



EUROPEAN CLUSTER
COLLABORATION PLATFORM

Sustainable food systems: Cluster approaches in the bio-based economy

Summary



EU Clusters Talks
15 November 2023, 8:30 – 9:45 CET

An initiative of the European Union





Sustainable food systems: Cluster approaches in the bio-based economy

The European Cluster Collaboration Platform organised this EU Clusters Talk on 15 November, 8:30 – 9:45 CET, to discuss the value of the bio-based economy to make food systems safer and more sustainable, challenges and bottlenecks in the implementation, and the role of clusters in the transformation.

Agenda of the meeting

Moderation: Zivile Kropaite

1. News from the European Cluster Collaboration Platform
Nina Hoppmann, team member, European Cluster Collaboration Platform
2. Common agricultural policy (CAP) and bioeconomy
Tsjerk Terpstra, Policy Officer, DG AGRI, European Commission
3. Circular Bio-based Europe Joint Undertaking
Nicoló Giacomuzzi-Moore, Acting Executive Director, CBE JU
4. Panel debate
Stephen Barry-Hannon, Senior Researcher & Project Manager, Circular Bioeconomy Cluster South-West
Susana Caio, Project Manager, InovCluster
Yuan Chai, International Affairs Officer, Wagralim
5. Funding opportunities
Nina Hoppmann, team member of the European Cluster Collaboration Platform

Key messages

- The Common Agricultural Policy (CAP) strategic plans drafted by Member States incorporate bioeconomy objectives.
- The CBE JU funds flagship and demonstration plants across Europe, demonstrating the potential for bioeconomy in the European countries.
- There is a need for effective networking and interconnected strategies to foster bioeconomy.
- Many cluster projects are driven by the needs of the members, which include addressing the skills gap or valorisation processes.
- Challenges for companies include lack of standardisation, high technological risks, access to raw materials, high initial investment costs, and market demand.
- Clusters advocate for a comprehensive approach involving government, academia, R&D centres, production companies, residue treatment companies, professional and educational institutions.



1. News from the European Cluster Collaboration Platform

Nina Hoppmann, team member, European Cluster Collaboration Platform

After the introduction by moderator Jennifer Baker, the following news item were presented:

1. Save the date for the next European Cluster Conference, which will take place on 7-8 May 2024. Ideas for topics and speakers [can be submitted](#).
2. Livestream for the [SME Assembly](#) on 13-15 November taking place in Bilbao, Spain.
3. Invitation to [apply for the Cluster Booster Academy](#).
4. Register to attend the next [“Clusters meet Regions”](#) events in Romania and Poland.
5. [Feedback survey](#) for ECCP users

2. Common agricultural policy (CAP) and bioeconomy

Tsjerk Terpstra, Policy Officer, DG AGRI, European Commission

Tsjerk Terpstra presented the evolution and current state of bioeconomy policy within the context of the Common Agricultural Policy (CAP). He gave a short historical overview, highlighting the adoption of the first bioeconomy strategy in 2012, an update in 2018, and a progress report leading to Council conclusions urging a policy update for the period starting from 2027. He explained that 10 Member States have dedicated bioeconomy plans at national level.

The **CAP objectives integrate aspects of bioeconomy**, which relate to “climate change actions” and “vibrant rural areas”. In details, this includes promoting renewable energy and supporting employment, growth, social inclusion, and local development in rural areas. Tsjerk Terpstra explained that the CAP strategic plans drafted by Member States incorporate bioeconomy objectives. These plans involve assessing specific needs, like biomass requirements, and implementing a mix of interventions to meet these needs. The building blocks of these interventions are investments, cooperation, knowledge exchange, and environment and climate measures.

Tsjerk Terpstra showed **indicators** within the CAP's monitoring and evaluation framework that help measure the policy's performance, including impact and result indicators related to sustainable energy and climate investments. However, there are no specific indicators solely focused on the bioeconomy. He concluded with an example of renewable energy's role in bioeconomy, showing that current CAP strategic plans have allocated significant megawatts to renewable energy production.

3. Circular Bio-based Europe Joint Undertaking

Nicoló Giacomuzzi-Moore, Acting Executive Director, CBE JU

Nicoló Giacomuzzi-Moore discussed the role and initiatives of CBE JU in promoting bio-based solutions and contributing to the European Green Deal goals. He gave a brief history of the organization, mentioning its establishment in 2021 as a successor to the BBI Joint Undertaking. CBE JU is a public-private partnership with a total budget of 2 billion euros, with half funded by the European Union and



the other half from in-kind contributions by the bio-based industry consortium. The focus of CBE JU is on **accelerating innovation and development of bio-based solutions**, bridging the gap between high-quality European research and market uptake.

The CBE JU supports coordination and support actions, research and innovation actions, and innovation actions for higher TRL projects. Nicolás Giacomuzzi-Moore highlighted the importance of involving industry and research actors to advance innovation to market level. A significant portion of **funding** goes to SMEs, which are central to European innovation. The funded projects cover a wide range of sectors, including agri-food, with a focus on creating synergies between different actors, such as startups, large companies, and research centres.

Then, Nicolás Giacomuzzi-Moore gave concrete examples of **CBE JU-funded flagship and demonstration plants** across Europe, highlighting the distribution and potential of bioeconomy in Europe. The PLENITUDE flagship project in the Netherlands aims to create the first-of-its-kind, large-scale, lowest-cost, zero-waste biorefinery to produce Mycoprotein from low-cost sustainable feedstocks. The newly awarded project SYLPLANT will deploy, at industrial scale, a technology which transforms underexploited feedstock, such as agricultural or forestry residues with yeast, in order to produce 10 000 tons of protein ingredients per year while minimizing CO₂ emissions.

Regarding the challenges facing the bioeconomy, he mentioned the market uptake of innovative products, funding issues, and the need for standardization of bio-based products. He emphasized the importance of overcoming these challenges to realize the full potential of the bioeconomy. Finally, Nicolás Giacomuzzi-Moore encouraged participation in CBE JU's upcoming stakeholder forum and highlighted efforts to increase participation from Central and Eastern European countries, noting their strong potential in terms of biomass availability and agricultural sectors.

4. Panel debate

The panellists discussed the challenges and bottleneck for the uptake of bioeconomy, the advantages of collaboration, and projects that support innovation and skilling.

Talking about challenges for bioeconomy, Susana Caio identified is the **lack of effective networking** and linkage among various stakeholders, including government bodies, companies, and other relevant actors. This challenge is crucial because alignment and coordination among these groups are necessary for moving forward effectively in addressing issues like food waste, which is a significant concern. She noted that while companies in Portugal are enthusiastic and willing to act, particularly in addressing the problem of food waste, the success of these initiatives hinges on the development of interconnected strategies.

Stephen Barry-Hannon shared insights into their operations and strategy for promoting the bioeconomy. The cluster focuses on agriculture, marine, and waste value chains, which is why one of their projects involves tackling urban waste. Adding to the challenges described by Susana, he mentioned the needed **shift from competitive business practices to more collaborative and cooperative models**. This approach aims to foster interconnectivity and joint benefits among different stakeholders. To do this, their cluster focusses on individual needs of their member companies while simultaneously identifying potential synergies and collaborative opportunities.



Yuan Chai discussed their organization's involvement in European projects focused on valorising waste streams and enhancing the resilience of the agri-food ecosystem. With over 300 members, predominantly SMEs, their cluster reflects the European agri-food ecosystem's reality, where smaller companies are more prevalent. Their efforts in sustainability and bioeconomy are integrated into broader strategies of sustainability and circular economy. Since 2012, they have been encouraging actors across the farm-to-fork value chain to contribute to a more resilient ecosystem. She presented the “B-Resilient” Eurocluster, aimed at fostering concrete connections and projects among SMEs. They will find high-quality projects delivered by SMEs, and the large number of applications demonstrated the **interest** of the companies. In addition, the cluster analyses the biomass situation in Europe to identify regions and countries with high volumes of specific waste streams and explore how technologies and experiences in valorisation can be transferred to other regions.

Moving to the topic of skills, Susana Caio spoke about a successful project to address a **skills gap** identified in the bioeconomy sector, particularly regarding the valorisation of byproducts and waste in the agri-food industry. It is an Erasmus+ project aiming to create a new professional profile in the market. The course, which is around 55 hours long and free to access, covers topics like technologies for the valorisation of byproducts in the agri-food sector, market trends and opportunities, and how to develop new business models around these byproducts. The primary target audience includes workers from the food industry sector and students with a background in bioeconomy, agriculture, or environmental fields.

Stephen Barry-Hannon informed about two projects addressing the skills gap and boosting innovation in the circular bioeconomy in Ireland. The first project, BioDirect, aims at accelerating innovation in circular bioeconomy products and solutions across four targeted sectors: agriculture, textiles, packaging, and construction. The project involves sector leaders conducting value chain analyses to identify two challenges per sector, which are then put out as a competition to inspire innovation across the island. The second project, Target Circular, is an international collaboration between Ireland, Finland, and Norway. It focuses on valorisation and innovation in land and marine agriculture, with a particular emphasis on forestry in Finland. The aim is to provide business development advisors with a scientific-led approach to aid companies in the bioeconomy space. The **collaboration with universities** plays a crucial role in these projects, as the data and market information generated are directly fed into educational courses and modules, thereby addressing the skills gap.

The speakers mentioned additional bottlenecks, which are:

- **Regulation and Compliance:** There is a need for clearer regulations and better compliance mechanisms to facilitate the growth of the bioeconomy.
- **Lack of Standardisation:** It is difficult to streamline processes and products across different regions and markets.
- **Technological Risks:** With the introduction of new technologies in the bioeconomy sector, there are inherent risks that need to be addressed through research and development efforts.
- **Market Demand and Awareness:** There is limited market demand for new products developed from byproducts, partly due to a lack of public awareness. Raising awareness and educating consumers about the benefits of such products is crucial.
- **Access to Raw Materials:** For new companies in the bioeconomy sector, gaining access to raw materials can be challenging, as existing companies are focused on producing their primary products and may not prioritise the provision of byproducts for secondary processing. There



is a need to balance the use of byproducts and side streams within the agri-food sector itself, rather than diverting them primarily to energy production.

- **High Initial Investment Costs:** The significant initial investment required for setting up bio-based industries is a deterrent for many potential entrants in the market.

To overcome these challenges, the speakers emphasise a **comprehensive approach** involving government, academia, R&D centres, production companies, residue treatment companies, professional and educational institutions, and other stakeholders. Yuan Chai discussed the role of public funding, which can help SMEs and foster the entrepreneurial spirit. However, there are barriers in terms of providing support to intermediary sectors like new engineering companies, which are essential for valorising byproducts and side streams in the agri-food industry.

4. Funding opportunities

Nina Hoppmann, team member of the European Cluster Collaboration Platform

Closing the EU Clusters Talk, Nina Hoppmann shared the following examples of funding opportunities:

1. [From silos to diversity – small-scale bio-based demonstration pilots](#); deadlines 22 February 2024; 17 September 2024.
2. [Circular bioeconomy start-up villages](#); deadline 22 February 2024.
3. [Bioeconomy project development assistance](#); deadline 22 February 2024.
4. Opportunities for SMEs: Calls from Euroclusters; published on [European Cluster Collaboration Platform](#)