



# RESEARCH & INNOVATION IN THE BIOECONOMY

October 2022

Research and innovation (R&I) act as a key driver in accelerating the transition towards a sustainable and circular bioeconomy.

This factsheet provides a snapshot of R&I funding in bioeconomy and bioeconomy-related fields since 2008 and showcases successful projects with tangible impacts or projects with promising results.

## FACTS AND FIGURES ON EU RESEARCH AND INNOVATION FOR THE BIOECONOMY

**Note:** the data presented here is the result of metadata search and text mining based on the bioeconomy keyword (Figures 1 and 2) and thematic keywords (Figures 3 and 4) in our database. Only projects with a high relevance score with regard to the keywords have been considered. The results are thus very much related to the keywords that were provided.

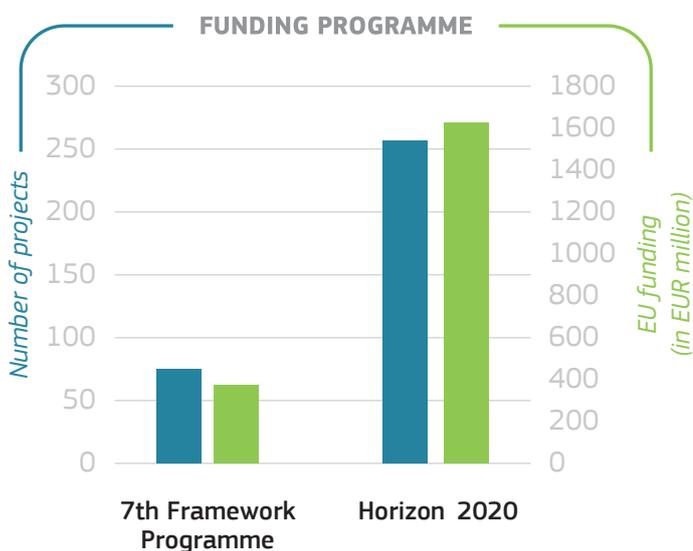


Figure 1. Number of bioeconomy-related projects and EU funding per funding programme.

**Figure 1** : the number of R&I projects has more than tripled between the Seventh Framework Programme (FP7) (2007–2013) and Horizon 2020 (2014–2020) – from 73 to 254. The total amount of EU funding of bioeconomy projects for both FP7 and Horizon 2020 programmes is EUR 1 949 million.

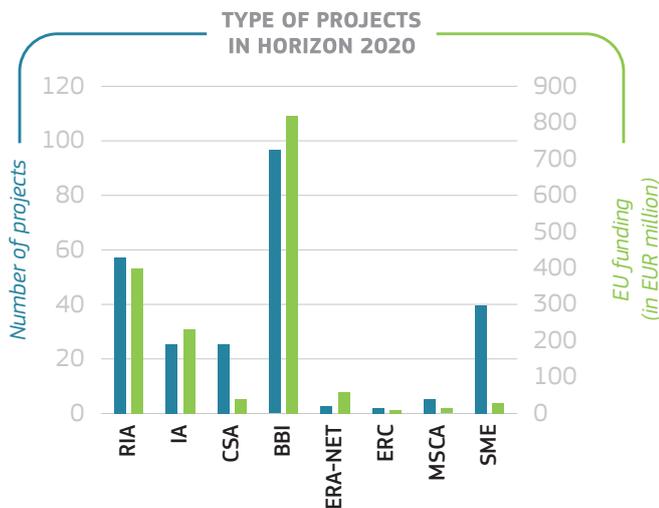


Figure 2. Number of bioeconomy-related projects and EU funding per type of Horizon 2020 project<sup>1</sup>.

**Figure 2** : projects funded under Horizon 2020 were mostly funded under the BBI partnership (97), followed by RIA projects (55) and SME projects (41) funded exclusively by the EU.

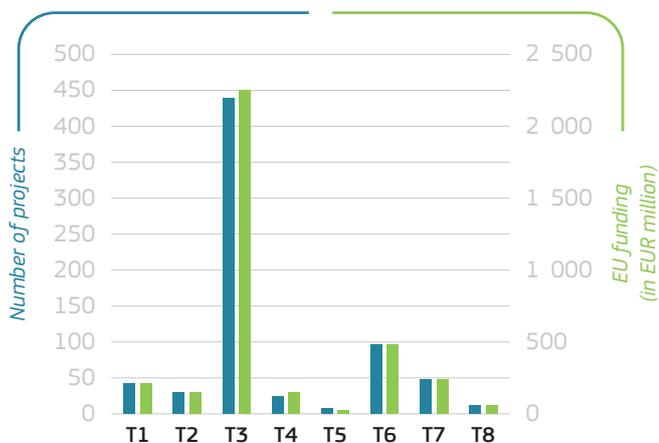


Figure 3. Number of projects and EU funding per thematic area<sup>2</sup>.

**Figure 3** presents how many projects were funded according to the different areas of focus of the [EU Bioeconomy Conference 2022](#). Most of the projects funded are related to T3 ‘Bioeconomy for a green and resilient industry’ (443), of which 77 were funded under the BBI scheme.

NUMBER OF PROJECTS

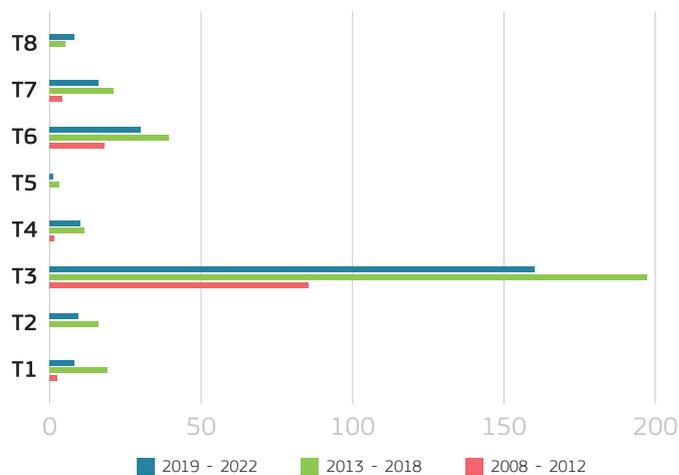


Figure 4. Number of projects per thematic area and per start date.

**Figure 4** shows how many projects were funded per thematic area according to the start date period: before the 2012 bioeconomy strategy (2008–2012), before the updated 2018 bioeconomy strategy (2013–2018) and after (2018–2022). The number of projects for each thematic area increased in the second period, after the release of the first bioeconomy strategy. Projects related to thematic areas T2, T5 and T8 seem to have developed from 2013 onwards.

In the current R&I programme, Horizon Europe (2021–2027), most of the funding for bioeconomy is being mobilised under Cluster 6, ‘Food, Bioeconomy, Natural Resources, Agriculture and Environment’ (EUR 9 billion), and the public–private partnership Circular Bio-Based Europe Joint Undertaking, with a total budget of EUR 2 billion (EUR 1 billion being provided by the EU).

The Commission also supports the Joint Research Centre’s [Knowledge Centre for Bioeconomy](#), which provides datasets and issues reports and other types of resources.

<sup>1</sup> **RIA (research and innovation action)** designates an action primarily consisting of activities aiming to establish new knowledge and/or explore the feasibility of a new or improved technology, product, process, service or solution.  
**IA (innovation action)** designates an action consisting primarily of activities directly aimed at producing plans and arrangements or designs for new, altered or improved products, processes or services, possibly including prototyping, testing, demonstration, piloting, large-scale production validation and market replication.  
**CSA (coordination and support action)** means an action contributing to the objectives of the Programme; and bottom-up coordination without co-funding of research activities from the EU that allows for cooperation between legal entities from Member States and associated countries in order to strengthen the European Research Area.  
**BBI** corresponds to the Bio-based Industries Joint Undertaking, which was a EUR 3.7 billion public–private partnership between the European Union and the Bio-based Industries Consortium for the 2014–2020 period.  
**ERA-NET (European Research Area Networks)** is a scheme that aims at developing and strengthening the coordination of national and regional research programmes.  
**The ERC (European Research Council)** is a key instrument in supporting basic research.  
**The MSCA (Marie Skłodowska-Curie Actions)** are the European Union’s flagship funding scheme for doctoral education and postdoctoral training of researchers.  
**SME (small and medium-sized enterprises)** designates an instrument that provides funding for high-potential innovation developed by SMEs.

<sup>2</sup> **T1:** Access to finance and breakthrough innovations; **T2:** Bioeconomisation of regions; **T3:** Bioeconomy for a green and resilient EU industry; **T4:** Bioeconomy innovation ecosystems for rural development; **T5:** International dimension of the bioeconomy; **T6:** Pathways towards a climate-neutral and biodiversity-rich world; **T7:** The bioeconomy as a key to Europe’s food and energy security; **T8:** Youth engagement in the bioeconomy.

# SUCCESSFUL AND PROMISING PROJECTS

## BIOECONOMY FOR A GREEN AND RESILIENT EU INDUSTRY



<https://catco2nvers.eu/>

**2021–2025, RIAs, EUR 7 million each.**

Innovative solutions to convert CO<sub>2</sub> emissions from bio-based industries into added-value bio-based chemicals.



<https://frontsh1p.eu/>

**2021–2025, IA, EUR 16 million.**

Green transition of the Polish Lodzkie region towards decarbonisation and territorial regeneration.

## ACCESS TO FINANCE AND BIOECONOMY BREAKTHROUGH INNOVATIONS



<https://www.ecbf.vc>

**Venture fund exclusively focused on the circular bioeconomy.**

Target size: EUR 250 million, to which the Commission has committed EUR 100 million.

## BIOECONOMY INNOVATION ECOSYSTEMS FOR RURAL DEVELOPMENT



<https://power4bio.eu>

<https://be-rural.eu>

**2018–2021 and 2019–2022, CSAs, EUR 3 million each.**

Exploring the potential of regional and local bio-based economies and supporting the development of bioeconomy strategies, roadmaps and business models.

**Examples of deliverables:**

[Virtual bio-based pop-up store](#); [bioeconomy strategy accelerator toolkit](#)



<https://www.go-grass.eu>

**2019–2023, IA, EUR 10 million.**

Development of small-scale solutions to unlock the overlooked potential of grassland across Europe.

## BIOECONOMISATION OF REGIONS



<https://bioeast.eu/bioeastsup/>

**2019–2022, CSA, EUR 3 million.**

Development of policies and strategies to accelerate the development of more sustainable, circular bioeconomies in the BIOEAST region.



<https://herewear.eu/>

**2020–2024, IA, EUR 6 million.**

Creation of a European ecosystem for locally produced circular textiles and clothing made from bio-based waste.

## YOUTH ENGAGEMENT AND EDUCATION



<https://www.transition2bio.eu/>

**2021–2022, CSA, EUR 1 million.**

Supporting the transition towards the bioeconomy through communication, education and public engagement.

Building on the BIOVOICES project results: 2018–2022, [bioart gallery](#); [book for kids](#).

# SUCCESSFUL AND PROMISING PROJECTS

## BIOECONOMY INNOVATION ECOSYSTEMS FOR RURAL DEVELOPMENT



[https://www.microbiomesupport.eu/  
project-partners/](https://www.microbiomesupport.eu/project-partners/)

**2018–2022, CSA, EUR 3.5 million.**

Coordinating common bioeconomy research programmes and setting a basis for common microbiome R&I agendas.

**Partners:** EU, Argentina, Australia, Brazil, Canada, China, India, New Zealand, South Africa, United Kingdom, United States.



<https://www.bio4africa.eu/>

**2021–2025, RIA, EUR 9 million.**

Diversifying revenue in rural Africa and empowering smallholder farmers through local, circular, sustainable and replicable bio-based solutions and business models.

**Partners:** EU, Côte d'Ivoire, Ghana, Kenya, Senegal, Uganda, United Kingdom.

## PATHWAYS TOWARDS A CLIMATE-NEUTRAL AND BIODIVERSITY-RICH WORLD



<https://www.super-g.eu/>

**2018–2024, RIA, EUR 10 million.**

Co-development of sustainable permanent grassland systems and policies with farmers and policymakers to optimise productivity and deliver ecosystem services.



<https://sincereforests.eu/about-sincere>

**2018–2022, IA, EUR 4 million.**

Exploring new means to enhance forest ecosystem services in ways that benefit forest owners and serve broad societal needs.

## THE BIOECONOMY AS A KEY TO EUROPE'S FOOD AND ENERGY SECURITY



<https://smartproteinproject.eu/>

**2020–2024, IA, EUR 8 million.**

Industrial validation of novel fungi- and plant-based food products (ex: lentil-based yoghurt).



[www.micro4biogas.eu](http://www.micro4biogas.eu)

**2021–2025, RIA, EUR 5.7 million.**

Optimisation of biogas production in Europe via the development of highly efficient microbial consortia.

