MEMBER

Bioökonomierevier

Living Lab BÖR | Germany

The Rhenish mining region is one of the largest lignite regions in Europe. It is particularly affected by the advancing climate change, the resulting climate targets, and the lignite phase-out of the German government. Businesses and society are confronted with additional necessities for transformation. Innovation and sustainability approaches are particularly crucial in environmental protection and mobility.

As part of the German government's emergency program for the lignite phase-out, the Rhenish mining region is to transform into a model region for sustainable and circular bioeconomy, including agroecological principles and practices, showcasing resource-efficient and sustainable business practices.

The coordination office BioökonomieREVIER is located at Forschungszentrum Jülich and is developing a regional strategy together with local stakeholders. The first innovative approaches for bio-based value chains are already implemented in practice.

Aim

Together with stakeholders from business, agriculture, research, education, local authorities, and the public, concrete recommendations for a sustainable bioeconomy, including agroecological strategies, concepts, and practices in the Rhineland mining region are being developed—from the region, for the region.

An important element of the model region BioeconomyREVIER Rhineland is the so called "innovation labs". These are linked to each other and grouped covering three topics: (1) Innovative agriculture, (2) Biotechnology & plastics technology, (3) Integrated biorefinery.

The innovation labs in the topic "Innovative agriculture" develop technology and value-added concepts like agroecological ones for an economic sector that has traditionally been highly important in the Rhenish mining region. It offers regionally effective solutions ranging from resource-efficient crop production and value creation through new crops and biodiversity to the combination of land use and energy production, as well as the establishment of new information systems for agricultural applications. Six innovation labs are grouped therein. All of them aim to have a structural impact on the Rhenish mining region. They prepare the ground for job creation and contribute to the market maturity of innovative products and technologies.

Background information

BÖR was initiated in 2018 in direct response to the lignite phase-out of the region.

Funding structure

BÖR Innovation Labs are financially supported by the German Ministry of Education and Research via a specific funding scheme supporting the structural transformation. Complementary projects for stakeholder engagement, community building, and coordination receive funding from the same source. Activities to build a European network of regions facing similar structural change processes are supported via Horizon Europe (Bio2Reg).

Activities

- Innovation Lab "Agrorobotics, AI and digital systems for agriculture "
- Innovation Lab "Digital real-time geodata for the Rhenish mining region "
- Innovation Lab "Herbs, aromatic and medicinal plants from the Rhenish mining region "
- Innovation Lab "Living labs for resource-efficient crop production "
- Innovation Lab "Coupling photovoltaics and crop production "
- Innovation Lab "Clean water and bio-fertilizer from algae "

Source: BÖR

Methods, stakeholder engagements and tools

- Co-creation in BÖR takes place on two levels: (1) On the level of BÖR coordination, several bottom-up stakeholder integration platforms are being run to integrate all demands into developing the regional transformation strategy, (2) On the level of the Innovation Labs, partners are directly integrated into innovation activities.
- By that approach, BÖR integrates all types of key actors, including consumers, farmers, farmers' cooperatives, large companies, local public bodies, NGOs, plant breeders, processors, regional authorities, researchers, retailers, SMEs, and traders

retailers, SMEs, and traders.

- End users of BÖR comprise farmers, energy production companies, plant scientists, technology developers (robotics, AI, PV), plant breeders, local and regional authorities, the pharmaceutical industry, the paper production industry, teachers & pupils, the broader public, and scientists from all domains related to agriculture and agroecology.
- Real-life context is ensured by users actively contributing to the BÖR „Innovation Labs", adding their expertise and knowledge directly to the innovation processes.
- The expectations and demands of the broader public are integrated via direct exchange on festivals, roadshows, Open Days, exchange group meetings, etc.

Achievements

- BÖR has established six Innovation Labs (see above) on future agriculture, offering regionally effective solutions ranging from resource-efficient crop production and value creation through new crops and biodiversity to the combination of land use and energy production, as well as the establishment of new information systems for agricultural applications.
- BÖR has integrated agroecology and bioeconomy into the regional transformation strategy for the Rhenish region, currently being co-developed with regional stakeholders.
- BÖR has implemented several stakeholder-tailored platforms and activities for integrating its stakeholders into the development of the regional transformation strategy.
- BÖR has implemented demonstration locations and tropical profile sites to allow stakeholders to gain insights into specific areas of innovation (e.g., on innovations on plant-based fibers).

Further information

- Further information on specific activities and results with industry engagement.
- Further information on specific activities and results in agriculture .
- Further information on activities and results from the innovation clusters .
- Further information on activities in education .
- Further information on how to get involved .

Contact

LinkedIn: BioökonomieREVIER: Overview | LinkedIn

List of contacts

agroecology.ps@ilvo.vlaanderen.be

Useful links

Disclaimer and Privacy Policy

Credits

Contact

Subscribe to our newsletter

Follow us

Manage cookies

Coordinator: Projektträger Jülich (Germany) | Co-coordinator: Agence nationale de la recherche, ANR (France)