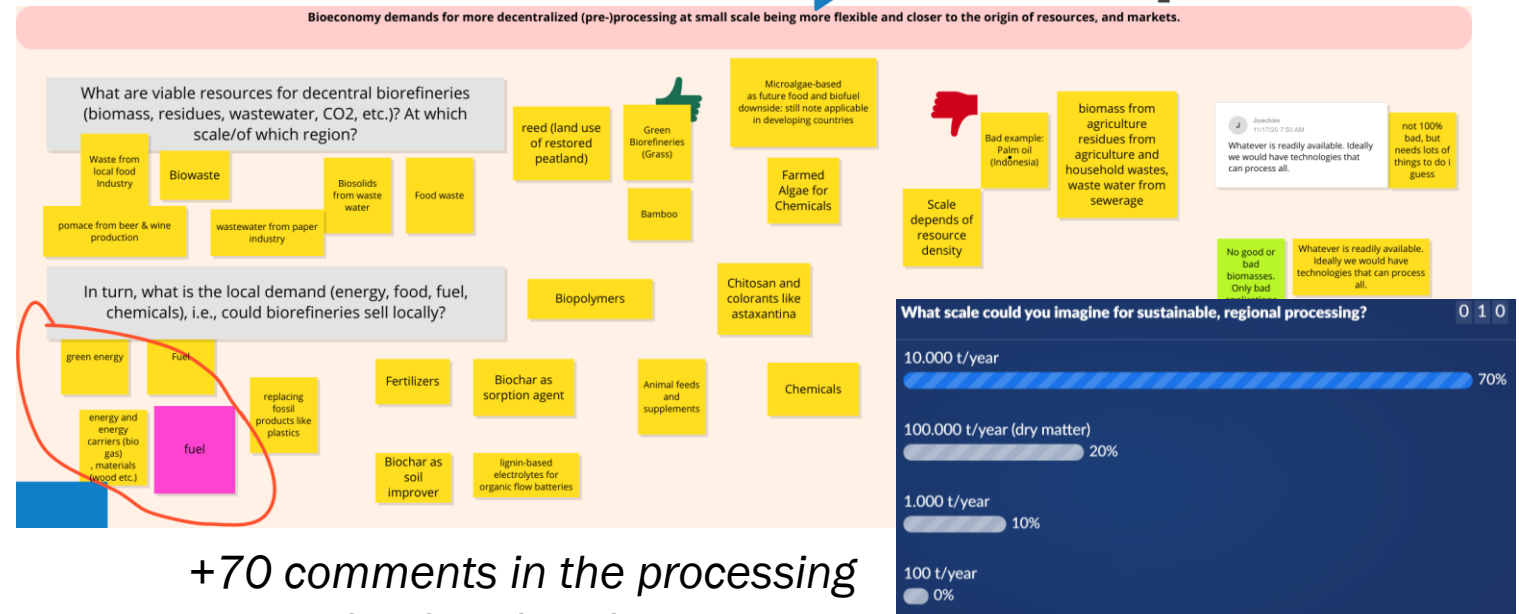


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Over 120 participants from all over the world from various backgrounds



Brainstorming sessions using conceptboard to answer bioeconomy questions, integrated with polls



+70 comments in the processing technology breakout room alone

Guiding questions



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1. What regional raw material/feedstock can be envisioned for regional and sustainable use?
2. What processing technology can foster an accelerated implementation in bioeconomy?
3. What do local citizens or stakeholders expect from bioeconomy (i.e., what niche should technology development fill)?
4. What strategies can support technology implementation and what is missing, and which governance do we need for a sustainable circular bioeconomy?

Raw Materials



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Key messages:

- *Bioeconomy builds on regional biogenic resources*
- *Cascading use of feedstock (primary biomass and processing residues)*
- *Political / financial support required to foster effectiveness and economic viability*

Follow-up:

Whiteboard results and presentation slides will be delivered after the conference

For further information contact



Processing Technology



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Key messages:

- **Resources:** *Waste and residues (examples include food, agriculture, forest waste or even waste water) favor decentral utilization.*
- **Products** *will go beyond “renewable energy” solutions but for products of much higher value (e.g. polymers and chemicals)*
- **Business Model:** *Synergies of SMEs and larger industry reflect best the structure of local pre-)processing and a central hub.*
- **Acceptance:** *working with nature and citizens (education and incentives)*
- **Technology:** *small-scale, robust!*
- **Sophistication:** *more opportunities for low-tech than high-tech*

Synthetic Biology and Industrial Biotechnology



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Key messages:

- Synthetic Biology and Industrial Biotechnology are seen as **key enabling technologies** for sustainable bioeconomy **both in low and high tech environments**
- SynBio and Biotech are mandatory key elements for future **Biointelligent Manufacturing (BM)**
- **BM** needs infrastructure such as **Pilotplants, Powerhouse, IBISBA**, training and political support
- Many regional Roadmaps on Bioeconomy (Blue, Red, Green...) already exist and need to be combined and harmonized to form **“The Global Bioeconomy Technology Roadmap”**

Follow-up:

Participants agreed to **continue exchange of views and experiences after GBS2020.**

*The workshop organizers and IBISBA could host virtual **Roadmapping workshops or technology expert panels.** The **publication of topic oriented videos or technology marketing will be considered***

Sustainability



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- Sustainability is dynamic, so bioeconomy monitoring systems must be able to **evolve** (no fixed set of indicators)
- Yet, stability of policies is essential to stimulate investments: Investors need certainty. This requires a **minimum set of stable** sustainability requirements.
- Sustainable agriculture, fishery, forestry and the waste system **all are part** of a sustainable bioeconomy
- Sustainability indicators are needed also at local/regional levels for which a **participatory approach** engaging citizens and communities is fundamental and should consider cultural contexts, aiming at an inclusive, sustainable **BioWEconomy**.

Follow-up:

A **reading list** is available (http://iinas.org/tl_files/iinas/downloads/bio/IINAS_JRC_GBS2020_New_Technology_WS_Breakout_Group4_reading_list.pdf).

Participants agreed to **continue exchange of views and experiences after GBS2020**. For that, EC JRC and IEA Bioenergy could co-host e.g. online workshops.

Synopsis



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The global **bioeconomy** is critical for our COVID-19 response and recovery phases. The next phase – rebuild – needs to look long term and have bold aspirations that address climate change, non-sustainable production, environmental degradation **and fosters employment.**

Besides **biomass, CO2 and wastes** are key building blocks for an (urban) bioeconomy **to** replace fossil carbon sources

Bioeconomy demands both centralized and decentralized (pre-)processing at small scale being more flexible and closer to the origin of resources, and markets. The principle of “Working with **nature** not against it” **is** the key criterion **for future** sustainable processing and **social** acceptance.

Sustainability has to be achieved economically, environmentally and socially. **For that,** measuring and **monitoring** the bioeconomy’s overall sustainability is critical for public acceptance **and** for financing (incentives, investments...) **and needs transparency, flexibility for national and local contexts as well as inclusion of people (“citizen science”) and their cultures.**