

Selected pillars of Bioeconomy for Sustainability Prague, 21.11.2023



Bioeconomy from the position of BOKU, Vienna and the European Bioeconomy University Alliance (EBU)

Martin Greimel



Centre for Bioeconomy, BOKU



- Operating since May 2019

- **Tasks:**

- Cooperation
- Collaboration
- Communication
- Coordination

of all bioeconomic activities and initiatives at BOKU



Contacts of the Centre



- **BOKU intern:**
 - **15 Departments, 71 Institutes**
 - **Leading the internal LCA Platform and EnergyCluster**
 - **Involved in BOKU:Base, Ethic Platform,**
- **National contacts:**
 - **Ministry of Agriculture; Ministry of Climate Change; Ministry of Science; Ministry of Economics**
 - **Several organisations and initiatives: Umweltbundesamt, BioBase, Ökosoiales Forum, ...**

ZfB is the Research and Education Centre for Bioeconomy in Austria!

Definition and Concept of “Bioeconomy”



„ An economic system operating in harmony with the laws of nature, based on sustainable managed renewable resources“

The most important pillars of Bioeconomy:

- *Priorization of using sustainable produced biomass*
- *Circularity*
- *Cascading principle*
- *Respect of planetary boundaries*

Definition and Concept of “Bioeconomy”



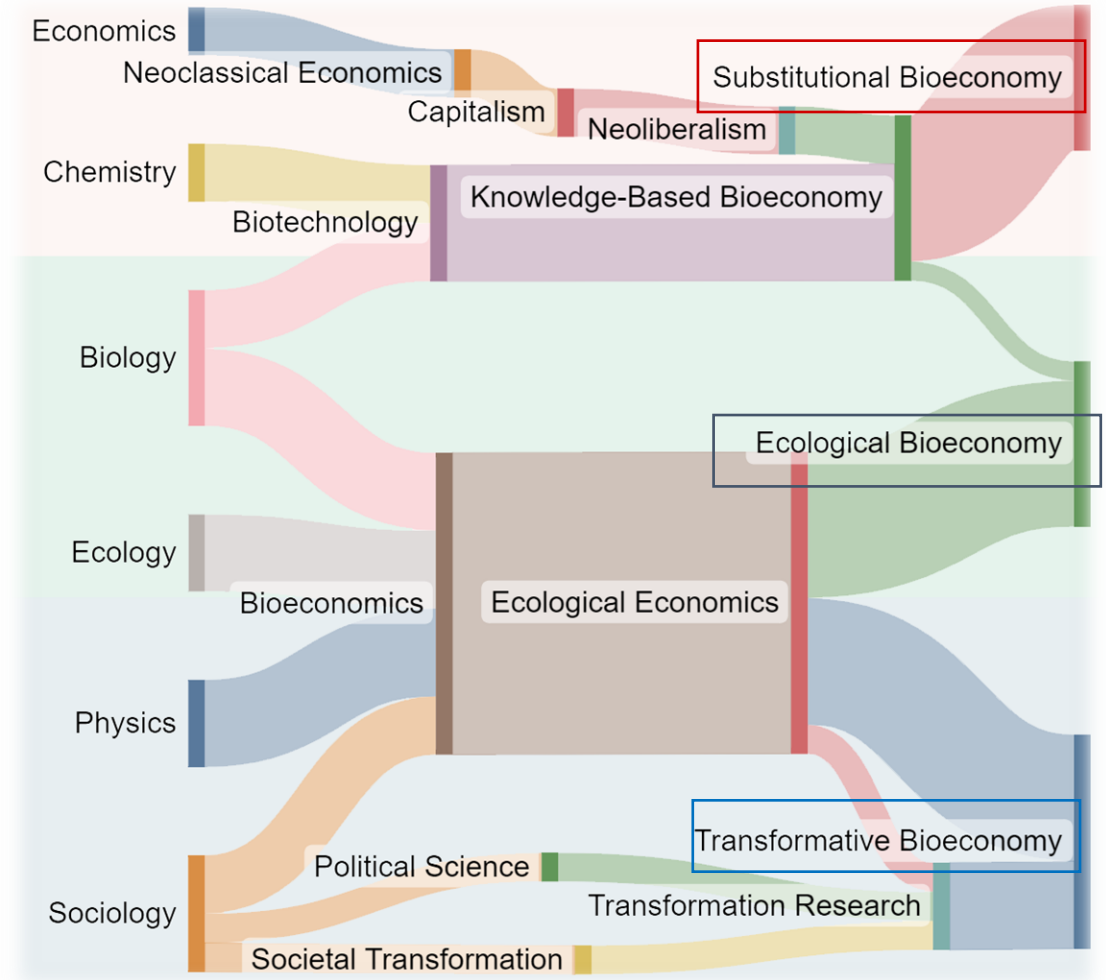
What it is not: a biobased throughaway economy!!

- *Use all technology available today to replace non renewable material*
- *Produce same amount of products sold today*
- *NEEDS 3 – 4 planet Earth to grow the necessary biomass*

*Therefore we need a new concept of „Wellbeing“ apart from
„Consumption“*

“Bioeconomy Concepts”

- **Ecological Bioeconomy**
 - Entropy, resource distribution and capacities
- **Substitutional Bioeconomy**
 - Biotechnology, Biorefinery and neoliberal Biopolitics
- **Transformative Bioeconomy**
 - Equity, Justice and Post-Growth-Societies



BOKU: Bioeconomy Activities



Production of Raw Materials

- **Agriculture**
- **Forestry**
- **Waste, Residues**
- Aquatic raw materials*
- Algae, insects, fungi, other biological raw materials (yeasts, ...)*
- **Plant management** (from cultivation to harvest, incl. precision/smart farming, ...)
- **Animal management** (breeding, feeding, housing, ...)
- Urban/Vertical farming*
- **Waste management**

* Minor competence

Processing Technologies

- **Harvesting**
(technology, logistics, cleaning, storage, preservation, ...)
- **Biomass conversion technologies** (Food, Feed, Building materials, Energy, Chemicals, other Materials)
 - Mechanical
 - Thermal
 - Chemical
 - Biological

Environmental Aspects

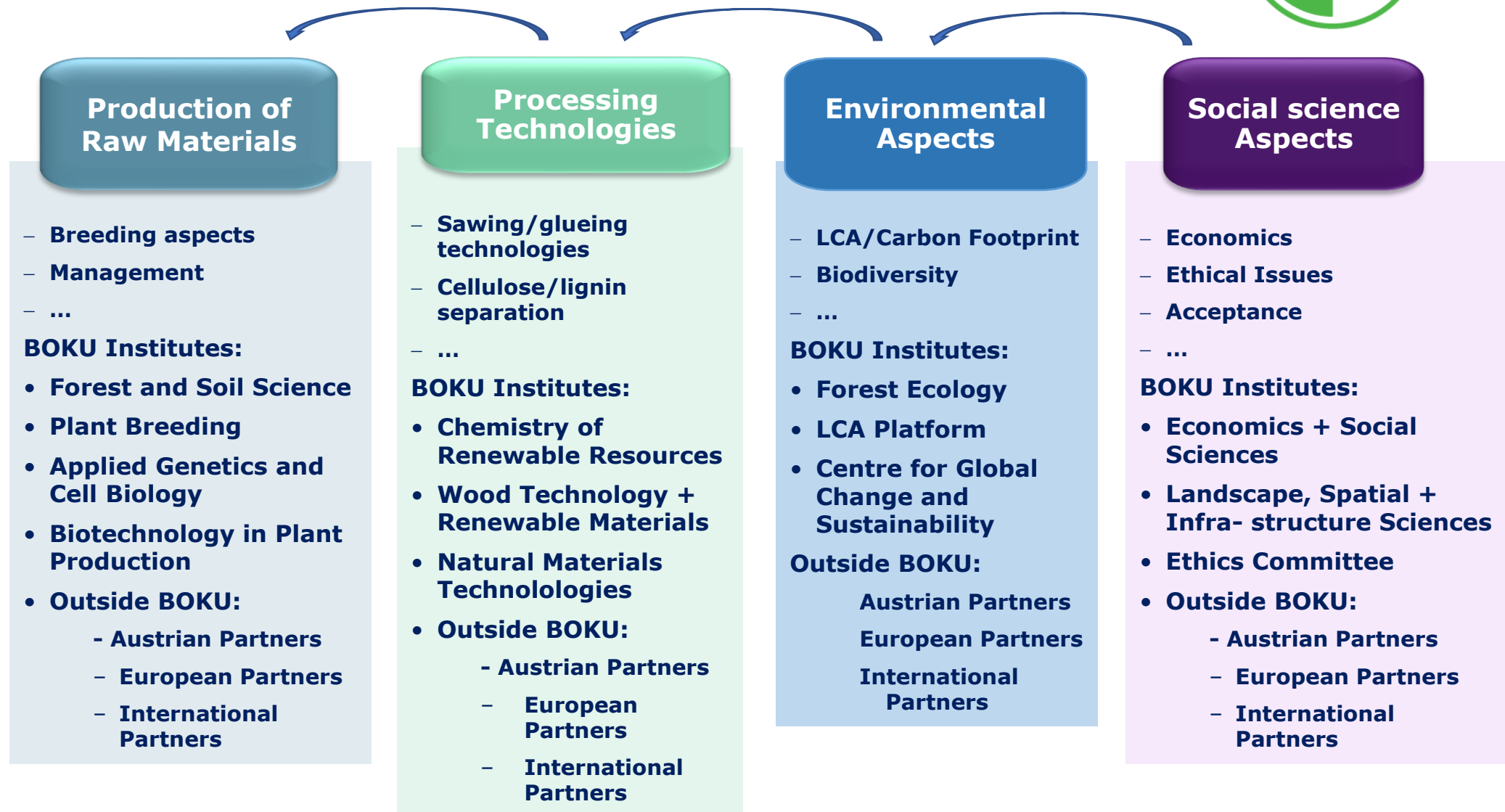
- **Sustainability**
(SDGs, Technology impact assessment)
- **Cascading and Circularity**
- **Life Cycle Assessment**
(Carbon/Water Footprint)
- **Contribution to Paris Climate Goals**
- **Ecosystem Services**
(Biodiversity)

Social science Aspects

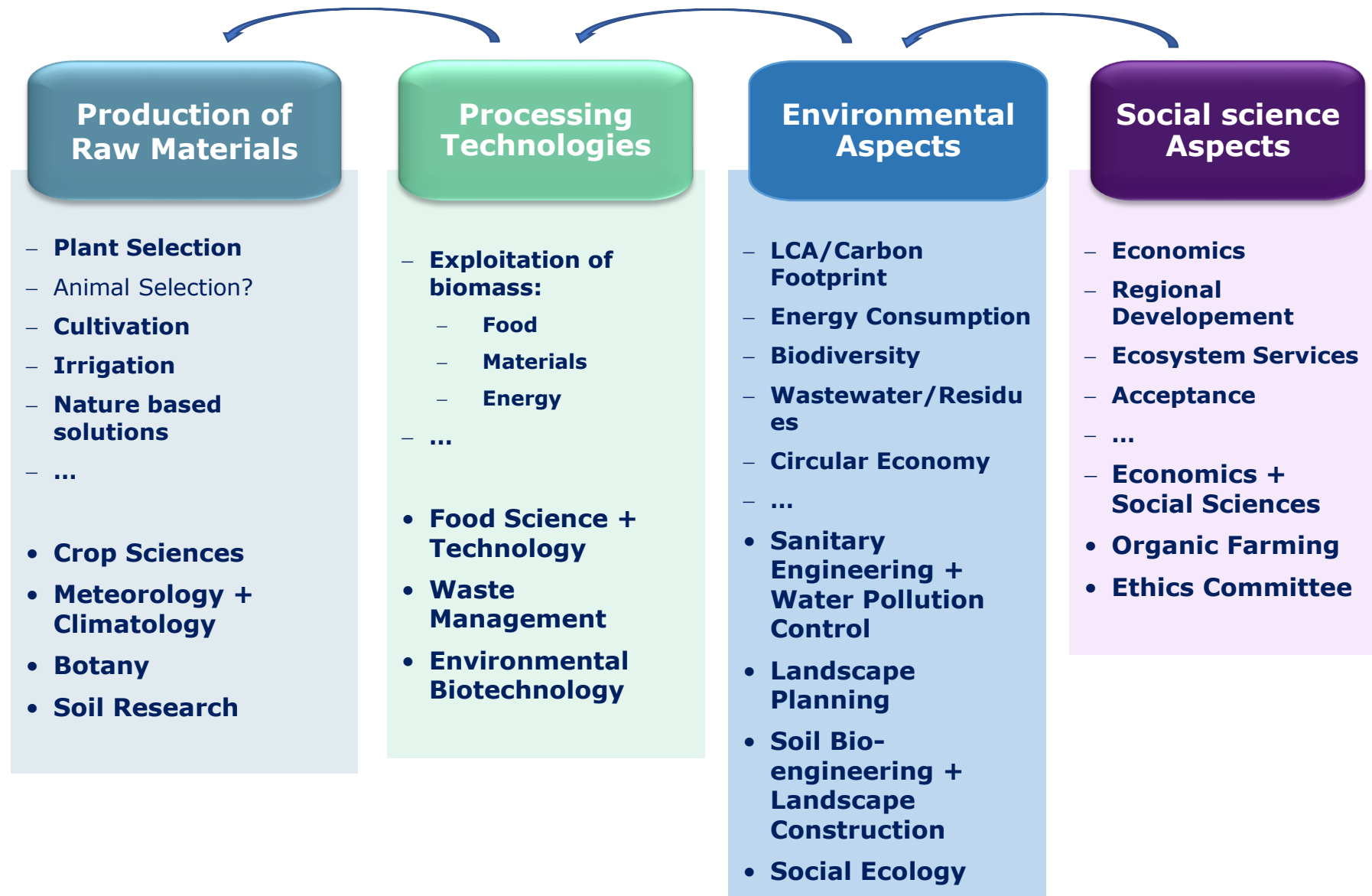
- **Economics** (Regional development)
- **Consumption behaviour**
(Sufficiency)
- **Trade offs** (Land use conflicts, Spatial planning)
- **Acceptance, Ethics, Communication, Risk assessment**
- **Policy advise**
(Standards, Legal regulations)
- **Monitoring**

Bioeconomy Centre's Job:
Networking of relevant
Institutions (BOKU/AT/EU,
international)

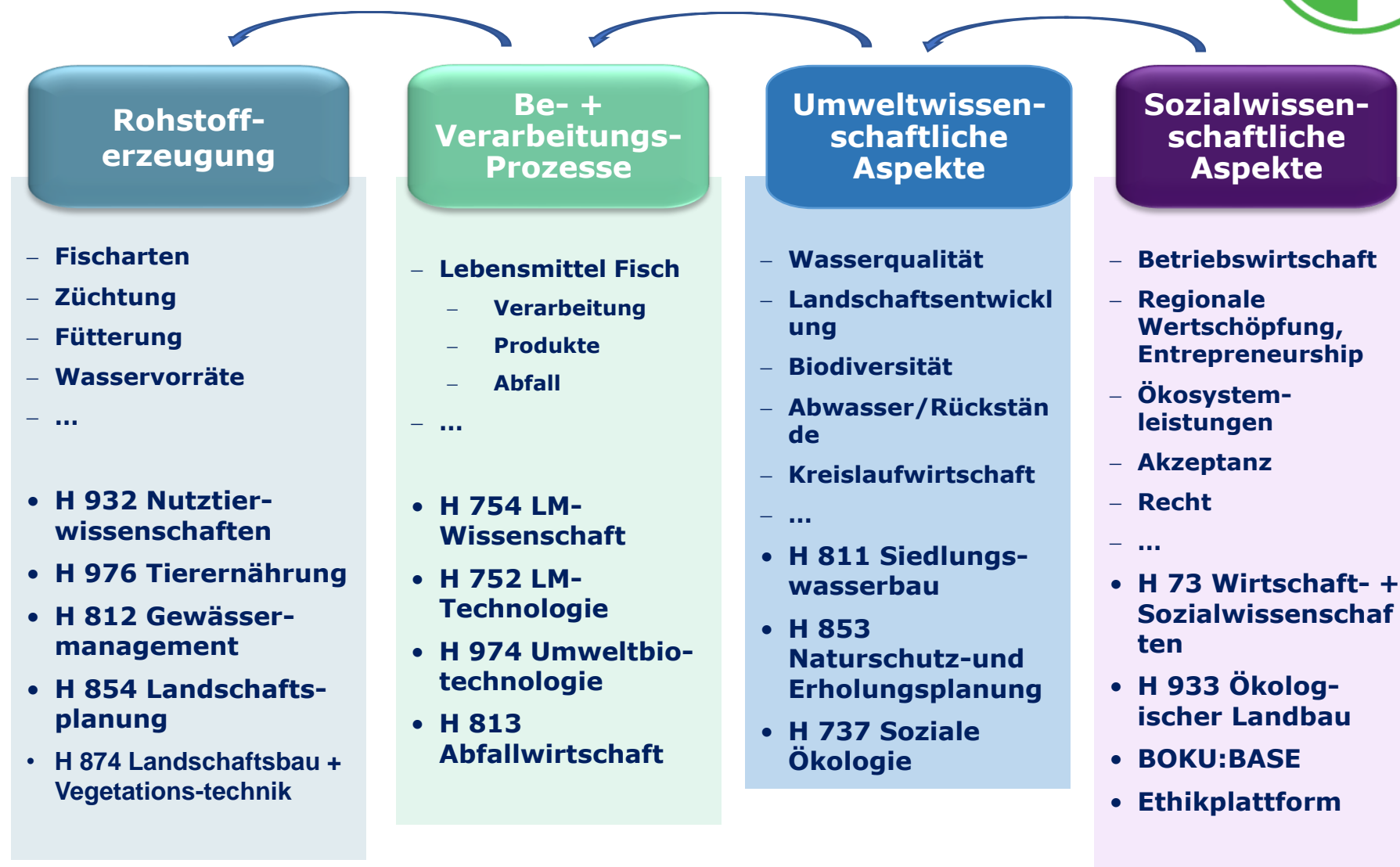
Example Climate Change: Hardwood utilisation



Example Cities/Climate Change/Nutrition: Urban Greening + Vertical farming + Edible Cities



Example nutrition: Increasing the degree of self-sufficiency in Fish production



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- National contacts:
 - Austrian Ministries
 - Several organisations and initiatives: Umweltbundesamt, BioBase, Ökosoziiales Forum, ...
- International contacts:
 - Epicur, Ells, ICA, IACGB, European Commission, JRC, BioEast, EFI, ...
 - **Presidency of EBU 2023 to 2024:**

EBU at a glance



Background



Initiative by University of Hohenheim

- **Beginning in late 2018**
- **1st EBU President Meeting in Bxl: January 2019**
- **Meeting in Wageningen: May 2019**
- **Signing of the MoU in Brussels: July 2019**
- **2 new members: Vienna September 2023**

EBU Mission and Vision



Creating Europe's leading intellectual institution for tackling the challenges of the 21st century, by

- covering the entire spectrum of Bioeconomy dimensions
- inter-, transdisciplinary, cross-sectoral and European collaboration
- providing an internationally unique and competitive model for a theme-based, system- and future-oriented university
- taking university collaboration to a higher level of joint strategy development

EBU Structure



Board of Presidents/Rectors

Scientific Coordination Group

Operational Coordination Group

Working Groups: e.g. Research WG, Education WG, Funding WG,...

EBU Projects



- 2 Erasmus+ Projects finished: Label (UHOH) and FOEBE (APT)
- 1 BBI JU project: BIOBEC (UniBo)
- 1 MSCA Doctoral Network: DESTINY (APT)
- Participating 1 HEU project: BEAMING (BOKU)
- NEW: FOEBE + (APT)
- Under development: EOBU (UEF) + 6 Proposals under the HEU 2024 Call

European Bioeconomy Scientific Forum 2023



European Bioeconomy Scientific Forum 2023: 6/8 September

Moving Towards the Transformation

- **230 participants from 23 Countries and the European Commission**
 - 55% female
 - 47% younger than 35 years
- **14 Side Events**
- **Focus on social aspects of the Bioeconomy**
 - Policy
 - Research and Innovation
 - Education

EBSF2023

Information

- 6-8 September 2023
- Vienna, Austria

Focus

“Moving Towards the Transformation”:

- Session 1: *“Raising awareness for the transformation towards a sustainable bioeconomy”*
- Session 2: *“Identifying synergies for a holistic Bioeconomy approach”*
- Session 3: *“Promoting the Social Dimension of the Transformation”*
- Session 4: *“Achieving the Transformation”*



Possibilities of collaboration

For Researchers:

- Collaborative research projects on an international level within EU-funded programmes
- Joint interdisciplinary and mobility PhD programmes
- Establishment of knowledge-creating teams
- Shared research infrastructures
- Dissemination of research outcomes to inform industry and decision-makers
- Involvement of stakeholders in research studies

For General Staff:

- Networking and cooperation platform with other European universities and stakeholders
- Lifelong learning opportunities
- European think-tank for knowledge creation and transfer
- Dynamic networking with industry, policy, and society.
- Engagement with influential policy-making institutions
- Communication, entrepreneurial and public engagement training

Thank you for your attention



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