

Enabling transition towards circular and systemic BIOeconomy model regions by a Regions-to-Regions approach

Public summary: Best practices for regional transitions to bioeconomy model regions*

Deliverable 1.5

This deliverable has not yet been reviewed by the European Commission. Its content might therefore change as a result of the review process.

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BIO2REG in a nutshell

A circular bioeconomy is essential for achieving the EU's sustainability goals. However, the implementation of a regional bioeconomy is fraught with challenges. Bioeconomy model regions offer a systemic approach to the transition to sustainable development, based on circular economy concepts. The EU-funded BIO2REG project aims to help greenhouse gas-intensive economies unlock their circular bioeconomy potential by becoming bioeconomy model regions.

The project will promote regional networking, interregional exchange and cooperation, and provide regional stakeholders with a conceptual framework for regionalisation in bioeconomy model regions. This includes mapping best practices in a circular and sustainable bioeconomy, assessing bioeconomy potential, providing mentoring and training, forming transition alliances and making policy recommendations. The project adopts a multi-stakeholder approach, developing tools and guidelines in collaboration with regional stakeholders and engaging with regions through guided exchanges on the ground.

Find out more:

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1 What this guide offers and why it matters

This guide summarises key insights from BIO2REG Deliverable 1.4, offering practical support for regions at different stages of their bioeconomy transition. It is a hands-on resource designed to inspire and assist decision makers and stakeholders—including municipalities, development agencies, businesses, academia, and civil society - in turning regional bioeconomy potential into circular, sustainable action. With real-world examples and step-by-step guidance, the guide shows how to plan, fund, and implement transition measures adapted to specific regional needs - making strategies more tangible and impactful.

Want full access to the best practice guide?

Join the BIO2REG network – launching in summer 2025! [Subscribe to our newsletter](#) or visit our [BIO2REG website](#) for updates.

Bioeconomy model regions offer a pathway for transforming greenhouse gas-intensive regions into sustainable, resilient communities. Deliverable 1.4 provides a roadmap for this journey - starting with strategic groundwork and continuing through actionable measures in key transition areas. With over 50 success stories and examples from across Europe, the guide serves as a practical starting point for regional bioeconomy transition.

Why does it matter? Because there is no blueprint for developing the bioeconomy in a region. Ultimately, each model will differentiate a bit from region to regions. This guide brings theory and practice together. To develop their own strategy, a region can apply the concept developed in this project and at the same time learn from the best practices in other regions.

2 Laying the groundwork: Understanding regional bioeconomy transition

The guide begins by explaining why regional bioeconomy transition matters - for regional innovation, job creation, climate action, and revitalizing communities. It defines what constitutes a bioeconomy model region, highlighting systemic, circular, and approaches aligned to regional conditions and strengths. A section on “What is a best practice?” sets the standard for transferable, impactful solutions, emphasizing multi-sector engagement, real-world implementation, and adaptability.

3 Getting Started: Framing and launching the transition

3.1 Define regional focus & goals

Regions are encouraged to assess their unique assets—be it forests, fisheries, farming, or bio-tech capacity—and set focus areas accordingly.

3.2 Set up coordination and governance structure

Effective governance is critical. The guide outlines how to establish cross-sectoral coordination structures and multilevel governance frameworks, drawing from models like CluBE (GR) and BioökonomieREVIER (DE). Recommendations from BIO2REG [Deliverable 5.6 on governance structures at regional scale](#) are integrated.

3.3 Early first strategy draft and action planning

Step-by-step guidance is offered for initiating bioeconomy strategies - even in regions lacking formal mandates or budgets. Tips include defining indicators, forming alliances, and integrating into

other regional strategies. Funding is addressed as a cross-cutting theme across all measures in the following chapters, rather than being considered in isolation.

4 Implementing regional bioeconomy transition: Lessons from best practices

Each of the following sections combines practical guidance with curated best practices, showing how regions have addressed specific challenges in their transition toward a circular bioeconomy.

4.1 Climate-neutral value chains & business models

This section offers real-world examples of how regions develop climate-neutral, bio-based value chains through targeted problem-solving and cross-sector collaboration - for instance, by transforming industrial waste heat into circular business models.

4.2 Research infrastructure & living labs

This section shows how living labs and research infrastructures enable stakeholders to test, adapt, and scale bio-based innovations, with cases like RISE BioEconomy Arena (SE) and AgrolnnovaLabs (DE) illustrating how multi-level funding supports regional innovation ecosystems.

4.3 Social sustainability & community engagement

From agritourism initiatives like Agramonia (RO) to participatory governance frameworks in Germany, this section highlights engagement formats - such as citizen councils and land stewardship - that foster social cohesion and strengthen regional identity.

4.4 Education and skills

This section explores how initiatives like BIOEAST UniNet build regional capacity by aligning education with bioeconomy goals - offering transferable tools, cooperation models, and teaching resources to strengthen human capital for the transition.

5 Our approach to map best practices

The final chapter explains the BIO2REG methodology for mapping and validating best practices—based on guideline-based consultations, desk research, five expert workshops in 2024 and five regional network events in 2025.

Join the BIO2REG network

The BIO2REG network empowers regions to build trust, share challenges, learn from one another and co-develop solutions contributing to a European bioeconomy shaped through regional transitions. Launching in summer 2025, the BIO2REG network will become a hub for regional stakeholders driving bioeconomy transitions. As an informal yet impact-oriented network, it connects regional actors, development agencies, clusters, researchers, and civil society with bioeconomy experts from across Europe.

What the network offers

- Exclusive access to tools and practical guides, including the full stakeholder guide on best practices in bioeconomy model regions (Deliverable 1.4).
- Thematic matchmaking and interregional exchange formats.
- Online training and mentoring tailored to regional needs.
- A repository of best practices and success stories from bioeconomy model regions.
- Priority invitations to BIO2REG events, including the onsite exchange instrument in 2026.

More info: www.bio2reg.eu, Join the newsletter: <https://bio2reg.eu/newsletter/>

6 Sneak peek: Selected pages from the full BIO2REG best practice guide

Deliverable 1.4: Best practices for regional transitions to bioeconomy model regions

Infobox 3: Steps to set up an early regional bioeconomy strategy

Set clear objectives based on your regional strengths and needs → e.g. "Develop and kick-off three pilot projects for e.g. regional development, cross-sectoral collaboration between agriculture and industry or landscaping by 2026"

Entry points and priority areas → e.g. education, forestry, aquaculture, municipal bio-waste, regional procurement, research based on insights generated when identifying regional profiles (see section 4.1)

Roles and responsibilities → Who leads? Who supports? Who needs to be involved?

Set up an action plan → What measures should be taken short-term, mid-term and long-term. For inspiration on measures, please check Chapters 5.

Resources and funding needs → What is needed now, and what can be developed later? See also section 4.3.2.

Start by defining a small set of clear, practical indicators (KPIs) → Track progress and support continuous learning throughout the transition process. For inspiration and guidance, we recommend consulting resources such as the BIOMODEL4REGIONS Handbook on policy monitoring system and key performance indicators¹¹ or ROBIN Policy Monitoring System¹².

Table 2 Get inspired by regional bioeconomy strategies and action plans

Region	Focus, year of publishing	Organisation	Funding	Link (if available)
Stuttgart, Germany	Circular bioeconomy strategy and catalogue of measures for the federal state capital Stuttgart, 2024	Federal state capital Stuttgart, Germany	Baden-Württemberg Ministry for the Environment, Climate Protection and the Energy Sector as part of the state's sustainable bioeconomy strategy, financed by funds approved by the Baden-Württemberg state parliament	Link to strategy Link to measures
Karlsruhe, Germany	RE ² source – Bioeconomy strategy for the Karlsruhe Technology Region incl. a Roadmap, 2024	Technology Region Karlsruhe, Germany	Baden-Württemberg Ministry for the Environment, Climate Protection and the Energy Sector as part of the state's sustainable bioeconomy strategy, financed by funds approved by the Baden-	Link (text only in German)

¹¹ <https://ec.europa.eu/research/participants/documents/downloadPublic/aHN6b095d3NvRUdDTTExZzZLMExCYWJFVnRyaG-FpVERTNTk3dGICd0Q3aHVNl3VnZ29EMUV3PT0=/attachment/VFEyQTQ4M3ptUWM2M01rdDBkdGJUZEJ0a2Rtem5lQkM=>

¹² <https://robintoolbox.web.auth.gr/index.php/policy-monitoring-system/>

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5.1.3 From innovative agriculture to functional ingredients

This section explores how regions are transforming their agri-food systems through bio-based innovation – from innovative agriculture and digital technologies to novel ingredients and cross-sector collaboration.

Innovative bio-based value chains: Safflower cultivation and processing, Rhenish mining region, Germany



@Forschungszentrum Jülich/Sabine Dietrich

Challenge. Regional and sustainable raw materials, new income sources for agriculture and industry through new bio-based products, increased resilience and independence in supply chains.

Origin. The initial challenge was raised by a regional company and initiated the collaboration.

Action. Safflower was cultivated and processed into plant-based chemical ingredients, applying a cascade use approach – from breeding to cosmetics and lubricants.

Impact/outcome. Set-up of new value chains, fostered regional collaboration, promoted circular use of marginal land, and opened new markets for bio-based products.

Key success factor. Strong network, access to funding, trusting personal relationships, and competent scientific partners.

Lead. Process facilitators and coordinator: BioökonomieREVIEW at Forschungszentrum Jülich, Germany.

Partner. Consortium of regional actors, including chemical, packaging, and cosmetics industries; agricultural stakeholders; scientific institutions; mill and machinery manufacturers.

Target sectors. Agriculture, chemicals, cosmetics, packaging, lubricants, bio-based materials.

Funding. Project-based funding (partly within the German Emergency PLUS Program for Structural Change in lignite phase out regions of Federal Ministry of Research, Technology and Space) and in-kind contributions from consortium partners (e.g., R&D, land use, machinery, market expertise).

Duration. Mid-term 1–4 years. Project-based initiative.

More info. <https://www.biooekonomierevier.de/home>, contact to BioökonomieREVIEW, Forschungszentrum Jülich: Dr. Christian Klar, c.klar@fz-juelich.de.

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LignoCity: Test and demo facility for lignin-based innovation, Värmland County, Sweden



Lignin to create sustainable products

@RISE

Challenge. LignoCity is a test and demo facility located in Värmland, Sweden. It focuses on using lignin to create sustainable, fossil-free products. LignoCity supports small and medium-sized enterprises, by providing access to resources, expertise, and a large network.

Origin. The challenges to up-scale production, purification, odour, and demonstrators to convince the market before introduction was some of the reason why LignoCity started 2018.

Action. Development of test facility for unique testing and production of lignin and other materials. Support and establishment of innovators in the region in close co-operation with municipality and companies.

Impact/outcome. The network has accelerated product development, supported SMEs and increased the knowledge of lignin for certain applications.

Key success factor. Strong collaboration and unique test and demo facility. Attractive partner for support to SMEs and start-ups.

Lead. RISE (Research Institutes of Sweden).

Partner. Research institutes, universities, municipality, companies.

Target sectors. A wide range of sectors where lignin can be implemented as adhesives, bioplastics, carbon fiber, biofuels, and chemicals are targeted.

Funding. Financed by public funding, projects, and partnership.

Duration. Long: >4 years.

More info. <https://lignocity.se/en/>.