



## PROJECT - RESEARCH AND INNOVATION

# Redesigning the Primary Sector for Maximizing Bioeconomy Development

PROJECT IDENTIFIER: 2024HE\_101135353\_PRIMED

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🕒 ONGOING | 2024 - 2026

📍 Germany, Spain, Finland, Belgium, Portugal, Italy, Ireland, Norway

## Context

The EU has a significant amount of waste biomass available, more than 900 million tons per year, and 98% of this material ends up in landfill, incinerators, or rotting in open dumps.

According to the 2023 Circularity Gap Report, the global economy is now only 7.2% circular.

The EU has great potential to convert bio-waste into bio-based products that can be used in multiple bio-applications. This revalorisation can directly support 5-10 times more

employment and generate 4-9 times more added value than energy use. Circular Business Models in Bioeconomy (CBMB) face many challenges to become sustainable and profitable.

Firstly, primary producers, the owners of the valuable feedstock, are often not integrated into the bioeconomy value chains, and they are often small scale and are fragmented, reducing

their ability to negotiate with those higher up the value chain. The result is a suboptimal distribution of benefits and incentives. The main challenges in designing CBMB consist of: -

lack of knowledge sharing and collaboration between stakeholders - need for new supply chains and logistical networks - difficult scale up of innovative technologies - understanding

of the potential synergies and symbiotic relationships between sectors - overcoming poor public acceptance - complex and fragmented policy schemes, As a result of this, there is a

lack of demonstrated and replicable systemic bio-solutions for the territorial deployment of the circular bioeconomy.

The PRIMED Project PRIMED will co-create innovative forms of cooperation to integrate

primary producers in novel bioeconomy value chains with a multi-actor approach. To do so, PRIMED will develop novel CBMB to produce high-value bio-based products through advanced biorefineries, and will demonstrate them in five Living Labs (LLab): PRIMED will also empower multi-actors to co-design a collaborative ecosystem to accelerate the bioeconomy, with an Open Access knowledge hub and toolkit (PRIMED digital toolbox).

## Objectives

PRIMED will co-create innovative forms of cooperation to integrate primary producers in novel bioeconomy value chains with a multi-actor approach. To do so, PRIMED will develop novel CBMB to produce high-value biobased products through advanced biorefineries, and will demonstrate them in five Living Labs (LLab): ALC Bio- Lab (ES), Bio-Silica Lab (PT), Liguria Bio-Lab (IT), BioEire Lab (IE) and CellFactory Lab (FI), together with primary producers and end-users that will be involved through an Open Call (INV) for applicants. PRIMED will establish a collaborative ecosystem to accelerate bioeconomy, in order to create an active flow of shared knowledge, expertise and resources through social innovation and a mutually beneficial learning opportunity for the entire ecosystem.

- co-creation of new CBMB and governance models with a multidimensional stakeholder approach, especially involving primary producers
- provide access to specialised technology providers with radically new and disruptive innovations
- provide financial and technical capacity support, and replicable and sustainable business models to attract investors
- implement systemic changes that will cut across different sectors to identify potential synergies and symbiotic relationships
- reconfigured or even entirely new supply chains and logistical networks
- overcome poor public acceptance of the use of waste as a primary resource

## Activities

PRIMED will create and demonstrate novel and diverse forms of cooperation among primary producers and suitable Circular Business Models in Bioeconomy (CBMB) to create high-value bio-based products in vertically integrated value chains via advanced biorefineries. To do so, it will (i) create and expand of bioeconomy knowledge base in terms of CBMB, value chains, policy, biological processes, and their potential for the development of added-value bio-based products. (ii) Develop and promote CBMB for different primary production sectors. (iii) Create a collaborative ecosystem for circular business models. (iv) CBMB validation

through a demonstration of innovative technological processes to transform waste from primary sector, validation of the bio-based products in end-use applications through an open call for end-users. Hence, PRIMED project will demonstrate the new CBMB for the operation of biorefineries in our 5 Living Labs. To do so, we will evaluate the economic feasibility and market potentials of the business models through the Living Labs and quantificate the social and environmental impact. In addition, the project will explain lessons learnt and establish policy recommendations to promote the innovative bio-based end-products.

## **Project details**

### **Main funding source**

Horizon Europe (EU Research and Innovation Programme)

### **Type of Horizon project**

Multi-actor project

### **Project acronym**

PRIMED

[CORDIS Fact sheet](#) 

### **Project contribution to CAP specific objectives**

- Ensuring a fair income for farmers
- Increasing competitiveness
- Improving the position of farmers in the food chain
- Climate change action
- Environmental care
- Supporting generational renewal
- Fostering knowledge and innovation

### **Project contribution to EU Strategies**

- Achieving climate neutrality
- Fostering organic farming and/or organic aquaculture, with the aim of increased uptake
- Reducing nutrient losses and the use of fertilisers, while maintaining soil fertility
- Improving management of natural resources used by agriculture, such as water, soil and air

**EUR 3 999 556.77**

**Total budget**

Total contributions including EU funding.

**EUR 3 999 556.77**

**EU contribution**

Any type of EU funding.

**Project keyword(s)**

AKIS, incl. advice, training, on-farm demo, interactive innovation projects >

Circular economy, incl. waste, by-products and residues >

Climate change (incl. GHG reduction, adaptation and mitigation, and other air related issues) >

Competitiveness/new business models >      Social innovation >      Forestry >

Energy >      Digitalisation, incl. data and data technologies >      Farm diversification >

## Resources

### Links

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## **3 Practice Abstracts**

### **1. Shared Agendas Development**

PRIMED is helping stakeholders in five EU territories create Shared Agendas: long-term, place-based strategic agreements driven by "coalitions of the willing". These agendas integrate top-down mission-driven innovation with bottom-up territorial needs, ensuring social and economic impact.

**Benefits for End-Users:** Shared Agendas provide a structured and faster pathway to transition toward a bioeconomy-driven economic system, tailored to the unique needs of each territory. Stakeholders gain a clear, cooperative framework with well-defined roles, enabling efficient collaboration.

**Key Opportunities:** This approach equips regions with the capacity to address challenges, implement innovative solutions, and generate tangible impacts, such as improved governance and economic resilience.

**How to Implement:** Practitioners can adapt this methodology by first identifying key actors in the quintuple helix and conducting interviews to establish a shared future vision. Building trust, engaging influential stakeholders, and empowering local leadership are critical to success. Clear commitments and role definitions ensure effective execution.

### **2. PRIMED project toolbox**

The PRIMED project toolbox is designed to help primary producers collaborate with different stakeholders and seize new opportunities in the bioeconomy. This tool will allow producers to select the territory of interest and explore specific resources, such as waste or by-products from the primary sector, that they are interested in valorizing. Additionally, it will help identify the most suitable technologies to transform these resources into higher-value products.

The goal of the PRIMED project toolbox is to facilitate connections between primary producers and other key players in the value chain, such as companies, researchers, and governments, to work together in creating new end-products from primary sector resources. Furthermore, the tool will support the design of a business structure around these new products, ensuring that they are viable and sustainable. To do so, it will incorporate the CBMB Navigator (described in PA1) and the Shared Agendas (PA3). In a simple and practical way, the toolbox will help transform waste and by-products into new opportunities, connecting ideas, technologies, and people to drive innovation in the bioeconomy sector.

### **3. Circular Business Models in the Bioeconomy**


PRIMED aims to enhance understanding and identification of the key components of Circular Business Models in the Bioeconomy (CBMB) through practical, real-world examples and business-oriented case studies. By consolidating this information, PRIMED is developing the Circular Business Model Navigator (BMN), a key objective of the project. The BMN will serve as a comprehensive resource, compiling all the data gathered throughout the project that will be included in the toolbox. The BMN will address significant challenges and barriers while highlighting the benefits that the circular bioeconomy offers to businesses.

The BMN will provide start-ups within the circular bioeconomy sector with valuable insights into potential obstacles and strategies for overcoming them. Moreover, it will emphasize key benefits, enabling these enterprises to focus their efforts effectively. This approach will not only help reduce costs and boost

productivity but also facilitate the creation of economic, ecological, and social value, ensuring long-term sustainability and growth.

### **Geographical Location**


 Ireland

 Deutschland

 Portugal

 España

 Italia

 Suomi/Finland

## Contacts

### Project email

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### Project coordinator



#### **RUHR-UNIVERSITAET BOCHUM**

Project coordinator

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☰ Educational or continued professional development organisation (including vocational trainers), Research institute,...

### Project partners



#### **Cartago Ventures**

Project partner

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