



MAINSTREAM BIO

MAINSTREAMING SMALL-SCALE BIO-BASED
SOLUTIONS ACROSS RURAL EUROPE

D3.2

Report on awareness raising and education
activities - initial version

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ABBREVIATIONS

AUP	Agraren Universitet - Plovdiv
BIT	BioReCer ICT Tool
CA	Conservation Agriculture
CAP	Common Agricultural Policy
CBEJU	Circular Bio-based Europe Joint Undertaking
CEO	Chief executive officer
EIP-Agri	European Innovation Partnership for Agriculture Productivity and Sustainability
EU	European Union
FBCD	Food and Bio Cluster Denmark
FFFE	Future Farming & Food Experience
FRDK	Foreningen for Reduceret Jordbearbejdning i Danmark
GA	Grant Agreement
INNV	Innovarum
IUNG	Instytut Uprawy Nawożenia i Gleboznawstwa, Państwowy Instytut Badawczy
LAG	Local Action Groups
MCA	Multi-criteria analysis
MIP	Multi-actor Innovation Platforms
MTU	Munster Technological University
NGO	Non-governmental organisation
Q-PLAN	Q-Plan International Advisors PC
RISE	Rise Processum AB,
WHITE	White Research SRL



WR	Stichting Wageningen Research
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Executive Summary

This document presents the report on the “Educational and Awareness Raising Campaign” formulated as Deliverable 3.2 (D3.2) within the MainstreamBIO project. Funded by the European Union's Framework Programme for Research and Innovation Horizon Europe under grant agreement no. 101059420, MainstreamBIO aims to foster bioeconomy and small-scale bio-based solutions throughout Europe, particularly targeting rural areas. The project features a series of educational webinars and in-person events across seven European countries (Ireland, The Netherlands, Poland, Denmark, Sweden, Bulgaria and Spain), involving key speakers from diverse sectors such as farmers, local industries, tech providers, academia and public authorities.

To support these campaigns, MainstreamBIO collaborates to develop innovation support services through a digital tool that expands access to educational materials for a global audience. Positioned within Work Package 3, D3.2 focuses on raising awareness about bioeconomy and bio-based solutions. Task 3.5, associated with D3.2, seeks to enhance bioeconomy education through an educational and practical campaign. The MainstreamBIO awareness and educational campaign effectively enhances bioeconomy principles across Europe by focusing on sustainable agricultural practices and bio-based innovations. The approach to setting up the webinar series was methodical and targeted. Six educational webinars were designed to cover critical topics such as the circular bioeconomy, nutrient recycling, and bioeconomy tools, ensuring participants received comprehensive knowledge and had opportunities to network with experts. To reinforce the learning experience, complementary information sheets were created for each webinar topic.

The overall impact of the campaign was significant. It successfully engaged a total of 305 participants through the webinar series, reflecting strong interest and active participation in the online educational sessions. Additionally, the campaign organized seven in-person events across various European countries, including workshops, satellite events, farm walks, and site visits. These events attracted 200 attendees, facilitating direct interaction, practical demonstrations, and bridging the gap between theoretical knowledge and practical application. The combination of webinars and in-person events ensured a broad reach and deep engagement with stakeholders, enhancing their understanding and adoption of bioeconomy practices.

Participants across the seven regional Multi-actor Innovation Platforms (MIP) contributed to the detailed country-specific findings in Chapters 4 and 5 of this report. Each webinar included information sheets on bioeconomy topics relevant to the webinars, including contextual information, along with information on technologies, policies and statistics. The campaign facilitated stakeholders' understanding of feedstocks, technologies and bioeconomy opportunities, promoting knowledge transfer and collaboration.

This preliminary report on the European campaign, conducted from February to June 2024, highlights key insights from both online and in-person learning, detailing the campaign's reach, impact and lessons learned. It outlines the development, management and follow-up of the campaign, emphasizing effective stakeholder engagement and practical recommendations for future bioeconomy initiatives. The appendix includes examples of a webinar agenda (Table 2), centralised information in the form of an information sheet (Figure 19), detailed post event report (Figure 20), regional event attendance list (Figure 21) and in-person event flyer examples (Figure 22).

1. INTRODUCTION

This deliverable details the "Report on awareness raising and educational activities", available as D3.2 of MainstreamBIO, funded by the European Union's Framework Programme for Research and Innovation Horizon Europe under grant agreement no. 101059420. As part of Task 3.5, Deliverable 3.2 of the MainstreamBIO project encapsulates efforts to promote understanding and engagement in bioeconomy innovations among diverse stakeholders. The main goal of the campaign and D3.2 was to educate and inspire participants, particularly in rural Europe, about the potential of bio-based solutions in fostering sustainable agriculture and economic growth. The campaign unfolded through a series of dynamic webinars over six weeks (facilitated by MTU) and interactive in-person events across seven regions: Ireland (facilitated by MTU), The Netherlands (facilitated by WR), Poland (facilitated by IUNG), Denmark (facilitated by FBCD), Sweden (facilitated by PROC), Bulgaria (facilitated by AUP) and Spain (facilitated by INNV). Various facets of the MainstreamBIO project's impact and relevance are explored, from showcasing real-world applications to discussing best practices and facilitating meaningful dialogue.

In addition, key information about the success of the campaign and suggestions for improvement have been obtained by directly involving participants and main actors through a questionnaire created by Q-PLAN for Task 4.1 - Monitoring and evaluation of regional multi-actor innovation platforms. This deliverable outlines the approach for completing this work, along with findings and analysis from each of the regions involved. The campaign provides key insights into education and in-person events, helping a diverse audience understand what biomass is and what technologies and approaches exist for small-scale rural bio-based and nutrient recycling solutions, ultimately providing opportunities for new value chain development and cooperation. The information collected in this report will be useful for further activities undertaken during MainstreamBIO WP3 and WP4, which focus on workshops and events.

The MainstreamBIO strategic objectives in Task 3.5 as defined in the GA are to:

- ❖ Deploy a series of regional awareness and educational campaigns on bioeconomy in rural areas, including webinars and in-person events to promote successful showcases of bioeconomy and small-scale bio-based solutions.
- ❖ Describe the activities, baseline specifications, action plans and results of the first round of the regional awareness raising and educational campaigns, which will be used by MIPs to develop and implement an action plan tailored to their needs and context.
- ❖ The baseline specifications and the action plans will be summarised in D3.2 along with an overview of the activities performed under this task and their achievements across each innovation support round.

To achieve these strategic objectives, MainstreamBIO took the following steps:

- ❖ Firstly, the task timeframe and schedule were established. This included conducting initial planning to identify target regions and stakeholders (M15), developing baseline specifications (objectives, messages, channels, target audiences, timeframe and educational materials) (M17), executing awareness and educational campaigns across selected regions (M18-20), monitoring and analysing feedback from the campaign (M18-21) and summarizing and submitting the final D3.2 deliverable (M21-22).
- ❖ The baseline specifications were defined (objectives, messages, channels, target audiences, timeframe, and educational material). This involved clarifying the campaign objectives to raise and increase knowledge about bioeconomy practices, promote sustainable agricultural

methods and encourage local bioeconomic initiatives. Clear and compelling messages were crafted to resonate with the target audiences, emphasizing the benefits of the bioeconomy and bio-based solutions for primary producers. Various communication channels, such as direct emails and social media platforms (Twitter (X), Facebook, Instagram and LinkedIn) from partner organizations and the project itself, were utilized to disseminate information. Identifying target audiences, including primary producers, local businesses, research and academia, industry, policymakers and the general public, was also key. Pre- and post-event reporting templates were created to collect all relevant information and align with task objectives. Data and feedback were collected post-campaign to measure effectiveness and impact. Online educational resources, including information sheets and recorded webinar videos, were developed and utilized.

- ❖ Following preparation, it was then necessary to deploy the regional awareness and educational campaigns within our regions. To achieve this the following steps were undertaken: identifying regional campaigns, engaging with project partners and bioeconomy-related stakeholders, launching the educational awareness raising campaign and ensuring the main outcomes of the campaign.

The overall methodology is described in more detail in Chapter 3, with results presented in subsequent chapters.

Deliverable D3.2 report is structured into 10 distinct sections as follows:

- ❖ **Chapter 1** provides introductory information about the project and Deliverable 3.2, outlining its objectives and structure.
- ❖ **Chapter 2** presents a brief literature review and context for the existing study, considering the EU and regional bioeconomy context as well as existing and previous initiatives.
- ❖ **Chapter 3** describes the methodology applied to generate the Deliverable 3.2 results.
- ❖ **Chapter 4** offers an overview of the findings from each individual webinar.
- ❖ **Chapter 5** reviews the findings from the various regional in-person events.
- ❖ **Chapter 6** highlights key findings and feedback from both webinars and in-person events.
- ❖ **Chapter 7** discusses potential areas for improvement in holding educational and awareness raising campaigns for the second round.
- ❖ **Chapter 8** provides concluding remarks.
- ❖ The **References** section lists the references cited in the report.
- ❖ The **Appendix** includes the report annexes, such as post-event report templates, the agenda template example, attendance list example and example of information sheets for webinar topic.

2. BACKGROUND SUMMARY

The MainstreamBIO awareness raising, and educational activities campaign has made a concerted effort to foster understanding and promote the adoption of bioeconomy principles across Europe. This initiative aimed to address the growing need for sustainable agricultural practices and bio-based innovations by engaging stakeholders through a series of webinars and in-person events. Engaging stakeholders, including producers, industries, researchers, policymakers and civil society, was crucial for connecting effectively and developing new value chains and ensuring bioeconomy success. The Updated EU Bioeconomy Strategy highlighted small-scale biorefineries' potential to help primary producers diversify revenue and manage market risks while achieving Circular Economy goals (European Commission, 2018). Small-scale bio-based approaches benefit regions by allowing local application close to biomass sources, reducing transportation distances and serving local markets (Bruins & Sanders, 2012).

The bioeconomy can offer significant economic, environmental and social benefits, by creating jobs, stimulating economies and providing alternative revenue streams like bioenergy and bioproducts, keeping more economic benefits within local communities. By adopting bioeconomic practices, resource efficiency is improved by using agricultural and forest residues, as well as other biomass, while reducing waste and promoting sustainability. Also, these practices contribute to mitigating climate change through afforestation, sustainable forestry management, bioenergy production, carbon sequestration and an overall reduction of emissions. Sustainable practices also support biodiversity through agroforestry and organic farming.

Enhancing the quality of life for rural communities and creating opportunities for vulnerable and marginalised groups like women, youth and the elderly, bioeconomic development improves infrastructure, health care, education and overall quality of life. Therefore, training and education are essential for further effective bioeconomy engagement, covering technical knowledge, business skills and sustainable practices. Access to financial resources is one of the key sources of interest and information for the development of bio-based enterprises, requiring microcredits, grants and investment incentives. A number of supportive policies by governments and institutions, including regulatory frameworks, subsidies and infrastructure investments, have already been implemented to encourage the development of the bioeconomy. Empowering these communities has fostered economic development, environmental sustainability and social well-being, creating resilient rural economies that have contributed significantly to a sustainable global bioeconomy.

By leveraging various virtual and in-person engagement platforms, we sought to highlight the role of MainstreamBIO project in advancing bioeconomy solutions that enhance environmental sustainability, economic viability and societal resilience. Throughout the campaign, our focus was on providing accessible, informative webinar sessions, in-person and online educational activities, that catered to diverse audiences, from farmers, policymakers, researchers, industry leaders to any other individual, with an emphasis on a more sustainable and resilient bioeconomy. These activities aimed to showcase practical applications of small-scale bio-based technologies and their products and to share success stories and facilitate discussions on overcoming challenges in implementation. By nurturing collaboration and knowledge exchange, the purpose was to empower participants to integrate bio-based approaches into their practices and contribute to a more sustainable future.

This background summary reflects our commitment to driving awareness and education around small-scale bioeconomy innovations, underscoring the transformative potential of MainstreamBIO in shaping a resilient and environmentally conscious society.

3. METHODOLOGY

3.1 OVERVIEW AND OBJECTIVES OF EDUCATIONAL AND AWARENESS RAISING CAMPAIGN

The MainstreamBIO awareness raising and educational campaign aimed to promote the adoption of bioeconomy principles and solutions across Europe. The primary objective was to address the need for sustainable agricultural practices and bio-based innovations by engaging stakeholders through various approach methodologies. The objectives of our educational and awareness raising campaign, which included six educational webinars and seven in-person events across Europe, including Ireland, Poland, Sweden, the Netherlands, Spain, Denmark and Bulgaria, were to foster a deeper understanding and active engagement in the bioeconomy among primary producers and other stakeholders. The webinars covered topics such as an introduction to the circular bioeconomy, small-scale bio-based solutions, nutrient recycling, environmental sustainability, business models and bioeconomy tools, providing in-depth knowledge and practical insights. Through these sessions, we sought to highlight the benefits and opportunities that the bioeconomy can offer, demonstrating how primary producers can enhance sustainability and their profitability. The in-person events were designed to facilitate direct interaction, networking and the exchange of ideas and knowledge, reinforcing the concepts discussed in the webinars. By combining virtual and in-person engagement, the campaign aimed to create a well-rounded, accessible and engaging educational experience, ultimately driving the adoption of bioeconomy practices and innovations in rural and coastal regions.

Campaign Methodology

The campaign methodology was based on a schematic representation of the activity, educational and awareness raising plan (Figure 1). The approach included the distribution of central materials, in-person regional events, regional activities and regional promotion, each serving a distinct purpose in promoting our educational and awareness raising campaign. The MainstreamBIO campaign specifically targeted primary producers and the communities in which they are based.

❖ Central Material

To effectively support primary producers in engaging with the bioeconomy, centralized materials were developed.

To ensure continuous engagement and education, a series of webinars was organized, designed as an interactive educational series. These webinars covered various topics, such as:

- ❖ Introduction to the Circular Bioeconomy
- ❖ Small Scale Bio-Based Solutions for Primary Producers
- ❖ Nutrient Recycling Solutions for Primary Producers
- ❖ Opportunities for Circular Bioeconomy to Improve the Environmental Sustainability of Primary Production
- ❖ Business Models and Social Innovations for Promoting Bioeconomy Development in Rural and Coastal Regions
- ❖ Bioeconomy Tools to Support Primary Producer Participation in the Bioeconomy

Each webinar provided participants with new technological and innovative knowledge, as well as opportunities for networking with experts in these fields.

To complement the webinars, information sheets were crafted to align with each of the six topics. These structured information sheets enhanced understanding and engagement with the bioeconomy principles discussed during the webinars. Each sheet generally contained detailed sections covering context, bioeconomy products, a "Did you know?" section, the advantages of the bioeconomy topic and other specific information about the MainstreamBIO project itself (Appendix, Figure 19). The design of these fact sheets was initially created by White in PowerPoint format, ensuring a visually appealing and informative layout. They were subsequently converted into PDFs for easier distribution and accessibility among partners and participants.

❖ In-Person Regional Events

Seven regional events were planned across seven European countries to facilitate direct interaction involving primary producers and their community stakeholders, as well as researchers and industry experts. These in-person events served as an interactive and educational platform for networking, knowledge sharing and demonstrating small bio-based technologies and practices. By fostering direct engagement, these events aimed to bridge the gap between theoretical research and practical application, ensuring that primary producers and communities could benefit from the latest innovations in the bioeconomy. In addition to the centralized webinar series, each region was required to organize one major in-person event per round, along with support activities based on the schematic described in Figure 1.

Potential in-person events included:

Workshops with keynote talks: Featuring leading experts who provided in-depth insights into specific topics related to the bioeconomy. These workshops were designed to be highly informative and interactive, encouraging participants to engage in discussions and ask questions.

Satellite events: MainstreamBio project activities as a component of larger, externally organized events, coinciding with the release of online materials (estimated around February 2024 and February 2025). For satellite events it was planned that MainstreamBIO would contribute a significant component to the event, such as interactive workshops or practical demonstrations, ensuring it was not limited to solely a presentation about the project.

Farm walks with talks: Activities bringing stakeholders to the site of a MIP member, hosting a number of talks and providing first-hand knowledge and practical examples of successful bioeconomy implementations.

Site visits with talks: Visits to local biorefineries or other bio-based facilities, featuring talks from various experts. These visits allowed participants to observe real-world applications of bio-based solutions and discuss their experiences and insights with those directly involved in the projects.

In general, these in-person regional events were key for promoting and further implementing the educational and awareness raising campaign of the MainstreamBIO project. By providing diverse event formats and supplementary activities, participants were able to gain valuable knowledge and build connections that would assist in the continuous development and implementation of bio-based practices in their respective regions.

❖ Regional Activities

Each MIP region aimed to strengthen educational and regional awareness campaigns by incorporating a complementary online activity for each round. These activities adopted various approaches to effectively reach both the target audience and a broader community. Options included issuing a press release to relevant media outlets to generate widespread awareness, publishing a blog post on the organization's website to offer detailed information and insights and launching a

targeted social media campaign through the organization's accounts to directly engage and interact with the community. By utilizing these diverse online activities, each region sought to maximize the impact and reach of its educational and awareness initiatives, fostering greater community engagement and continuous improvement.

❖ Regional Promotion

Regional promotion efforts involved a comprehensive strategic approach to raise awareness and encourage participation in the series of webinars and local events, as well as enhancing the broader awareness of MainstreamBIO among regional stakeholders. This Educational and Awareness Plan included the distribution of various promotional materials, such as MainstreamBIO brochures and leaflets, practice abstracts and information sheets, to ensure that stakeholders were well-informed about the project's objectives and activities. Additionally, by highlighting in-person events, educational webinars, promotional videos and the MainstreamBIO website, the strategy aimed to provide additional information and resources. Through these various distribution channels, the regions sought to maximize their reach, foster engagement and participation from a wider audience and facilitate a deeper understanding of bioeconomy practices among their target stakeholders.

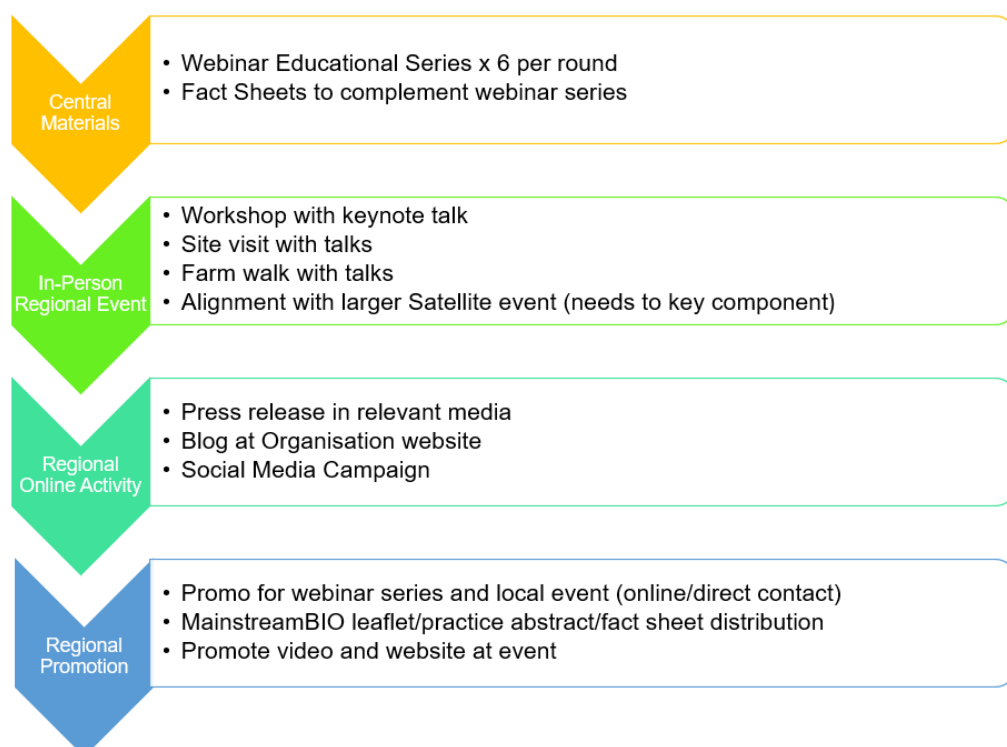


Figure 1. Schematic indicating structure of Educational and Awareness Raising Plan Activities

The combination of central material distribution and webinars, in-person regional events, and regional activities creates a comprehensive and multi-faceted approach that ensured effective knowledge transfer and practical application. By leveraging various virtual and in-person engagement platforms, the MainstreamBIO Project advances bioeconomy solutions that enhance environmental sustainability, economic viability and societal resilience. The campaign methodology, tailored to the needs of primary producers, aims to effectively promote bioeconomy principles and practices, while contributing to a more sustainable future of rural and coastal communities.

3.2 INSIGHTS FROM PREVIOUS CAMPAIGNS AND MATERIALS (Power4Bio, BioRural and AgriforValor)

To make improvements and refine the current campaign, the main insights from past campaigns and resources like [Power4Bio](#), [BioRural](#) and [AgriforValor](#) were reviewed. Recommendations related to engaging stakeholders, using effective communication strategies and implementing bioeconomy practices into practice were generated from previous efforts.

Power4Bio highlighted significant achievements and lessons learned. The regional webinar, "Implementation of the Idea of Bioeconomy in Mazovia in the Agricultural, Waste Management and Bioenergy Sectors", effectively engaged a large number of stakeholders, including policymakers, industry leaders, researchers and the general public. Key presentations covered topics such as bioeconomy development strategies, financial mechanisms and case studies on biodegradable packaging and bioenergy systems. The project employed a variety of methods — workshops, webinars, social media outreach, and digital resources — resulting in high participation and download rates. Over 33 sessions, with an average of 110 participants per webinar from 42 countries, provided a platform to gather feedback and identify key areas for improvement.

Key lessons from these sessions revealed that the skills and competencies necessary to fully exploit bioeconomy opportunities are still underdeveloped, and there is a disconnect between current labour market needs and future demands across the bioeconomy value chain. To address these challenges, it is recommended that training programs be tailored regionally to reflect local conditions while maintaining a unified vision at the European level. Additionally, fostering collaboration among various training programs and initiatives is essential to adapt to the evolving bioeconomy landscape. Future campaigns should enhance interactivity, diversify content delivery, and strengthen collaboration with industry and academic partners, while robust feedback mechanisms will help refine strategies and ensure their continued relevance and effectiveness (Gonzalez et al., 2021).

BioRural project promotes bioeconomy innovations in rural areas by engaging farmers, local businesses and community leaders to create tailored, sustainable economic growth. The project conducts workshops and training sessions to educate rural stakeholders on bioeconomy practices, leveraging local resources to create value-added products. BioRural fosters collaboration between rural communities and bioeconomy experts through networking events, a comprehensive communication strategy and mechanisms for monitoring and evaluating impact. Through these efforts, BioRural aims to build a sustainable bioeconomy and enhancing economic opportunities for rural areas (BioRural, 2024a).

The BioRural emphasizes community engagement and the benefits of involving local stakeholders in promoting bio-based solutions. The last successful national workshop took place in Galicia at the end of April in 2024, and focused on innovative circular economy solutions for the Galician mussel sector, thereby being the fourth event in Spain (BioRural, 2024b). This workshop, part of a series, highlighted regional planning and stakeholder engagement and proved invaluable for providers of innovations, who gained insights to further develop disruptive products and services for the sector. The event in Galicia exemplifies BioRural's collaborative approach, setting a precedent for similar efforts across Europe.

AgriForValor's awareness creation strategy effectively leveraged the project's corporate identity through various communication and dissemination tools, participation in events, media planning and networking with other projects. The main target groups in the project were farmers and foresters, with the purpose of raising the awareness of the potential and opportunities of side stream biomass usage. Partners actively participated in impactful events like the Circular Europe Network meeting,

Redforesta 2016 and the BIOHORIZON Brokerage Event, which fostered widespread awareness and involvement in bio-circular solutions for agriculture and forestry. The project held a series of events in three participating countries, Hungary, Ireland and Spain, to engage with local actors. These events included co-design activities, technical knowledge transfer workshops and business mentoring workshops for local bio-based entrepreneurs. In addition, a range of cross-country visits were hosted to promote peer-learning among stakeholders. A quality check procedure used participant questionnaires to assess and improve innovation tools and methodologies. Social media along with YouTube videos were also used to support the project goals and stakeholder awareness. These efforts built a strong community around AgriForValor themes, increased visibility and fostered significant stakeholder engagement, which ensured a broad reach and substantial impact in line with the project's objectives (Hüttner & Welck, 2018).

3.2.1 *Conclusion from previous campaigns and materials*

A comparison of the successful completion of the BioRural, Power4Bio, AgriForValor and MainstreamBIO campaigns highlights the main differences and similarities between their aims, approaches, and outcomes. The BioRural project focused on promoting rural bioeconomy innovation through regional workshops, engaging rural stakeholders and identifying key bioeconomy opportunities and challenges. Overall, the Power4Bio project sought to strengthen regional bio economies across Europe by conducting trainings, regional assessments and stakeholder consultations, leading to comprehensive bioeconomy plans and cross-regional partnerships. AgriForValor mainly focused on turning waste, by-products and residues from agriculture and forestry into a valorised side stream through workshops and trainings, taking into account the increasing awareness and adoption of bioeconomic practices among relevant stakeholders.

In contrast, MainstreamBIO, through the educational and awareness raising campaign, aimed to encourage innovation in the sector of mainstream small-scale bio-based solutions for primary producers, including educational webinars and in-person events. MainstreamBIO has achieved broad stakeholder participation and significant interest in bioeconomy initiatives, which has led to 305 participants in the webinar and 200 participants at in-person events across seven EU regions in the first round of the campaign. The MainstreamBIO project's approach, apart from mainly targeting primary producers, focuses on broad audience engagement with the aim of promoting specific bio-based solutions available in Europe to inspire the primary sector with these examples.

3.3 MAINSTREAMBIO APPROACH FOR ROUND 1

MainstreamBIO sets out to target a number of key stakeholders groups across the two educational and awareness raising rounds including primary producers and rural communities, consumers, female and youth audiences and other vulnerable groups. During the first campaign, the main focus was on primary producers and their rural and coastal communities. Therefore, all other mentioned groups will be covered during Round 2.

This first round of the campaign was titled "Revolutionizing Europe's Rural Regions: Circular Bioeconomy Opportunities" and aimed to promote transformative approaches leveraging circular bioeconomy principles to rural areas across Europe. Key thematic areas covered in the campaign included the circular bioeconomy, sustainable resource use and waste reduction through the implementation of circular economy systems. An emphasis was placed on small-scale biobased solutions, since they served as a mechanism to support local communities in developing bio-based products and services. Nutrient recycling solutions were also a key theme, highlighting the

importance of reusing agricultural and organic residues to improve soil health and reduce environmental impact. The campaign highlighted the benefits of implementing such solutions for the primary producers and rural communities, such as environmental and business opportunities. Bioeconomy tools, including educational initiatives and stakeholder collaboration, were included as they were crucial for raising awareness and promoting the adoption of bioeconomy practices.

The bioeconomy sector needs to involve primary producers as a target audience in order to secure a reliable and sustainable raw material supply chain, promoting innovative technologies for deployment, scaling value chains, promoting environmental awareness, supporting environmental and economy development, influencing policy and mitigating risks. Scaling these local bio-based economies is essential in order to create a strong and prosperous bioeconomy that supports a circular and sustainable global bioeconomy system. Research shows that primary producers are found to be marginalized within the bioeconomy and an absence of primary producer participation could have an overall negative impact on the bioeconomy (Harrahill et al., 2023). Therefore, improving the knowledge about the bioeconomy and the opportunities it offers to primary producers through their participation, along with the wider benefits to rural communities is essential.

Target audience of the Educational and Awareness Raising Campaign

a) Primary producers:

Farmers

Farmers are vital players in the bioeconomy due to their role in providing essential biomass resources through their agricultural activities. They can contribute to the bioeconomy by cultivating crops that could be converted into bio-based products and bioenergy, thus creating a sustainable cycle of production and consumption. Engaging farmers involves educating them about sustainable farming practices, crop diversification and the potential for generating additional income streams through bio-based products and bioenergy production. By adopting these practices, farmers not only enhance their productivity and economic stability but also contribute to environmental sustainability by reducing waste and improving soil health. Their participation in the bioeconomy can help to drive the transition from fossil-based resources to renewable agricultural sources, making them key contributors to a sustainable future.

Foresters

Foresters can play a crucial role in the bioeconomy by managing forests sustainably and ensuring a steady supply of biomass. They are essential for maintaining biodiversity, sequestering carbon and providing raw materials for bio-based industries. Engaging foresters requires a focus on sustainable forestry practices, afforestation and the utilization of forest residues for bioenergy and bioproducts. By adopting these sustainable practices, foresters can contribute to the reduction of carbon emissions and mitigate climate change. Their work ensures that forest resources can be used efficiently and responsibly, which is vital for the long-term health of the ecosystem. Foresters' ability to provide a continuous supply of biomass while maintaining forest health make them indispensable in the bioeconomy's supply chain.

Fishing communities

Fishing communities are also important primary producer players in the bioeconomy due to their provision of biomass from marine resources. They contribute by supplying raw materials for bio-based products, such as biofuels, pharmaceuticals and biodegradable plastics derived from marine biomass. Educating fishing communities about sustainable fishing practices and the potential

benefits of participating in the bioeconomy is crucial to develop the blue bioeconomy for coastal regions. Their involvement helps to ensure that marine resources are harvested responsibly, preserving marine biodiversity and supporting the health of ocean ecosystems. By adopting sustainable practices and diversifying their income through bio-based ventures, fishing communities can play a key role in promoting economic resilience in coastal communities and reducing the environmental impact of traditional fishing practices.

b) Rural Communities

Rural communities are integral to the bioeconomy as they are often the location of biomass production, with high potential for rural bioeconomy development. Helping the wider community to see the benefits of bioeconomy deployment can help to remove barriers to technology adoption and support the implementation of new bio-based value chains. Engaging rural communities involves presenting the opportunities that the bioeconomy delivers in creating jobs and economic opportunities, while delivering social and environmental benefits, and improving resource resilience. By participating in the bioeconomy, rural communities can diversify their economic activities, reduce reliance on traditional agriculture and enhance their economic resilience. Their involvement in local workshops, educational programs and demonstration activities ensures a better understanding of these value chain opportunities within the wider community.

c) Coastal Communities

Coastal communities have unique opportunities within the bioeconomy, particularly through the sustainable utilization of marine resources. They can contribute by harvesting marine biomass for use in various bio-based products and by engaging in sustainable fishing practices. Coastal communities play a critical role in maintaining the health of marine ecosystems, which is essential for the long-term viability of marine-based bioeconomy activities. Engaging coastal communities requires a focus on sustainable fishing, marine biomass utilization and the development of bio-based industries tailored to coastal environments. Just like rural communities, coastal community buy-in is essential and can be stimulated by creating a greater awareness of the environmental and socio-economic benefits. By adopting these practices, coastal communities can enhance their economic resilience, reduce environmental impact and create new economic opportunities.

Key Messages: The circular bioeconomy can play an important, inclusive and sustainable role in building sustainable, resilient and revitalized rural and coastal communities, through an improved use of local resources, all with the aim of solving urgent global climate challenges and reducing environmental degradation. The circular bioeconomy can bring positive economic, environmental and social benefits and opportunities to primary producers and rural and coastal communities. Small-scale bio-based and nutrient recycling solutions can help to increase the value from local biomass or residues, while resolving environmental and social challenges. The importance of integrating primary producers as active participants in the bioeconomy, in which they see a fair return for their input, is essential to ensure long-term buy-in and biomass availability. There are many examples of business models that can be highlighted to farmers, which can be attractive opportunities for diversification. It is also vital to improve knowledge among primary producers on technical aspects and improve awareness and knowledge about the bio-based technology opportunities. Such technologies can also help to mitigate many climate challenges, such as reducing emissions of CO₂, N₂O and CH₄. Since these technologies will be imbedded within local rural and coastal communities, it is important that the benefits to these communities, including self-sufficiency, reduced emissions, increased economic opportunities and jobs, are highlighted. Finally, it is also important to highlight the various supporting mechanisms and tools that are available through MainstreamBIO and other projects/initiatives which can improve the target audience knowledge.

Channels: Primary producers and their associations, cooperatives, government agencies, agri-advisory organisations, community groups, agri-supplies manufacturers and suppliers.

Timeframe: From February until June 2024.

3.3.1 Centralized materials: Webinar series

The webinar series consisted of six webinars, each 75 minutes in length, covering a range of topics relevant to MainstreamBIO's objectives and targeting MainstreamBIO's target audiences. The series combined background information with practical case studies and guest speakers. The campaign aimed to involve active primary producers to promote peer learning.

Pre-Webinar Preparation Steps:

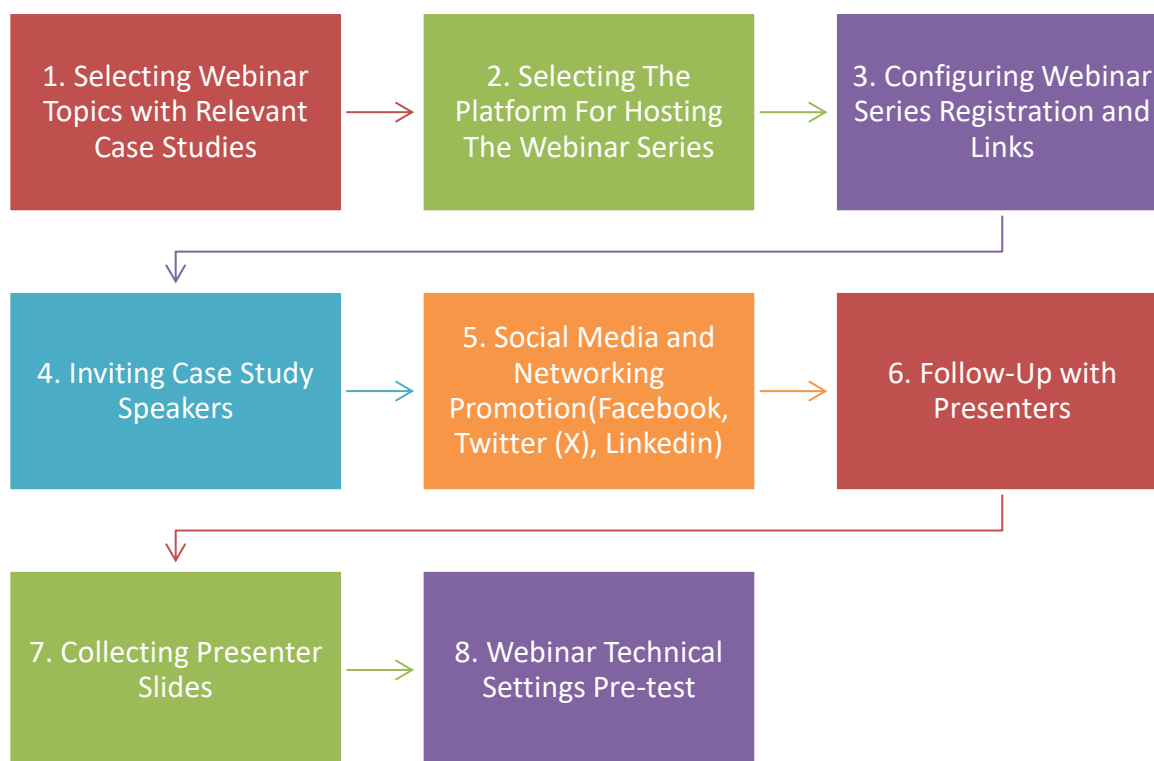


Figure 2. Webinar campaign steps

The main steps used in the webinar campaign preparation are illustrated in Figure 2. To achieve better outreach and promotions among a wider audience, the first focus was on selecting the topic of the webinar campaign and the topics to be addressed throughout the campaign. The integration of unique case studies that would support the campaign was also considered. The next stage involved choosing the platform for the webinar series and establishing registration information. The Microsoft Teams platform was selected. The webinar series registration and access links were configured, and stakeholders were also provided with registration details and links to the project website and webinar series (Step 3). The fourth step consisted of reaching out to pertinent case study speakers offering their expertise on the topic at hand. An email campaign was employed along with repeated promotion on social networks like Facebook, Twitter (X) and LinkedIn and project partner networks as Step 5 to help spread the word and increase the campaign's reach. The sixth step involved getting in touch with the selected presenters to obtain additional information about their participation and offer support related to queries or requirements pertaining to their presentations. Presenters provided their presentation slides ahead of time (Step 7). Finally, the day before the

event, a pre-test of the technical settings on the Teams webinar platform was conducted to minimise any possible technical difficulties. For the purpose of ensuring that everything was ready for the actual webinar, a 30-minute performance test webinar was held to test the sharing and recording features of the presentation.

❖ **Structure of the Webinars**

The webinars lasted 75 minutes and included narration of the webinar topics, explanation of case studies with background presentations and participation of presenters in a panel discussion through a question-and-answer session posed by the audience.

❖ **Generalized Webinar Agenda**

I. Short Welcome and Introduction (10 minutes)

At the beginning of each webinar, participants were informed about of the need to record the session (i.e., for educational and awareness raising purposes), as well as the details regarding where and how to access the recorded webinar.

II. Presentation of Case Studies (40 minutes)

The presentation covered approximately three to four case studies, each lasting between 10-15 minutes. All case studies followed a similar format. The presenter explained the narrative of their case study, using a preferred design presentation with visual aids such as graphs and pictures to enhance understanding and perception of the case.

III. Panel Discussion and Q&A Session (20 minutes)

An interactive discussion between the presenters and participants was encouraged by the moderator during each session, to stimulate the audience to ask questions about the case studies through the chat section, creating a unique opportunity for live interaction.

IV. Closing Remarks (5 minutes)

The closing remarks included a summary of the key points discussed during the webinar, a note of appreciation to all participants, information about the next webinar date and/or future project events.

The webinar agenda structure can be found in the Appendix.

Webinar 1: “Introduction to bioeconomy”.

In this introductory webinar, the basics of the bioeconomy were covered, with an emphasis on the role of primary producers and local communities. The MainstreamBIO project and the upcoming webinar series were introduced. The webinar was moderated by MTU, with speakers from MainstreamBIO, and case studies including Bazancourt–Pomacle biorefinery and the Irish Department of Agriculture, Food and the Marine.

Topics and learning outcomes:

Topics and learning outcomes included understanding the bioeconomy and its importance, identifying key sectors and related feedstocks, recognizing challenges such as finance, knowledge, and competing biomass uses, understanding the role of farmers with supporting examples, and providing information about the MainstreamBIO project along with the conclusions to be anticipated from the upcoming series.

Webinar 2: “Small-scale bio-based solutions for primary producers”.

In Webinar 2, opportunities for small-scale bio-based solutions to address challenges and offer diversification opportunities for primary producers were discussed. Moderated by MTU, the speakers

included representatives from MTU and WR. Case studies that were featured included Grassa, Bio-Lutions, SINTEF Sea-Lab, and Spinnova Ltd.

Topics and learning outcomes:

Topics and learning outcomes covered the context for small-scale bio-based technologies, including technical, sustainability, and socio-economic aspects. They also addressed the roles and potential of farmers in deploying these solutions, MainstreamBIO's screening of small-scale bio-based solutions, including the matching tool and multi-criteria analysis (MCA), and insights from solution providers deploying their innovations in various rural and coastal contexts, with participation from some farmers.

Webinar 3: “Nutrient recycling solutions for primary producers”.

In this webinar, the potential of nutrient recycling opportunities for primary producers to enhance efficiency and sustainability in nutrient management was explored. An esteemed set of speakers from MainstreamBIO included partners from MTU and IUNG, while the case study examples featured GlasPortBio and Nutramara.

Topics and learning outcomes:

The topics and learning outcomes included understanding the context for nutrient recycling solutions, addressing technical, sustainability, and socio-economic aspects. The webinar explored the roles and potential of primary producers in nutrient recycling deployment and highlighted practices identified by MainstreamBIO for effective nutrient recycling. Participants also heard from nutrient recycling solution providers deploying their solutions in various rural and coastal contexts, including some practical farm examples.

Webinar 4: Opportunities for circular bioeconomy to improve the environmental sustainability of primary production.

During this webinar, the environmental and sustainability advantages that circular bioeconomy innovations provide to primary producers were explored. Moderated by MTU, the webinar featured expert speakers from the MainstreamBIO project and case studies from Carbon Harvesters, Valio, and the National University of Galway, Ireland.

Topics and learning outcomes:

The key topics and learning outcomes included how the circular bioeconomy can tackle major environmental and sustainability issues for primary producers, examples of enterprises adopting bio-based and nutrient recycling solutions to minimize their environmental impact, methodologies for measuring and accrediting environmental footprints, developments such as carbon credits, and the challenges of implementing bio-based value chains while maintaining biodiversity and ecosystem services.

Webinar 5: Business Model and Social innovations for Promoting Bioeconomy Development in Rural and Coastal Regions.

In this webinar, opportunities for new bio-based business models and social innovations to bring socio-economic benefits to rural and coastal communities were discussed. The webinar was moderated by MTU, with relevant speakers including experts from the MainstreamBIO project, such as WHITE from Belgium and INNV from Spain. The case studies featured examples from the Irish Cooperative Organisation Society, RUBIZMO, and the University of Rome.

Topics and learning outcomes:

Topics and learning outcomes included understanding different business models for implementing bio-based value chains, developing social innovations in the bioeconomy across Europe, the benefits these innovations bring to rural and coastal communities, the socio-economic considerations for implementing bio-based value chains, and experiences of building these chains in rural and coastal regions.

Webinar 6: Bioeconomy tools to support primary producer participation in the bioeconomy.

In Webinar 6, the MainstreamBIO toolbox and repository, along with other tools and resources for supporting primary producers in the bioeconomy, were introduced. The set of speakers included experts from the MainstreamBIO project. The case studies featured speakers from MainstreamBIO sister projects, such as the Rural Bioeconomy Alliance, and experts on funding tools, including the European Investment Bank, Circular Bio-Based Europe Joint Undertaking (CBE JU), and the agricultural European Innovation Partnership (EIP-Agri).

Topics and learning outcomes:

Topics and learning outcomes included resources available through the MainstreamBIO toolbox and repository, support tools such as feedstock mapping, value chain selection, biomass trading platforms, and knowledge platforms, as well as various public and private funding sources for bioeconomy implementation.

❖ Post-Webinar Activities

Distribution of Resources: After the webinar, an email was sent to all registrants and participants, including links to the webinar recording, an appreciation note, information about the next webinar date and/or future project events and a questionnaire to gather feedback on the webinar. Participants were also encouraged to share their experiences and the recorded webinar with colleagues and acquaintances that might find it helpful. The recorded webinar material was then transferred to a dedicated platform, making it accessible to the general public for educational purposes.

Sharing via Social Channels: Screenshots of webinar clips, as well as highlights and conclusions from the webinar, were shared on various social media channels to spread the outcome of the campaign.

Collecting Feedback: Questionnaires were collected through Microsoft Forms as part of Task 4.1. This form gathered participants' thoughts and valuable suggestions for improvement. The feedback analysis was shared with partners from Task 4.1 to provide an overall overview of the campaign and to improve future webinars and campaigns.

Continued Engagement: Engagement around future webinars and campaigns was maintained, guided by participant interest and feedback.

This methodology harnessed the narrative power of case studies, enhanced by visual presentations and active audience participation, to create a dynamic and impactful educational experience. By following this structured approach, the aim was to achieve a high level of engagement and knowledge transfer, ultimately fostering greater awareness and understanding of the impact of the circular bioeconomy.

MTU led the series, with partner contributions on certain topics based on their expertise. The webinars were broadcast live, promoted through MainstreamBIO and partner networks, recorded and hosted on the project's [YouTube channel](#) and [MainstreamBIO toolbox](#). Information sheets were developed for each webinar topic. The series also highlighted some of MainstreamBIO's tools and results, and resources and references were circulated after each session.

3.3.2 Regional campaign across seven EU countries

The primary aim of the regional campaign through seven EU countries was to educate and raise awareness about the bioeconomy. The list of European countries that participated in the campaign, along with the campaign name, date and venue, can be found in Table 1. For the in-person events, each region was responsible for organizing one major event in both Round 1 and Round 2 of the campaign, using relevant forms of the centralized materials provided (e.g. information sheets) along with additional supporting activities based on the schematic described in Figure 1. The outcomes of these in-person events, held in various regions, are illustrated in the following figures: the event in Plovdiv on 23rd of February 2024 (Figure 9), the event in Valderrobres on the 4th and 5th of May 2024 (Figure 10), the event in Poland on 23rd of June 2024 (Figure 11), the Danish event on 18th of March 2024 (Figure 12), the Swedish event on 13th of June 2024 (Figure 13), the Dutch event in Lelystad on 30th of May 2024 (Figure 14), and the Irish event on 30th of June 2024 (Figure 15).

The in-person events in Round 1 included the following:

- ❖ A workshop with keynote speeches in the presence of the MIP leader, featuring relevant external presenters.
- ❖ A satellite event (i.e., of a larger event) that coincided with the release of the online materials to enhance the reach of the event.
- ❖ A farm walk with speeches to bring stakeholders to the site of an MIP member and host numerous discussions.
- ❖ Site visits with speeches of various relevant experts.

In addition, each MIP region aimed to promote educational and regional awareness campaigns by including one complementary online activity per round, including one of the following:

- ❖ A press release in relevant media.
- ❖ A blog from an organisational website.
- ❖ A social media campaign from organisational accounts.

Finally, each MIP region promoted the event among its identified regional target stakeholders and distributed promotional materials related to the project. These materials included a MainstreamBIO flyer/leaflet, information sheets created to accompany the online webinar series and practice abstracts (Appendix, Figure 22). The registration details and links to the webinar series, project video and website were shared with stakeholders during these activities. A summary of the regional events that took place is presented in Table 1 and elaborated below by region (see Chapter 5).

Table 1. Regional in-person events

Regional campaign	Title / topic of the campaign	Date of the campaign	Venue
Bulgaria	Awareness on the bio economy and social innovation for rural development of South-central Region	23.02.24	Hilton hotel, Plovdiv
Denmark	Temadag om Reduceret Jordbearbejdning – Conservation Agriculture Field Visit	25.03.24	Molbo Agro, Vester Velling, Denmark

Spain	Bioeconomy in rural areas – What can it bring to farmers and rural communities?	04.05.24	Livestock and Commercial Fair of Valderrobres
The Netherlands	Opportunities for circular bioeconomy to improve the environmental sustainability of primary production	30.05.24	Future Farm and Food experience, Lelystad
Sweden	Utforska nya cirkulära bioekonomimöjligheter med BioReCer och MainstreamBIO	13.06.24	Domsjö, Sweden
Poland	Polish MainstreamBIO Event	23.06.24	National Fields Day/Annual Open Door Day, Lubelskie, Poland
Ireland	Irish Rural Bioeconomy Event- Mainstreaming small scale biorefineries	28.06.24	Irish Bioeconomy Campus Lisheen, Co Tipperary and Green Generation, Co. Kildare, Ireland

3.2.1.1 Southern Region of Ireland

The Southern Region of Ireland proposed an in-person workshop that would include presentations and a site visit. The location of the event was initially undetermined, but the Farm Zero and Lisheen Bioeconomy Campus were highlighted as potential locations. The event was supported by online activities, including a social media campaign and organizational blog. The plan for promotion was carried out through Circular Bioeconomy Research Group and MTU channels, targeting farmer organizations. Events and activities were promoted through direct interactions such as email and phone, as well as through social media platforms (e.g., Twitter (X), LinkedIn and Facebook) and group partner and cluster networks.

3.2.2.2 Middle and upper Norrland, Sweden

The Swedish MIP region hosted an in-person satellite event, joining the “Breakfast Studio” as a guest host to talk about the bioeconomy. The “Breakfast Studio” consists of a collaboration between Örnköldsvik Municipality, Örnköldsvik Industry Group, “Företagarna”, and the Chamber of Commerce Midsverige and takes place once a year in February. It is open to the public, allowing everyone to attend and enjoy breakfast while listening to presentations on important issues concerning the region. To support this activity and the broader promotion of the MainstreamBIO educational and awareness raising campaign, a social media campaign took place within the region.

3.2.2.3 South Central, Bulgaria

The Bulgaria MIP region hosted an in-person workshop with presentations as a central point of their regional campaign for round 1. The event involved 20 participants, most of them members of the local MIP and students. The workshop included presentations of small-scale bio-based and nutrient

recycling solutions, as well as showcased presentations. The events coincided with the Annual Conference of AUP. A social media campaign was undertaken to support the regional activity. Some of the key target stakeholders for the events included the Municipality of Plovdiv, OPORA ZADEN LTD, the Energy Agency of Plovdiv, BIOSELENA, the Tourism Advisory Council at Plovdiv Municipality and the Centre of Plant Systems Biology and Biotechnology. This event was promoted through face-to-face communication, email and phone.

3.2.2.4 Denmark, Midtjylland

The Danish MIP planned a Farm Walk with talks as part of their main in-person activity in round 1 of the educational and awareness raising campaign. This involved a visit to a farm driven by a conservation agriculture (CA) approach and no-till practices. It was planned to be a joint event between a CA organization, a farmer and an advisory service. Target stakeholders would include farmers, technology providers, companies, advisory services, research institutions, municipalities and agricultural schools. The events were promoted via press release and social media campaign and more broadly communicated through LinkedIn, Facebook and newsletters.

3.2.2.5 Flevoland and Friesland regions of Netherlands

The Netherlands MIP region planned to arrange a site visit, possibly connected to the GO-GRASS demonstration site. There was also the possibility of scheduling a satellite event associated with the Future Farming and Food event, which is held annually at the end of May. This event typically attracts around 1,000 people, including farmers. To support the regional event, an organizational blog and social media campaign were planned. Local partners identified that an item could be placed in the ACRRES newsletter and on the LinkedIn page to distribute the news. Noardlike Fryske Wâlden and LTO were among the targeted stakeholders for the event.

3.2.2.6 Lubelskie region of Poland

The Polish MIP region planned to organize a satellite event as part of their regional educational and awareness campaign. This involved joining an agricultural show with a workshop for farmers. At the agricultural fairs, where equipment presentations were held, the Polish MIP partners could prepare a roadmap of the fair with information on where stakeholders could find effective solutions for nutrient recycling based on the work of MainstreamBIO. Two potentially suitable opportunities for the satellite event were identified: the annual National Field Days or the annual Open Door Day at the Lublin Agricultural Advisory Center in Końskowola. Both events typically begin planning in December and are usually held in June. These large events are typically organized for farmers, secondary agricultural school students, and university students. A press release and social media campaign were planned to support the in-person event. The forums for this included Facebook, Twitter (X), and the IUNG webpage. IUNG, with its extensive network of contacts, could reach out to farmer organizations, advisors, and many companies regarding the event.

3.2.2.6 Valle del Ebro region of Spain

The Spanish MIP region planned to schedule an in-person event alongside the project "Red AgriFoodTe." This year (2024) would be the first time these meetings take place. The organizer, CITate, confirmed that the timeline would coincide with MainstreamBIO's regional event. To support

this event, a blog and social media campaign were planned to be undertaken through INNV's website and social media channels. To mobilize stakeholders, INNV planned to interact with projects focused on the same region (e.g., BioRural) to leverage their networks and channels, as well as utilizing their established networks.

3.3.3 Outreach and dissemination

The outreach and dissemination efforts of our campaign were robust and strategically designed to maximize engagement and impact across diverse regions. Six detailed webinars, each targeting a critical aspect of the bioeconomy, were conducted. Webinars were promoted through a comprehensive campaign leveraging the project's social media channels, along with support from MTU and other project partners. This promotional strategy aimed to raise awareness and educate the public on bioeconomy topics, aligning with the objective of fostering widespread understanding and engagement. The campaign included an engaging video clip and a screenshot from the webinar to capture the general public's interest and highlight key discussion points (Figure 4). Promotion for each corresponding webinar took place during the week after the end of the previous webinar, with announcements made at the start of the week and a reminder the day before the event. This approach ensured consistent visibility and maintained audience engagement by keeping the content fresh and timely. Additionally, the webinars were further promoted by project partners, RBA alliance and sister projects, expanding the reach and reinforcing the collaborative nature.

In-person events were promoted using a dual approach: through the project partner's social networks and the project's social media channels. This method ensured the visibility of events to a broad audience, both within the project's immediate network and through the extended reach of partners. By utilizing multiple channels, target audiences were effectively informed and engaged, encouraging active participation in both the webinars and in-person events. These promotional efforts were designed to align with the objectives of building a knowledgeable community around the bioeconomy, facilitating knowledge transfer and fostering collaboration among primary producers, rural and coastal communities and other stakeholders. This strategy didn't only promote attendance but also created a sustained interest and ongoing dialogue about the bioeconomy. Complementing the virtual sessions, seven in-person events were organised in Ireland, Poland, Sweden, the Netherlands, Spain, Denmark and Bulgaria. These events facilitated direct interaction, hands-on learning and networking opportunities among stakeholders. This dual approach ensured broad dissemination of information and fostered a community of practice, enabling participants to share experiences and collaborate on bioeconomy initiatives, thus significantly enhancing the campaign's outreach and effectiveness.

3.3.4 Method for collecting feedback

Collecting feedback is essential for evaluating the success of the events and understanding the needs of participants. Feedback helps to continuously improve the quality and relevance of the events, ensuring that the expectations of the target audience are met.

To gather feedback on the educational and awareness raising campaign, Google Forms was used to create a comprehensive survey, created by Q-Plan as part of Task 4.1. It was selected for its user-friendly interface and efficient data collection capabilities. The survey was distributed to participants following each webinar and in-person event to ensure timely feedback. Responses were collected from April 2024 until the end of June 2024, during the whole campaign. Implementing QR codes allowed easy and instant collection of responses in situ, directly during or immediately after the

campaign event. This method captures feedback while the experience is still fresh in participants' minds, ensuring more accurate and relevant insights. By scanning the QR code with their smartphones, participants could quickly access and complete the survey, eliminating delays and the potential loss of valuable feedback that occurs in longer waiting stages. This real-time data collection enhanced the quality and reliability of the feedback received. It included multiple-choice questions for quick ratings, Likert scale questions to measure satisfaction levels and open-ended questions to collect qualitative feedback and suggestions. The survey focused on key areas such as the relevance and quality of the campaign content, performance, overall satisfaction and suggestions for future events.

The target audience for the survey included all groups of participants, ranging from primary producers and industry experts to researchers, government bodies and members of society. This diverse group provided a broad perspective on the campaign's impact. To maximize participation, the survey was distributed via email after the event and promoted through MainstreamBIO's social media channels. This approach helped keep participants informed about the project and encouraged their ongoing engagement.

The survey questions included demographic information, stakeholder group association, educational background, regional origin and specific questions about their understanding and engagement with the bioeconomy, as well as the usefulness of the campaign and webinars. Google Forms' built-in analytics tools were used to analyse the data. This analysis helped to identify key trends and areas for improvement. Quantitative data were then summarized in map charts (Figures 17 and 18) and graphs (Figure 16), while qualitative feedback was reviewed for future improvement. The feedback collected was shared with Q-Plan, the leader of Task 4.1 and valuable insights into the strengths and areas needing improvement for the 2nd campaign round was offered. Participants' suggestions will be used to improve future webinar series and in-person events, ensuring they are even more effective and engaging.

4. MAINSTREAMBIO WEBINAR SERIES: ROUND 1 EXECUTION

4.1 OVERVIEW OF WEBINAR SERIES

The educational webinar series took place over six weeks, from the 10th of April to the 16th of May 2024. To reach primary producers and a wide audience unfamiliar with the bioeconomy, the campaign title "Revolutionizing Europe's Rural Regions: Opportunities for a Circular Bioeconomy", was chosen. This title aimed to encourage innovative approaches to sustaining and revitalizing rural communities across Europe and to generate broader interest within the audience. The webinars covered several key thematic areas, including the circular bioeconomy, small-scale biobased solutions, nutrient recycling solutions, business opportunities and bioeconomy tools. The details of each webinar and the esteemed speakers that shared their expertise can be found below.

The first webinar in the series, "Circular Bioeconomy", took place on April 10th 2024, from 11:00-12:15. This session featured distinguished speakers with extensive expertise and practical experience in sustainable practices within the bioeconomy, featuring:

- James Gaffey: Co-Director of the Circular Bioeconomy Research Group at Munster Technology University.
- Florent Allias: President of URD ABI at AgroParisTech.
- Honorine Katir: Operations Manager at the European Centre for Biotechnology and Bioeconomy.
- Luisa Mascia: Project Officer at Circular Bio-Based Europe Joint Undertaking.
- Matthew Halpin: Assistant Agricultural Inspector at the Department of Agriculture, Food and the Marine.

The second webinar, "Small Scale Bio-Based Solutions for Primary Producers", was held on April 17th 2024, from 11:00-12:15. This session highlighted practical bio-based solutions tailored for primary producers, featuring:

- James Gaffey: Co-Director of the Circular Bioeconomy Research Group at Munster Technology University.
- Bert Annevelink: Senior Scientist at Wageningen University.
- Johan Sanders: Emeritus Professor at Wageningen University.
- Adrienn Somosne Nagy: Managing Director at Pilze-Nagy Ltd.
- Alvan Hunt: CEO at Hexafly.

The third webinar, "Nutrient Recycling Solutions for Primary Producers", took place on April 24th 2024, from 11:00-12:15. This session focused on innovative nutrient recycling solutions, featuring:

- Dragica Grozdanic: Bioeconomy Researcher at Shannon Applied Biotechnology Centre.
- Piotr Skowron: Specialist in fertilisation and agricultural environment protection.
- Stephen Nolan: AD operations and R&D professional.
- Henry Lyons: Scientific Director at Nutramara Ltd.

The fourth webinar, "Opportunities for Circular Bioeconomy to Improve the Environmental Sustainability of Primary Production", was scheduled for April 30th 2024, from 11:00-12:15. This session explored how nutrient recycling can enhance environmental sustainability, featuring:

- James Gaffey: Co-Director of the Circular Bioeconomy Research Group at Munster Technology University.
- David Styles: Associate Professor in Agri-sustainability at the National University of Galway, Ireland.
- Katrin Jögi: Sustainability Manager at Fibenol OÜ.
- Robert Harmoinen: Development Manager at Valio Ltd.

The fifth webinar, "Business Model and Social Innovations for Promoting Bioeconomy Development in Rural and Coastal Regions", took place on May 8th 2024, from 11:00-12:15. This session delved into innovative business models and social innovations for the bioeconomy, featuring:

- James Gaffey: Co-Director of the Circular Bioeconomy Research Group at Munster Technology University.
- Anastasios Galatsopoulos: Research Consultant at White Research SRL.
- Beatriz Deltoro: Innovation Consultant at Innovarum.
- Maider Gómez Palmero: Researcher and Project Manager at CIRCE.
- James Cogan: Industry and Policy Analyst at ClonBio Group Ltd.

The final sixth webinar, "Bioeconomy Tools to Support Primary Producer Participation in the Bioeconomy", was held on May 16th 2024, from 11:00-12:15. This session introduced essential tools to support primary producers in the bioeconomy, featuring:

- Dragica Grozdanic: Bioeconomy Researcher at Shannon Applied Biotechnology Centre.
- Evangelia Tsagaraki: Chemical Engineer and Project Manager at Q-PLAN International.
- Małgorzata Wydra: Project Assistant at the Institute of Soil Science and Plant Cultivation.
- Patricia Rojas: Project Manager at SAOS.
- Ana Casillas: EU Innovation Consultant at Innovarum.

4.1.1 Webinar 1: Introduction to circular bioeconomy

The first webinar, held on the 10th of April 2024 at 11:00 CET, garnered significant interest, with 103 registrants and 82 attendees, indicating a strong engagement from the target audience. However, to enhance future webinar attendance, strategies could be explored to convert more of the registration page views (107) into actual registrations and attendance. The webinar focused on the principles of circular bioeconomy within the context of the European Union's goal to achieve carbon neutrality by 2050. It highlighted the pivotal role of primary producers and local communities in fostering economic, environmental and social benefits through innovative bioeconomy practices. Participants gained insights into consumption patterns, economic resilience and the transformation of waste into valuable resources, including energy crops and sustainable production methods. Figure 3, Snapshot of Webinar 1: Introduction to Circular Bioeconomy (10th of April 2024) provides a visual overview of the event, capturing key moments and highlights.

During the webinar, several critical topics were covered to broaden understanding and inspire action. Florent Allias and Honorine Katir presented the Bazancourt–Pomacle biorefinery in France as a model of successful local development and stakeholder engagement. This biorefinery exemplifies

innovative approaches such as industrial symbiosis and cooperative funding schemes, fostering both local clustering and long-term vision in the bioeconomy sector.

Luisa Mascia then discussed the integration of primary producers into bioeconomy value chains, emphasizing the creation of resilient agricultural economies through resource efficiency and sustainable development.

Finally, Matthew Halpin from Ireland's Department of Agriculture, Food and the Marine outlined policy frameworks and funding supports aimed at harnessing the bioeconomy's potential to address climate action and stimulate economic growth in rural communities.

The stakeholder feedback for Webinar 1 (Introduction to circular bioeconomy) demonstrates a diverse range of participants. The majority of registrants were Researchers, accounting for 55 out of the 110 registrants (50%), indicating strong interest from the academic and research community. Industry representatives followed with 21 registrants (19%), showing significant engagement from the commercial sector. Participants from NGO/Society comprised 16 registrants (15%), reflecting the involvement of non-governmental and societal organizations. Government/Polymakers were also well-represented, with 10 registrants (9%), highlighting the interest from public authorities. Primary Producers had seven registrants (6%), indicating a notable presence from the farming, forestry and aquaculture sectors. Additionally, some registrants identified with multiple stakeholder groups, reflecting the interdisciplinary nature of the circular bioeconomy initiative. This distribution underscores the broad appeal and relevance of the webinar across various sectors and highlights the importance of inclusive engagement in promoting circular bioeconomy practices.

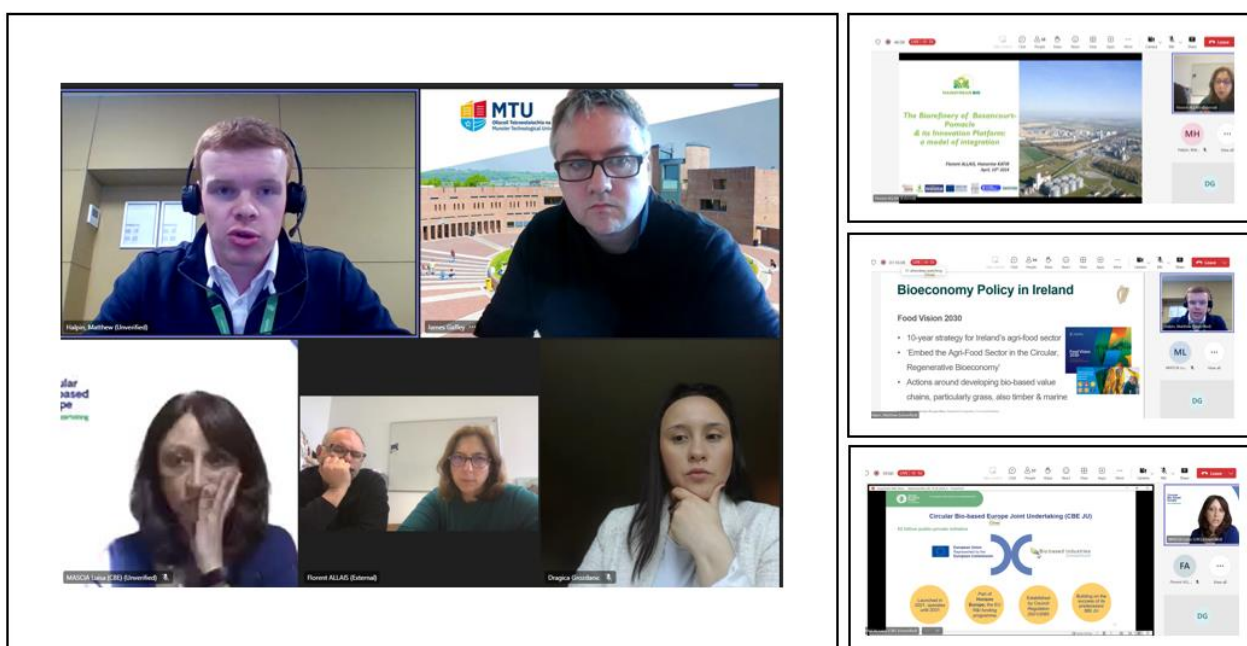


Figure 3. Snapshot of Webinar 1: Introduction to Circular Bioeconomy (10th of April 2024)

4.1.2 Webinar 2: Small scale bio-based solution for primary producers

The second webinar held on the 17th of April 2024 at 11:00 CET had an initial number of 87 registrants, yet the attendance was lower, with 54 registrants, indicating the importance of enhancing engagement strategies and optimize participation rates. The webinar aimed to underscore the significance and potential benefits of small-scale bio-based solutions within the bioeconomy,

particularly for rural actors. It highlighted innovative biotechnological solutions and their transformative impacts on various industries, emphasizing sustainability and economic growth in rural communities through practical case studies. Figure 4, Snapshot of Webinar 2: Small-Scale Bio-Based Solutions for Primary Producers (17th of April 2024) provides a visual overview of the webinar, capturing key moments and highlights.

The session covered diverse topics, starting with insights from Bert Annevelink of WR, who presented findings from the MainstreamBIO project's catalogue of bio-based solutions. This included a case study on small-scale anaerobic digestion in Ireland, showcasing practical applications and the development of a decision support methodology for biomass utilization.

Johan Sanders from Grassa introduced the Grassa biorefinery process, illustrating how it efficiently utilizes grass components to produce high-value protein and fibre products beneficial for livestock and organic farming.

Adrienne Nagy of Pilze-Nagy highlighted innovations in mushroom production, focusing on sustainable farming practices and the integration of a mushroom-biogas complex Agri system to minimize waste and generate renewable energy.

Alvan Hunt from Hexafly explored the emerging field of insect-based proteins, emphasizing their nutritional value and environmental benefits as a sustainable alternative feed source.

The stakeholder feedback for Webinar 2 (Small-scale bio-based solutions for primary producers) shows a diverse range of participants, with a strong presence of researchers, like in the 1st webinar. Out of the 87 registrants, 43 were Researchers (approximately 48%), indicating significant interest from the academic and research community. Participants from NGO/Society followed, accounting for 21 registrants (about 23%), Industry representatives made up 17 registrants (around 19%), reflecting substantial engagement from the commercial sector. There were also seven Primary Producers making an average approximately at 8%, while only 3 Government/Polycymakers registered (3%), highlighting the slightly lower but important interest from primary production stakeholders and public authorities. Several participants identified with multiple stakeholder groups, emphasizing the interdisciplinary nature of the bio-based solutions discussed. This distribution underscores the webinar's broad appeal across various sectors, with a notable emphasis on research and societal involvement.

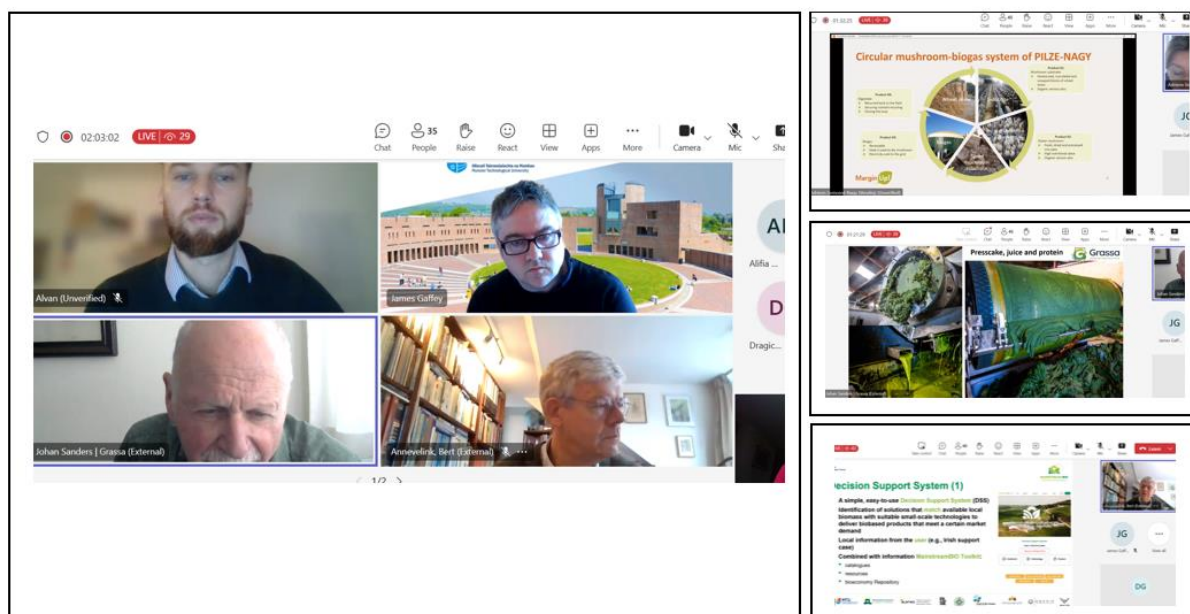


Figure 4. Snapshot of Webinar 2: Small-Scale Bio-Based Solutions for Primary Producers (17th of April 2024)

4.1.3 Webinar 3: Nutrient recycling solutions for primary producers

Webinar 3, held on April 24th, 2024, at 11:00 CET, drew a significant interest with 88 registrants, With an actual attendance of 63. This indicates a strong engagement level, with opportunities to optimize participation rates and enhance the impact of future sessions. The webinar aimed to provide primary producers with new insights, practical tools and actionable practices for effective nutrient management and recycling, emphasizing sustainable agricultural practices to improve soil health and productivity. Figure 5, Snapshot of Webinar 3: Nutrient Recycling Solutions for Primary Producers (24th of April 2024) provides a visual overview of the webinar, capturing key moments and highlights.

The session covered diverse topics related to nutrient recycling, starting with Piotr Skowron from IUNG presenting innovative approaches and technologies such as composting, anaerobic digestion and charcoal production. These methods were explored for their potential to enhance nutrient use efficiency and promote environmental sustainability in agriculture. Additionally, the webinar discussed the Mainstream BIO toolkit platform, offering participants ongoing access to data and resources for implementing nutrient recycling practices.

Stephen Nolan of GlasPort Bio highlighted innovations in slurry management, showcasing practical examples of slurry additive technologies that stabilise nutrients and reduce greenhouse gas emissions. These solutions aim to maximise the value of slurry as a resource for soil fertility and renewable energy production, addressing environmental challenges while optimising agricultural productivity.

Henry Lyons from Nutramara delved into the production and applications of bio stimulants derived from marine resources, particularly seaweed. These bio stimulants are designed to enhance plant growth, improve resilience to stress and increase overall crop yields, leveraging sustainable biomaterials from marine environments.

The Stakeholder feedback for Webinar 3, “Nutrient Recycling Solutions for Primary Producers”, showed diverse participation, with a strong representation from the research community. Of the 88 registrants, 59% were Researchers, highlighting significant academic interest. Industry stakeholders made up 16%, NGO/Society participants 8%, and Primary Producers 14%, reflecting broad sector engagement. Government/Polymakers accounted for 3%, underscoring the role of public policy. Some participants identified with multiple groups, emphasizing the interdisciplinary nature of nutrient recycling initiatives. This distribution reflects the webinar's wide appeal and the critical involvement of diverse stakeholders in promoting sustainable practices.

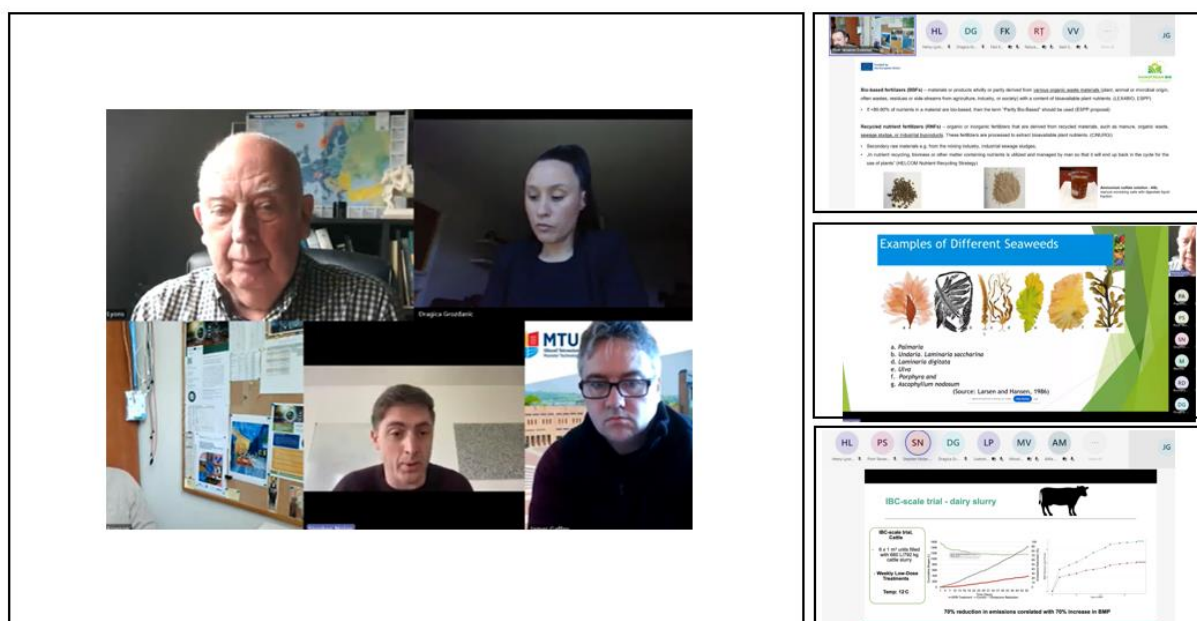


Figure 5. Snapshot of Webinar 3: Nutrient Recycling Solutions for Primary Producers (24th of April 2024)

4.1.4 Webinar 4: Opportunities for circular bioeconomy to improve the environmental sustainability of primary production

Webinar 4, held on April 30th, 2024 at 11:00 CET, explored the principles of the circular bioeconomy and their potential to reduce waste in agriculture and forestry industries while optimizing resource use. The webinar aimed to underscore the strategic importance of circular bioeconomy practices in enhancing resilience and environmental stewardship within primary production systems. Despite attracting 78 registrants, the attendance was significantly lower with only 30 participants, showing, once again, the need to enhance engagement and participation for future sessions. Figure 6, Snapshot of Webinar 4: Opportunities for circular bioeconomy to improve the environmental sustainability of Primary Production (30th of April 2024) provides a visual overview of the webinar, capturing key moments and highlights.

David Styles, Associate Professor in Agri-Sustainability at the National University of Galway, Ireland, discussed the complexities surrounding bio-based value chains and the environmental considerations associated with feedstock choices and value chain configurations. His presentation highlighted the need for net-zero compatible bio-based value chains, emphasizing factors like efficient land use, carbon storage and product substitution to maximize environmental benefits.

Katrin Jõgi, Sustainability Manager at Fibenol, provided insights into innovative solutions within the forest bioeconomy, focusing on technologies such as Fibenols Sunburst for adding value to wood processing and forestry residues. While showcasing use cases like biosurfactants from cellulosic sugars, the presentation underscored opportunities for integrating sustainable practices in wood-based chemical production.

Robert Harmoinen, Development Manager at Valio Ltd, explored the development of sustainable bioeconomy models for dairy cooperatives, particularly highlighting the climate and economic impacts of agricultural feedstock-based biogas production in Finnish dairy operations. The presentation demonstrated Valio's efforts to scale up biogas production to enhance sustainability within the dairy sector.

The attendee profile for the webinar “Opportunities for Circular Bioeconomy to Improve the Environmental Sustainability of Primary Production” was diverse, with a strong emphasis on academic participation. Of the 78 registrants, 67% were Researchers, 15% were Industry stakeholders, 11% represented NGO/Society organizations, 8% were Primary Producers, and 4% were Government/Policy makers. This distribution illustrates the broad appeal of the webinar and the importance of engaging various sectors in discussions on sustainable practices in primary production.

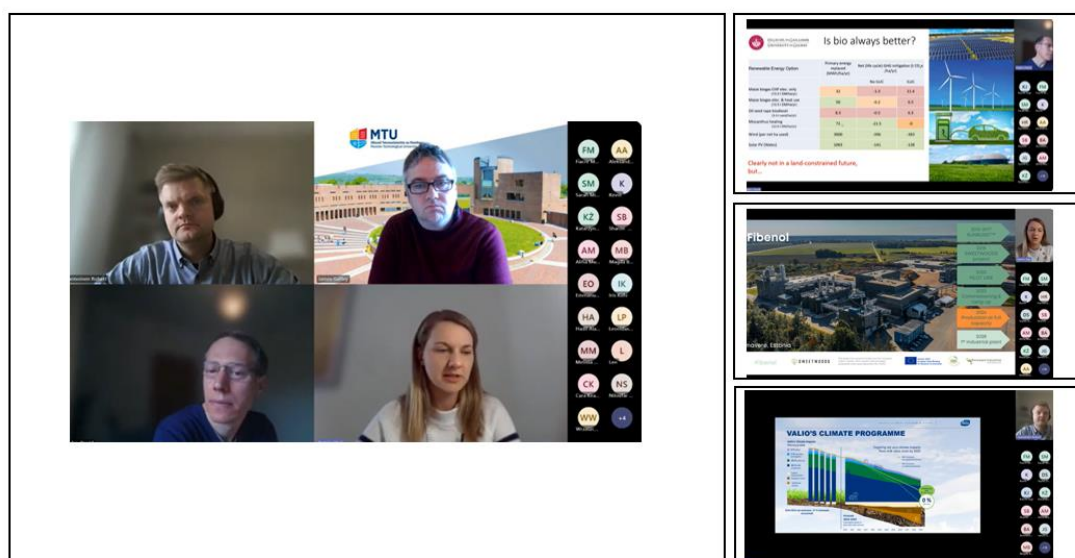


Figure 6. Snapshot of Webinar 4: Opportunities for circular bioeconomy to improve the environmental sustainability of Primary Production (30th of April 2024)

4.1.5 Business model and social innovations for promoting bioeconomy development in rural and coastal regions

Webinar 5, held on May 8th, 2024, at 11:00 CET, aimed to showcase good practices in social innovations and bio-based business models within the bioeconomy sector, focusing on their potential to enhance economic resilience and promote environmentally sustainable development in rural and coastal areas. Despite attracting 74 registrants, the attendance was again lower with 39 participants, indicating, similar as in previous webinar's, the need to improve engagement and participation in future sessions. Figure 7, Snapshot of Webinar 5: Business model and social innovations for

promoting bioeconomy development in rural and coastal regions (8th of May 2024) provides a visual overview of the webinar, capturing key moments and highlights.

Anastasios Galatsopoulos, Project Manager at WHITE, presented insights related to social innovations in the bioeconomy, emphasizing their role in addressing social and environmental challenges while fostering economic opportunities. His discussion highlighted the MainstreamBIO project's role in identifying effective social innovation practices that integrate diverse stakeholders and disciplines to create sustainable solutions for rural communities.

Beatriz Deltoro, Innovation Consultant at Innovarum, discussed various bio-based business models implemented in rural areas, showcasing successful strategies and common trends essential for promoting and adopting bioeconomy initiatives. Her presentation underscored the importance of profitable business models in driving the widespread adoption of bio-based solutions for sustainable rural development.

Maider Gómez Palmero, Project Manager at CIRCE - Technological centre, provided an overview of the BRILIAN project, an EU initiative aimed at advancing sustainability through innovative bioeconomy practices. Her presentation outlined the project's goals, methodology, challenges encountered and anticipated impacts, offering valuable insights into future bioeconomy developments.

James Cogan, EU Government Affairs, Industry & Policy Director at ClonBio Group, explored the transformative impact of Pannonia Biorefinery's sustainable processing strategies on rural economies. His presentation showcased how Pannonia utilizes locally sourced biomass to produce biofuels and bioplastics, thereby reducing reliance on fossil fuels and fostering economic growth in rural communities.

Stakeholder feedback for Webinar 5, "Business Model and Social Innovations for Promoting Bioeconomy Development in Rural and Coastal Regions", revealed strong and diverse participation. Of the 75 registrants, 63% were Researchers, indicating predominant interest from the academic and research sectors. Industry stakeholders made up 16%, while NGO/Society participants accounted for 13%, reflecting substantial engagement from both the commercial sector and non-governmental organizations. Primary Producers comprised 9%, demonstrating their direct interest in the topic, and Government/Polymakers made up 8%, highlighting the role of governance in bioeconomy development. This diverse representation underscores the broad appeal and relevance of the webinar, attracting a wide range of stakeholders essential for promoting sustainable bioeconomic practices in rural and coastal areas.

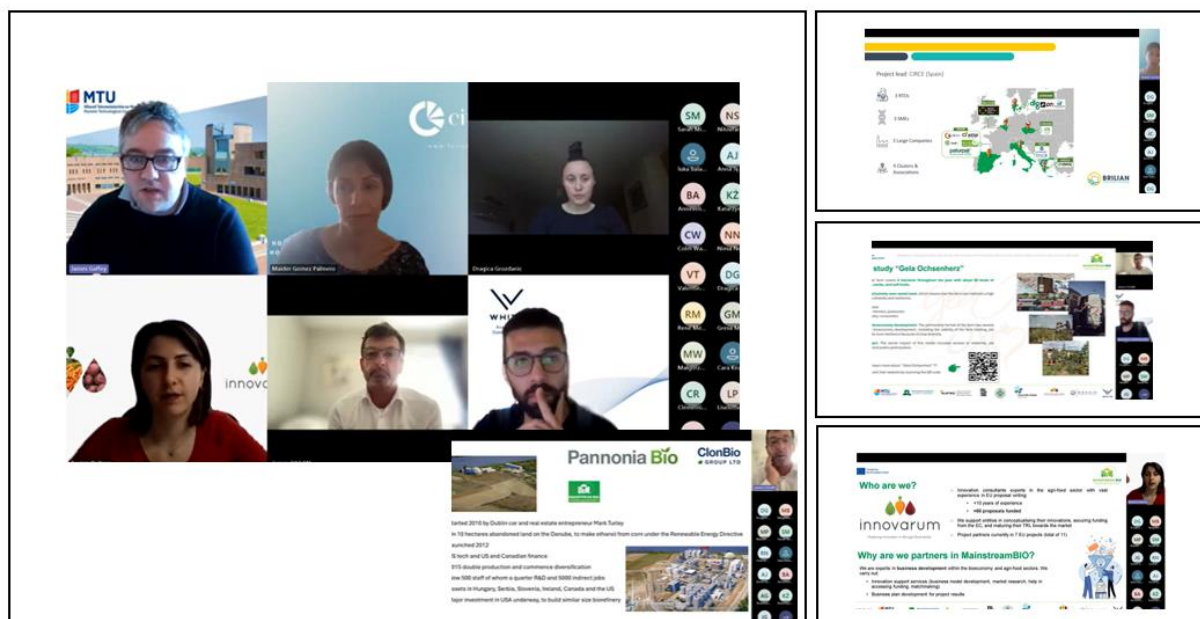


Figure 7. Snapshot of Webinar 5: Business model and social innovations for promoting bioeconomy development in rural and coastal regions (8th of May 2024)

4.1.6 Bioeconomy tools to support primary producer participation in the bioeconomy

Webinar 6, held on May 16th, 2024, at 11:00 CET aimed to explore the concept of digital bioeconomy tools and their potential to empower primary producers while enhancing their participation in sustainable practices within the bioeconomy. Attendance was again lower than expected (37 participants vs 67 registrants), showing room for improvement in engagement strategies to optimize participation and impact. Figure 8, Snapshot of Webinar 6: Bioeconomy tools to support primary producer participation in the bioeconomy (16th of May 2024) provides a visual overview of the webinar, capturing key moments and highlights.

Evangelia Tsagaraki, Project Manager at Q-PLAN, presented insights into the MainstreamBIO Digital Toolkit, emphasizing its role in supporting biomass producers in rural areas with practical tools and information. Her presentation highlighted the toolkit's functionalities, including matching biomass with technologies, sharing best practices and accessing educational resources to leverage bioeconomy opportunities effectively.

Małgorzata Wydra, EU Project Coordinator at IUNG, introduced the BioRURAL toolkit, an online platform designed to facilitate knowledge exchange and access to bioeconomy resources across EU countries. Her discussion focused on the toolkit's functionalities, available material and opportunities for stakeholders to engage and collaborate in advancing bioeconomy initiatives.

Patricia Rojas and Robert Logan, Project Manager and Head of Co-op Development at SAOS, respectively, discussed the pivotal role of cooperatives in supporting primary producers' engagement in the bioeconomy. Their presentation underscored how cooperative structures can empower farmers by fostering collaboration, enhancing knowledge sharing and facilitating access to bio-based initiatives for sustainable rural development.

Ana Casillas, Innovation Consultant at Innovarum, addressed financing mechanisms for bioeconomy projects in rural regions. Her presentation emphasized the importance of combining funding sources and providing accessible information to support local bioeconomy initiatives effectively. She highlighted practical examples and strategies for leveraging available funding opportunities to drive innovation and economic growth in rural communities.

Stakeholder feedback for Webinar 6, “Bioeconomy Tools to Support Primary Producer Participation in the Bioeconomy”, showed a wide variety of participants, with a notable presence of researchers. Of the 68 registrants, 59% were Researchers, indicating strong interest from the academic sector. Industry stakeholders and NGO/Society participants each made up 15%, reflecting significant engagement from both the business community and non-governmental organizations. Primary Producers accounted for 9%, underscoring their direct interest, while Government/Polymakers made up 7%, highlighting the role of governance in bioeconomy initiatives. This distribution underscores the broad appeal and essential involvement of diverse stakeholders in promoting primary producer participation in the bioeconomy, emphasizing the need for interdisciplinary collaboration and supportive tools.

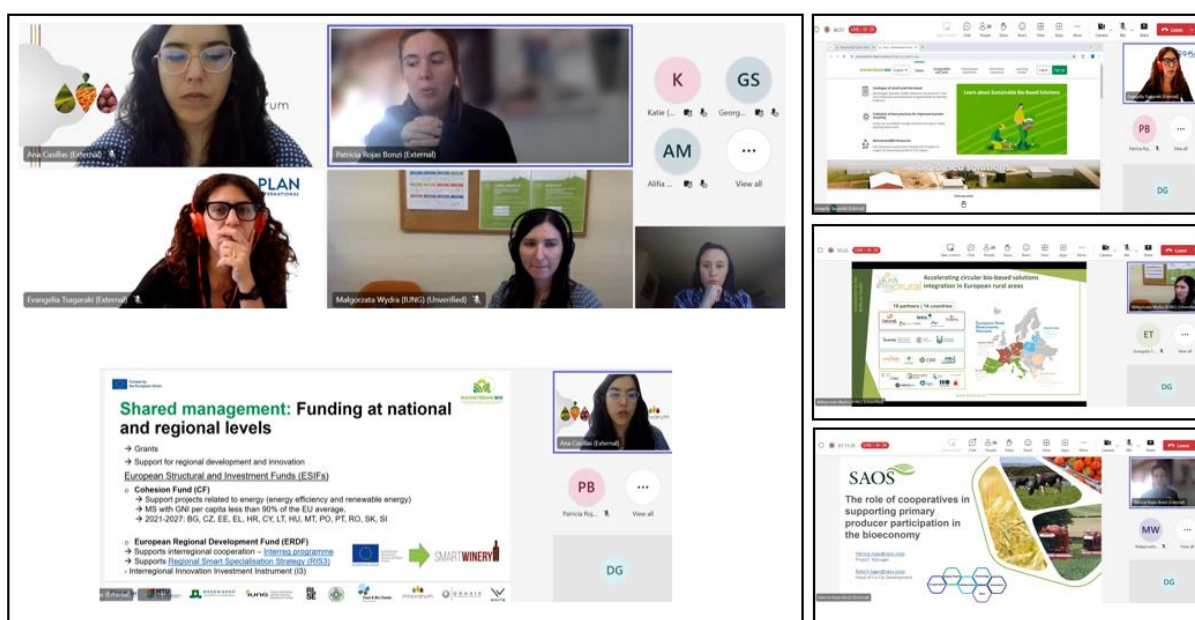


Figure 8. Snapshot of Webinar 6: Bioeconomy tools to support primary producer participation in the bioeconomy (16th of May 2024)

5. REGIONAL CAMPAIGNS AND ACTIVITIES

5.1 INTRODUCTION TO REGIONAL CAMPAIGNS AND ACTIVITIES

The MainstreamBIO project conducted a series of regional in-person campaigns from February until the end of June 2024, in seven European countries: Ireland, Spain, Bulgaria, Sweden, the Netherlands, Denmark and Poland. Through several regional online activities, the campaigns aimed to directly engage rural communities in the bioeconomy movement. The campaign activities included a press release distributed through relevant media outlets to ensure broad public awareness and media coverage, a blog post published on the organization's website to provide more details about the campaigns, and a dynamic, real-time information-sharing social media campaign to highlight the upcoming event and encourage community involvement. Through these coordinated efforts, the regional in-person campaigns aimed to effectively connect with diverse audiences, fostering a deeper understanding of and active participation in the bioeconomy.

5.1.1 *Bulgarian Campaign: South Central, Bulgaria*

The Bulgarian Regional Event, titled "Awareness on the Bioeconomy and Social Innovation for Rural Development of South-Central Region", organized by AUP, took place on February 23rd, 2024, at the Hilton Hotel in Plovdiv. This event aimed to educate and engage farmers and rural communities, including Local Action Groups (LAGs), NGOs and AgroHubs, focusing on the benefits of bioeconomy and social innovations in agriculture and rural development.

With 20 participants, including farmers and rural community members, the in-person event was conducted as a workshop with keynote talks (Figure 9). Promotion was carried out through the AUP website and through direct outreach to stakeholders, such as the Municipality of Plovdiv, OPORA ZADEN LTD, the Centre of Plant Systems Biology and Biotechnology, the Energy Agency of Plovdiv, BIOSELENA, the Tourism Advisory Council at Plovdiv Municipality, the Bulgarian Greenhouse Producers Association and the Bulgarian National Association for Essential Oils, Perfumery and Cosmetics. Promotional materials included leaflets, brochures and a roll-up banner of the MainstreamBIO project.

The agenda included registration, a presentation on the MainstreamBIO project, discussions on the regional benefits of bioeconomy and insights into local social innovations by projects like COOPID and BIOLOC. Lunch provided networking opportunities, followed by presentations on successful regional social innovation examples and a concluding discussion session. Key topics discussed included bioeconomy and social innovation in the South-Central Region (SCR), successful stories of social innovation such as the NGO "The Land – Source of Income", and circular bioeconomy practices exemplified by Victor Asenov's farm.

Keynote speakers included Prof. Vladislav Popov, PhD, who discussed the potential for rural development in the South-Central Region of Bulgaria; Prof. Petar Borisov, PhD, who shared examples from the COOPID and BIOLOC projects; Krum Hristov, who presented several cases of social innovations; and Victor Asenov, who introduced his high-tech farm based on a circular bioeconomy approach. Panel discussions and workshops covered topics such as the potential for rural development in SCR, results from Task 1.3 of the MainstreamBIO and BIOLOC projects and cooperation for better bioeconomy practices from the COOPID project.

Key findings and recommendations included the need for a national strategy for bioeconomy, more intensive stakeholder cooperation and the presentation of more successful stories for better knowledge transfer. Additional resources included links to presentation slides, photographs and

event recordings, which were available on a dedicated platform and social networks. The regional activity for the MainstreamBIO event was carried out effectively, with detailed information shared through a news article on the Agricultural University of Plovdiv's website. This article highlighted the event's objectives and outcomes, emphasizing the event's significance in promoting bioeconomy initiatives. The comprehensive coverage provided insights into the event's key discussions and future plans, engaging the local community and stakeholders. The full article can be accessed [here](#). The event was deemed successful, meeting its objectives and facilitating high-quality discussions on bioeconomy and social innovation.



Figure 9. Regional In-Person Event in Plovdiv on 23rd of February 2024

5.1.2 Spanish Campaign: Valle del Ebro region of Spain

The Spanish Regional Event, titled "Bioeconomy in rural areas – What can it bring to farmers and rural communities?", was organized by the Livestock and Commercial Fair of Valderrobres and took place on May 4th and 5th, 2024, in Valderrobres (Teruel), Aragon – Ebro Valley region. This in-person event aimed to raise awareness about the bioeconomy's potential in rural areas, focusing on showcasing business opportunities for farmers and highlighting socio-economic and environmental benefits. The event catered to 24 participants from the rural community and primary producers. Key topics included an introduction to the bioeconomy, small-scale bio-based solutions, nutrient recycling, circular bioeconomy opportunities, business models, social innovations, and bioeconomy tools to support primary producers. Activities included presentations on bioeconomy applications, an exhibition of rural bioeconomy models, and a local product tasting session. MainstreamBIO participated through a stand where continuous talks were held to educate attendees about bioeconomy. Representatives from Innovarum, Ana Casillas and Beatriz Deltoro, engaged attendees by providing short talks on bioeconomy, guided by topics from the webinar series and supported by translated factsheets presented as brochures (Figure 10). After these talks, a short quiz (two to three questions) assessed participants' understanding and participants were gifted a free cloth bag featuring the MainstreamBIO logo and containing dissemination materials.

The key topics covered during the event were based on the topics of webinar series, focusing on the key characteristics of the bioeconomy, its benefits to small-scale solutions, examples of nutrient recycling, the advantages of using bio-based products and bio-based business models. EU efforts

to support the bioeconomy and MainstreamBIO's solutions like the digital toolkit and services were also discussed.

Key findings from the event highlighted the success of coupling the awareness raising event with an existing traditional fair, which added significant value by drawing in the main target audience—primary producers. Women were notably more engaged, asking questions and discussing, which highlighted the potential for promoting a more inclusive bioeconomy. While some attendees were initially sceptical about the EU's role in the bioeconomy, the detailed information provided by MainstreamBIO helped alleviate their concerns. The event also highlighted regional challenges, such as the fire hazard due to low forest maintenance, shaping how the project will engage stakeholders in the Spanish focus area.

The event was promoted through Innovarum's social media channels and onsite posters by the Valderrobres Town Council. No registration was required due to the fair's open nature. The regional activity to promote campaign included a detailed blog post on Innovarum's website, highlighting the event's impact and key outcomes, along with multiple posts on LinkedIn and Twitter (X). This multi-platform approach ensured wide visibility and engagement across different online communities. Promotional materials included a tryptic with key topic information, a flyer about MainstreamBIO efforts, and project cloth bags. Overall, the event effectively spread knowledge about the bioeconomy and reduced reluctance toward EU-related initiatives.

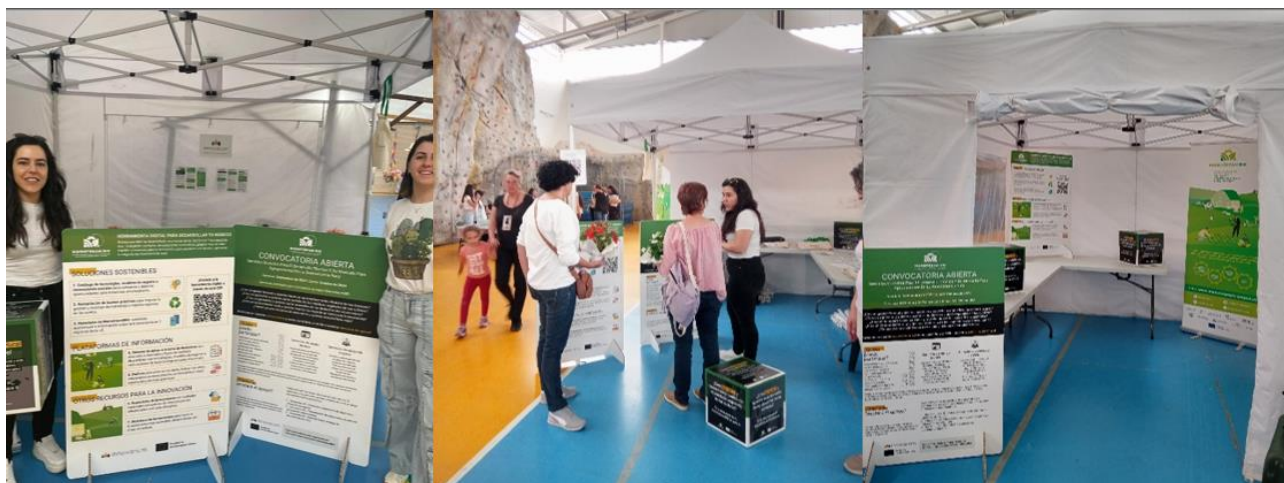


Figure 10. Regional In-Person Event Held in Valderrobres on the 4th and 5th of May 2024

5.1.3 Polish Campaign: Lubelskie region of Poland

The event "Innowacyjne Praktyki Odzyskiwania Składników Odżywczych" (Innovative nutrient recovery practices) was held on the 23rd of June 2024 at the Lublin agricultural advisory centre in Końskowola (Lodr) and its agricultural experimental station (Figure 11). The event was hosted by Lubelski Ośrodek Doradztwa Rolniczego w Końskowoli and organized as a satellite event to a large agricultural exhibition. It attracted over 1,000 participants, including 40 attendees that visited the stand, such as farmers, farm advisors, students and citizens. The event featured The Island of Innovation, the 2nd National Exhibition of Sandomierz Goats, animal and agricultural machinery shows, field demonstrations, apiary advice, educational pens and artistic performances.

The MainstreamBIO team engaged the audience with presentations on nutrient recovery followed by discussions and visits to the LODR implementation fields. The speakers included Dr. hab. Magdalena Borzęcka, who discussed the possibilities of using digital tools in MainstreamBIO, Dr.

Piotr Skowron, who presented nutrient recovery practices and Dr. Damian Wach, who shared experiences on the agronomic effectiveness of RNF fertilizers (recycled nutrient fertilizers). Participants showed keen interest in tools supporting bioeconomy development and the MainstreamBIO tool for investment planning, with lively discussions about new fertilizers produced from manure and sewage treatment plants. The national assessment process of these fertilizers by IUNG also attracted significant interest.

Key findings and recommendations included the importance of spreading knowledge about the positive effects of using RENURE fertilizers, which can replace synthetic nitrogen fertilizers and reduce CO₂ emissions. The event's success was evident through its objectives and the quality of discussions held. The annual LODR Open Days attract diverse stakeholders, from ministry representatives to young society members. The exhibition of agricultural equipment and consultancy sessions provided participants with opportunities to improve their knowledge and exchange experiences. The stands of the Rural Women's Circles from the Lublin Voivodeship were particularly popular for their appealing taste, aroma and appearance. Lectures by MainstreamBIO's partners and visits to nearby experimental fields enhanced the event, offering stakeholders valuable knowledge and insights. The promotional campaign was organized by LODR with support and reposting by IUNG. Various social media campaigns were carried out, with posts published on LODR's Facebook page to report on events and share relevant information. The campaign included several Facebook posts, which can be accessed through the following links: [Post 1](#), [Event 1](#), [Share 1](#) and [Share 2](#). The promotional materials used on the event were leaflets, brochures and roll banners (Figure 11).



Figure 11. Regional In-Person Event in Poland on 23rd of June 2024

5.1.4 Danish Campaign: Midtjylland, Denmark

The in-person event "TEMADAG OM REDUCERET JORDBEARBEJDNING – CONSERVATION AGRICULTURE FIELD VISIT" was held on the 18th of March 2024 at Molbo Agro, Vester Velling in Denmark. The event was organized by Food & Bio Cluster Denmark (FBCD) in collaboration with Molbo Agro and FRDK (Figure 12). The event aimed to raise awareness about the benefits of reduced tillage and conservation agriculture for farms, including sustainability, biodiversity, soil health and reduced greenhouse gas emissions. With 30 participants and 35 attendees, including

agricultural students, environmental managers, advisors and farmers, the event featured key talks and field demonstrations.

Key topics discussed were no tillage system, conservation agriculture and reduced machinery costs and improved operation costs on farm level. The distinguished panel of speakers included Martin Molbo (Chief Executive Officer (CEO)), who emphasized the importance of earthworms for soil health and the benefits of reduced machinery use and Søren Søndergaard, a crop advisor for FRDK, who highlighted the importance of planning crop rotation to optimize cultivation conditions and yield.

Panel discussions and workshops demonstrated the effects of minimal soil disturbance via the practise of conservation agriculture by using a soil auger and a shovel to investigate and compare the soil in the field as well as lanes in the field. The soil in the field compared to the lanes used for machinery clearly showed difference in these different areas both in compactness and in smell. The transition from conventional to no tillage/conservation agriculture was discussed, highlighting the need for patience and the future benefits of incorporating sustainable practices.

Key findings and recommendations included the importance and mindset of adapting to reduced tillage, the various setups for implementing reduced tillage and the advice to sell the plough and minimize soil disturbance.

Promotional activities for the event were conducted via LinkedIn and the FBCD homepage and event calendar by FBCD, with provided direct link for registration. Invitations were also sent directly to the environmental departments of local municipalities and the local agricultural college, aiming to engage with young farmers. The regional online activity was carried out through a coordinated effort involving multiple communication channels. Information on the in-person event was disseminated via LinkedIn posts, engaging a broad audience on social media. Additionally, detailed articles were published in the newsletters of both Foreningen for Reduceret Jordbearbejdning i Danmark (FRDK) and Food & Bio Cluster Denmark (FBCD), highlighting the event's objectives and outcomes. Promotional materials such as leaflets and project introductions were used for the event. The event was characterised as a very insightful day with a very engaged audience, especially for participants from the municipality.



Figure 12. Danish Regional In-Person Event on 18th of March 2024

5.1.5 Swedish Campaign: Middle and upper Norrland, Sweden

The MIP Region event in Sweden, titled "Utforska nya cirkulära bioekonomimöjligheter med BioReCer och MainstreamBIO", took place on June 13th, 2024, at Hörneborgsvägen 10, Domsjö. The event was organized by RISE, ran from 08:30 to 17:00 and targeted policy makers, business leaders, academics and social actors in the region (Figure 13). With an attendance of 30 stakeholders and six participants from PROC, the objective was to explore new bioeconomy opportunities presented by the sister European projects BioReCer and MainstreamBIO in the region.

It brought together policy makers, businesses, academia and social actors to discuss and identify needs, limitations and strategies for promoting bioeconomy initiatives and implementing project outcomes. Several speakers from BioReCer discussed key topics related to circularity indicators, track and traceability principles, and the BioReCer ICT Tool (BIT). The event began with a welcome session, followed by presentations from Pedro Villanueva Rey and Mariano Votta introducing BioReCer. Eliza Nika led a session on circularity frameworks for bio-based streams, and Sebelan Danishvar covered track and traceability principles. Romain Magnani presented the BioReCer ICT Tool. The morning concluded with remarks from Mariano Votta and Johan Börjesson. After lunch and a site visit, Verónica Benavente introduced MainstreamBIO and small-scale bio-based solutions, followed by a capacity-building workshop on the MainstreamBIO digital toolkit led by Pietro Bartocci. The event ended with closing remarks and a final visit to the Bioeconomy Arena.

The event concluded with closing remarks and additional networking opportunities. The event was partnered with the BioReCer Project and promoted by MainstreamBIO, RISE and BioReCer through a social media campaign. In an effort to enhance regional outreach and visibility, targeted social media campaign activities were undertaken. A specific social media campaign involved publishing a post on the LinkedIn page of Processum Biorefinery Cluster. The post reported on the event held on 13th of June and shared impressions following the meetings. The post can be accessed through the following link: [LinkedIn Post](#). By implementing this activity, the Swedish partner aimed to engage the local community, disseminate information effectively and foster connections within the industry. Promotional materials included the MainstreamBIO leaflet and banner (Figure 13). Registration details were available on the RISE website and the event was promoted through RISE Processum's bioeconomy awareness campaigns and BioReCer project channels. Registration information was gathered through a registration form available online. The key recommendation for future events is to centralize all consent forms and questionnaires for the event and decrease the number of questions to a rating format of 1-5 or brief selection of options in order to reduce the length of responses. In the case of Sweden, questionnaires to assess quality should be kept anonymous so that participants feel comfortable giving their opinions, comments and thoughts.



Figure 13. Swedish Regional In-Person Event on 13th of June 2024

5.1.6 Dutch Campaign: Flevoland and Friesland regions of Netherlands

The Regional event in the Netherlands, titled "Future Farm and Food Experience", organised by Corne Lugtenburg, took place on May 30th, 2024, in Lelystad. This annual event aimed to inform farmers, stakeholders and students about new developments relevant to arable farming and rural energy production. With an estimated attendance of 1,000-1,500 participants, the event featured a broad program including excursions to ACRRES bio-based installations and stands showcasing local bio-based production opportunities. The event highlighted how the MainstreamBIO project can support attendees' plans through its toolkits, webinars and service calls available on their website.

The event was hosted by WR and organized by ACRRES during the 3rd edition of the Future Farming & Food Experience (FFFE) Day. Speakers Rommie van der Weide and Stefan Hol contributed insights, supported by event partner ACRRES (Figure 14). The event attracted 1,300 visitors from which 400 of them were students while others were farmers, water board members, individuals interested in waste stream valorisation, policy makers and agri-food supply companies.

Thirty (30) attendees participated in the demonstration visits where two unique business cases of regional valorisation of side streams were presented. Rommie van der Weide demonstrated the process of utilizing residual grass to produce paper (GoGrass) and using pumpkins to produce beer (Pompoenbier), but also introduced the MainstreamBIO project aimed at facilitating these regional biobased activities.

The event featured several activities for attendees, these included stands from around 50 stakeholders, discussion sessions and 12 parallel question sessions. The event distributed 20 folders about the MainstreamBIO project. Attendees showed great interest, asking questions about machinery, other residual streams, products from grass or waste streams, policy implications and future services from MainstreamBIO. The availability of educational materials on the project website was also highlighted.

Registration was conducted through the <http://www.proeftuinprecisielandbouw.nl> website, although the event did not require prior registration and was free to attend. Promotion efforts led by Rianne Vinke included coverage in Farmers Weekly, websites and newsletters associated with Farm of the Future. Additional promotional materials such as project leaflets were distributed to further enhance outreach efforts. The event was also promoted on social media, LinkedIn and through various Dutch farming organization websites, as well as in farmers' magazines and journals. Promotional activities for regional outreach included a social media campaign, press releases in relevant media and blog posts on organizational websites. A notable LinkedIn post detailed the Future Farming & Food Experience, which can be viewed [here](#). Additional promotional materials were published on the websites of various Dutch agricultural organizations, including [Proeftuin Precisielandbouw](#), [Farm of the Future](#), and [AgriHolland](#). Overall, the event was well-received, with participants showing interest in waste stream valorisation and the MainstreamBIO project.



Figure 14. Dutch Regional In-Person Event held in Lelystad on 30th of May 2024

5.1.7 Irish Campaign: Southern Region of Ireland

The MIP Region event in Ireland, named the "Irish Rural Bioeconomy Event", organized by MTU, was scheduled for June 28th, 2024, spanning from 09:30 to 16:30. The event took place at the National Bioeconomy Campus in Lisheen, Tipperary and the Horse & Jockey Hotel in Kildare, Ireland. It targeted total of 20 participants, including primary producers, entrepreneurs, government policymakers, industry leaders, academia and researchers, aiming to foster a dynamic platform for knowledge sharing, networking and site visits. The event was focused on increasing awareness and understanding of the objectives, activities and impacts of mainstreaming small-scale biorefineries from the MainstreamBIO project's perspective and that of the RuralBioUp and CAP Network Ireland initiatives through interactive discussions, presentations and networking sessions. The agenda included a tour of the National Bioeconomy Campus in Lisheen, presentations at the Horse & Jockey Hotel, lunch and a visit to Green Generation facilities in Kildare (Figure 15). Registration was directly tailored to targeted participants and was available online. Key speakers such as Kevin Ryan, Dave Barry and Dragica Grozdanic contributed insights, supported by the event partners Irish Bioeconomy Foundation and CAP Network Ireland.

Key recommendations included the need for a stronger social media presence, providing more practical demonstrations and providing some additional information on the funding schemes.

In Ireland, the regional online activity was spearheaded by the MainstreamBIO project in collaboration with RuralBioUp, the Irish Bioeconomy Foundation, Cap Network Ireland and the Circular Bioeconomy research group at MTU. Through their social media platforms, including Twitter (X), LinkedIn and Facebook, they promoted the campaign. Their coordinated efforts ensured widespread dissemination of information and engaged a broad audience across various online channels, effectively raising awareness and fostering interest in the bioeconomy initiatives. The promotional materials used at the event include MainstreamBio leaflets and information sheets from the RuralBioUp project. The overall event was characterized as a highly educational site visit, featuring many inspiring and in situ examples of bioeconomy applications. This significantly increased interest and engagement among participants which resulted in fostering some connections between some stakeholders.



Figure 15. Irish Regional In-Person Event on 30th of June 2024

6. CAMPAIGN IMPACT AND FEEDBACK

The educational and awareness raising campaign, encompassing both webinars and in-person events, has yielded valuable insights and feedback. Participants across diverse sectors, including primary producers, policymakers, industry leaders, academia and researchers, have shown a heightened understanding of bioeconomy concepts and their potential impacts. The webinars were particularly effective in reaching a wide audience and providing accessible information on the relevance and impact of bioeconomy. The data gathered from the six webinars provides insightful findings on participation and engagement levels (Figure 16). Across these webinars, there were a total of 497 registrants (blue columns) and 304 attendees (green columns), representing a 61% overall attendance rate. The registration page views reached a cumulative total of 1,372, indicating strong initial interest in the events.

Webinar 1 had 103 registrants and 82 attendees, with 107 registration page views, showing a conversion rate from interest to actual attendance of approximately 80%. Webinar 2 saw a drop in attendance, with only 54 of the 87 registrants attending (62%) but had significantly higher registration page views (348 views), suggesting broader interest but lower follow-through. Webinar 3 had a slight increase in both registrants (88) and attendees (63) compared to Webinar 2, with an attendance rate of about 72%, along with a high number of registration page views (351), maintaining strong engagement levels. However, Webinar 4 experienced a notable decrease with 78 registrants and only 30 attendees (38%) and 107 registration page views, indicating a drop in both interest and attendance.

To maintain the interest and reach of the campaign, corrective measures were taken in cooperation with the partner responsible for communication and dissemination tasks. The engagement was boosted by sharing posts through personal social media networks, and the social networks of MTU, the Circular Bioeconomy Research Group and the networks of project partners, utilizing platforms such as Twitter (X), LinkedIn and Facebook. In addition, the frequency of these posts was increased to extend the reach to relevant audience with an interest in the bioeconomy. As a result, Webinar 5 saw an increase in registrants (74) but a decline in attendance (39), resulting in an attendance rate of around 53%, although the registration page views were high at 369, reflecting a continued interest but a challenge in converting registrants to attendees. Finally, Webinar 6 had 67 registrants and 37 attendees, with an attendance rate of 55% and 90 registration page views, showing a steady but lower level of engagement towards the end of the series.

Overall, the webinars were successful in attracting a high level of interest, but there was a varying degree of conversion to actual attendance. Since most of the webinar participants were researchers rather than the target audience identified in Section 3.3, the campaign will enhance outreach efforts by fostering stronger cooperation with primary producer groups. This highlights areas for potential improvement in engagement strategies, such as setting a particular day of the week for webinars to help establish a routine for attendees and facilitate their regular attendance. Furthermore, the importance of choosing topics highlighting stories of successful women and young professionals in the bioeconomy have to be considered, as these can be more attractive and relevant and can resonate with a wide range of audiences, including different genders and generations. This approach can lead to higher attendance and greater overall engagement in the webinar series.

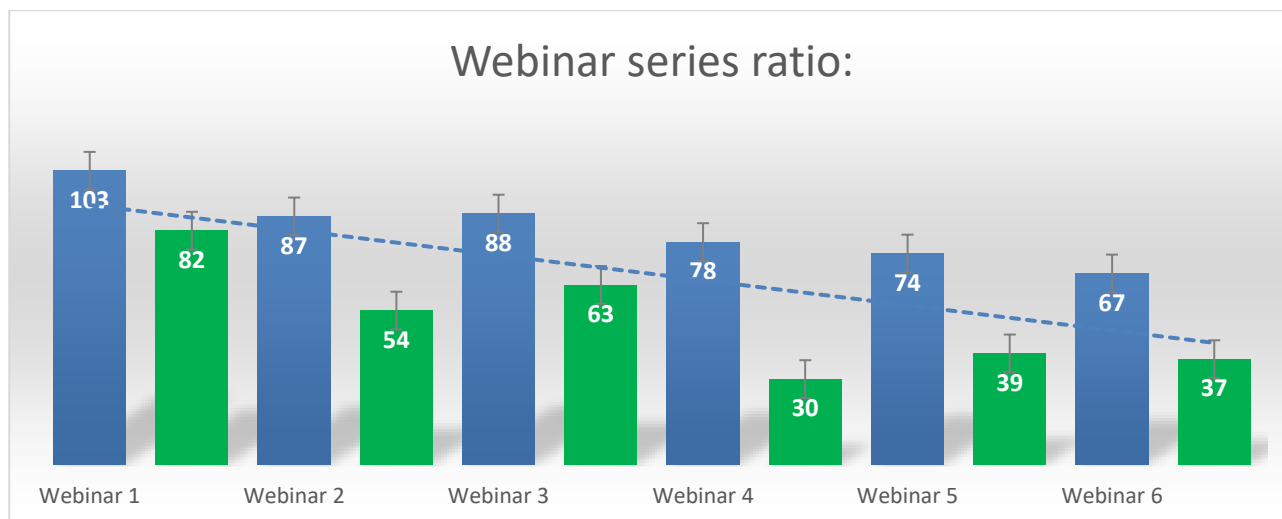


Figure 16. Webinar session participation ratio

From April 2024 to the end of May 2024, MainstreamBIO partners garnered a diverse range of responses from participants across various stakeholder groups, educational degrees, regions and gender. Throughout the campaign 49 responses were received in total. Among the 49 respondents, a significant majority, 25 individuals (approximately 51%), identified themselves as Academics or Researchers, highlighting strong interest and participation from the academic and research community. Business representatives from the agri-food and bio-based industries accounted for nine respondents (around 18%), indicating substantial engagement from the commercial sector. The "Other" category was represented by nine participants (approximately 18%), suggesting a variety of unique stakeholder interests not covered by the predefined categories. Civil Society members comprised five respondents (roughly 10%), reflecting the involvement of non-governmental and community organizations. Additionally, there were two respondents (about 4%) from government or policy-making bodies and one respondent (2%) identified as a biomass producer. This distribution underscores the broad appeal of the webinars across different sectors, with a predominant interest from academia and industry stakeholders. The gender attendance feedback for the webinar series shows a fairly balanced representation, with a slight male predominance. Out of the 49 respondents, 25 identified as male (approximately 51%) and 22 identified as female (about 45%). Additionally, there was one respondent who identified as Diverse/Non-binary (around 2%). This distribution highlights a significant participation from both male and female attendees, indicating an inclusive environment for diverse gender groups, although there is still a slight tilt towards male participation.

The highest engagement came from Ireland, with 18 responses, indicating a strong interest and active participation from this region. Greece and Croatia also showed notable involvement, each contributing seven responses. Other regions such as Denmark, Greece and Thailand had moderate engagement with two responses each, while the remaining countries, including Belgium, Bolivia, Cuba, Ecuador, France, Germany, Iceland, Indonesia, Poland, Romania and Spain, each had a single respondent. This distribution of responses highlights a widespread but varied interest in the webinar series, with some regions showing more significant engagement than others. Feedback highlighted the clarity and relevance of the webinar content, which enabled participants to grasp complex topics and explore practical applications in their respective fields.

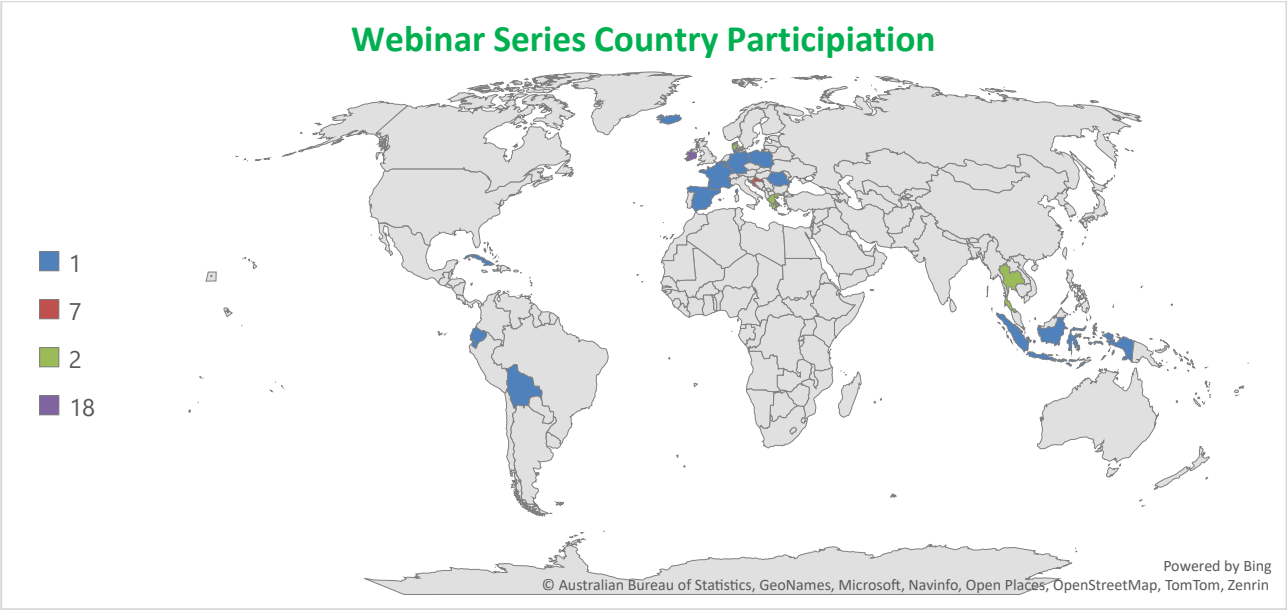


Figure 17. Regional Webinar Series Outreach

In-person events further enhanced engagement through interactive sessions, presentations by key speakers and networking opportunities, fostering community building and collaboration.

The MIP Regional campaign events saw varying levels of attendance across different countries, reflecting diverse interests and engagement levels. In total 200 people participated in these in-person events. Poland, which hosted a satellite event, had the highest turnout with 40 participants, demonstrating significant engagement in the region. Sweden, with a site visit that included talks and workshops, followed with 36 attendees. Both Denmark, that held a field visit, and the Netherlands, that organized a demonstration visit, had 30 attendees each, reflecting consistent participation levels. Spain's satellite event, part of the already existing Livestock and Commercial Fair, attracted 24 participants. Ireland's site visit and Bulgaria's workshop with keynote talks each had 20 attendees.

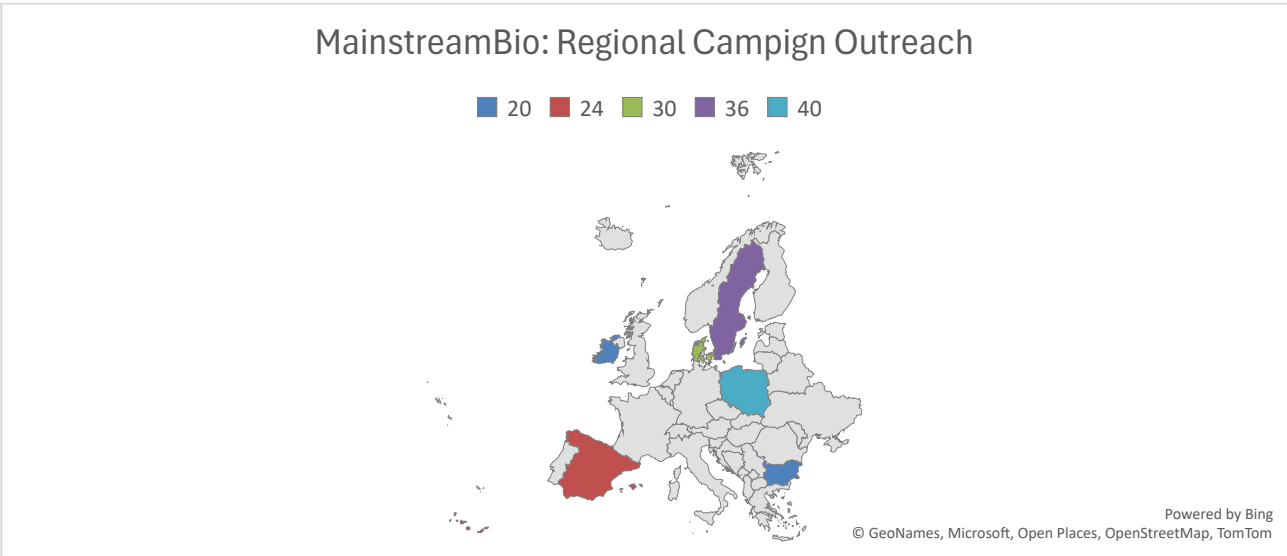


Figure 18. Regional Campaign Outreach

Comparing attendance based on the type of in-person event held, the satellite events in Poland and Spain saw varied turnout, with Poland's event attracting significantly more participants. Site visits, as seen in Sweden and Ireland, generally drew good interest, with Sweden's more comprehensive format (including talks and workshops) garnering higher attendance. Field visits and demonstration visits, like those in Denmark and the Netherlands, had similar and strong participation levels. Workshops, such as the one in Bulgaria, also maintained a steady engagement level. The total figure of 200 attendants, highlights the campaign's outreach in terms of attendance showing notable involvement in the campaign events, indicating a broad and active interest across different event formats within the MIP Region campaign.

Among the 17 respondents of the feedback survey at the in-person events, there were several government/policymakers/public authorities, academics/researchers, biomass producers, and others. Most respondents were men (71%), with only five women (29%). Educational achievements varied, with several holding doctorate or professional degrees (35%), many having master's degrees or equivalents (47%) and a few with bachelor's degrees or college education (12%). Three respondents had a high school diploma (18%). The feedback on the improvement of the campaigns came primarily from different regions in Ireland (10), with some responses from Denmark (3), Poland (3) and Sweden (1). Suggested improvements for the awareness raising campaign included increasing presence on social media, providing practical tangible examples, increasing income, enhancing social media communications and offering more information on open or upcoming grants and funding. Additionally, suggestions included bringing relevant stakeholders to on-site visits, holding events more frequently with varied topics and inviting more diverse and broader stakeholder groups.

One participant has been cooperating with MainstreamBIO since the beginning of the project, expanding their knowledge. They indicated that cooperation with the IUNG research unit in particular has provided opportunities for development and obtaining knowledge from the source. They have suggested a higher recurrence of these meetings, as the lectures are interesting and tackle questions not always related to the topic but that arouse the audience's interest. Moreover, they often participate in these types of meetings, which are very important, especially for farmers, expressing satisfaction in using these opportunities to expand their knowledge, particularly noting that the topic of organic fertilizers is becoming increasingly popular and gaining importance in Poland.

Generally, attendees appreciated the comprehensive approach to knowledge sharing and expressed satisfaction with the quality of information provided. Looking ahead, stakeholders emphasized the importance of continuing such initiatives to maintain momentum and deepen understanding within their communities. Suggestions included expanding digital outreach, diversifying content formats and tailoring sessions to address specific stakeholder interests and needs. This detailed feedback provides us with a valuable insight into how the next round of our campaign can be potentially improved to better meet the needs of different stakeholders.

Through the educational and awareness raising campaign dissemination activities, which included six webinars and seven in-person events, an estimated total of 505 stakeholders were reached and had their awareness enhanced. This figure comprises 305 participants from the webinars, which averaged 51 attendees each, and 200 participants from the in-person events, which averaged 29 attendees each. These figures highlight the campaigns significant outreach and its impact on stakeholder awareness across various regions. Overall, the campaign has successfully advanced awareness, education and collaboration in the realm of bioeconomy, paving the way for continued efforts toward more sustainable innovations.

7. NEXT STEP ON UPCOMING CAMPAIGN 2

In the upcoming Educational and Awareness Raising Campaign 2, significant enhancements are planned, to increase engagement and inclusivity, focusing particularly on mainstreaming small-scale bio-based solutions. This campaign will feature four impactful webinars, with a dedicated effort to include more youth and female participants. Additionally, another round of regional campaigns will be conducted, from October/November 2024 until January/February 2025. These regional events aim to build on the momentum of previous efforts, incorporating tailored content and interactive sessions that cater to the diverse needs of our stakeholders.

Preparing for Campaign 2, the next steps will strategically incorporate new initiatives to broaden impact and engagement. Moving forward, improving outreach strategies and refining content delivery based on participant feedback will be crucial to sustaining and expanding our audience engagement in upcoming webinars. The four webinars will deepen understanding and foster dialogue on bioeconomy innovations, showcasing successful case studies, practical applications and inspiring stories led by prominent figures in the field. Special emphasis will be placed on targeting youth and women in agriculture, highlighting their critical role in advancing bioeconomy initiatives.

Digital platforms will be leveraged extensively to ensure accessibility and encourage active participation from the target audience. Tailored outreach efforts are being planned through social media campaigns on LinkedIn, Twitter (X), and Facebook, especially for young generations in order to amplify the message and engage with a wider audience. Interactive elements such as Q&A sessions will be still integrated in order to enhance participant interaction and gather valuable feedback.

Furthermore, partnerships will be encouraged to foster greater involvement of young and future farmers, as well as women, in the bioeconomy sector to facilitate stronger ties and promote inclusive participation in bioeconomy discussions. These joint efforts can highlight the benefits of the bioeconomy sector, empowering these groups with the knowledge and resources needed to drive innovation and sustainability in agriculture.

Continuous evaluation and improvement of plans will remain integral throughout the campaign, ensuring responsiveness to the evolving needs and interests of our participants. This will include closely monitoring engagement metrics, such as registration numbers, attendance rates, and participant feedback, to assess the effectiveness of the strategies employed. Regular feedback from participants and partners will be solicited to identify areas for improvement, ensuring that the outreach strategies remain effective and responsive to the needs of the target audience in future webinars. By implementing these next steps, Campaign 2 aims to not only raise awareness but also inspire engagement among youth and women in agriculture, marine cosmetics, bio-based textile sector and others driving positive influence on change towards a more sustainable bio-based bioeconomy.

8. SUMMARY AND CONCLUSION

The awareness raising and educational campaign, encompassing both webinars and in-person events, has concluded with significant achievements and valuable insights. The primary goal of the campaign was to enhance understanding and promote engagement around bioeconomy concepts among diverse stakeholders, including primary producers, policymakers, industry leaders, academia and researchers.

The campaign commenced with a series of educative webinars that effectively conveyed the potential and benefits of bioeconomy innovations. With a total of 497 registrants and 305 attendees, representing a 61% overall attendance rate, these sessions not only showcased successful case studies but also provided practical insights into implementing bio-based solutions in various sectors. Registration page views reached 1,372, indicating strong initial interest. Participants praised the clarity and relevance of the content, highlighting its role in expanding their knowledge base and inspiring innovative thinking. While initial interest was high, the conversion to actual attendance varied, highlighting areas for improvement in engagement strategies.

From April to May, 2024, 49 feedback responses were collected from attendees who attended webinars. This feedback showed strong interest from academics (51%) and business representatives (18%), with significant participation from both male (51%) and female (45%) attendees. The highest engagement came from Ireland, with notable involvement from Greece, Croatia and other regions.

In-person events further enriched the campaign by fostering interactive discussions, presentations by key speakers, networking opportunities and site visits to bioeconomy facilities. These engagements facilitated deeper connections among stakeholders and encouraged collaborative efforts towards sustainable practices and economic growth. The MIP Region campaign saw varied attendance across countries, with Poland leading with 40 participants, followed by Sweden (36), Denmark and the Netherlands (30 each), Spain (24) and Ireland and Bulgaria (20 each). These events showcased a broad and active interest across different formats. Feedback highlighted the need for increased social media presence, practical examples, more information on grants and involving more diverse stakeholders.

Participants expressed enthusiasm for continuing these educational efforts, emphasizing the importance of ongoing dialogue and shared learning in advancing bioeconomy goals. Looking ahead, the success of this campaign underscores the importance of continued outreach and education in nurturing a supportive ecosystem for bioeconomy innovation. Future initiatives will build upon these foundations, leveraging digital platforms, targeted outreach to underrepresented groups like youth and women in agriculture and strengthened partnerships with key stakeholders to drive further progress.

Overall, the campaign successfully advanced awareness, education and collaboration in the bioeconomy, paving the way for continued innovation and sustainable development. Continuous evaluation and adaptation of strategies will ensure the campaign remains responsive to stakeholder needs, driving positive change towards a sustainable bio-based economy. By empowering a wider group of stakeholders with information and resources, we are paving the way for transformative change that benefits both current and future generations.




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10. APPENDIX

Table 2. Example of webinar agenda (Webinar 6)

Time	Topic	Speaker
11:00	Webinar introduction	Dragica Grozdanic Bioeconomy Research Munster Technological University
11:10	MainstreamBIO Findings: How can the MainstreamBIO toolbox support primary producers in rural regions?	Evangelia Tsagaraki Project Manager Q-PLAN
11:20	Introduction in the BioRURAL toolkit	Małgorzata Wydra EU project Coordinator IUNG
11:30	The role of cooperatives in supporting primary producer participation in the bioeconomy	Patricia Rojas/Robert Logan Project Manager/Head of Co-op Development SAOS
11:40	Financing bioeconomy in the rural regions	Ana Casillas Innovation Consultant Innovarum
11:50	Panel Discussion	All
12:00	Follow up session: Interactive Q&A Session and moderated discussion with the presenters	All
12:10	Webinar Closure	Dragica Grozdanic Bioeconomy Research Munster Technological University



Post Event Summary Report



EVENT NAME:
DATE OF THE EVENT:
LOCATION OF THE EVENT:
NO. OF PARTICIPANTS:
NO. OF ATTENDEES:
TYPE OF ATTENDEES:
HOST ORGANISATION:
CONTACT PERSON NAME:

BRIEF SUMMARY

This report provides a detailed overview of the Event (Name), held on Event (Dates) at (Location). Organized by (Organizing Body). The event aimed to...

MODE OF IN-PERSON EVENT

What mode was the event in? e.g., workshop with keynote talks, site visit with talks, farm walk with talks, Satellite event, others

PROMOTION OF EVENT

Described how the event was promoted, to what networks and the registration of participants

INTRODUCTION:

Regional Online Activity:

Which online activity was undertaken e.g., press release, social media campaign, blog (please include link)?

Regional Promotional materials used:

Leaflet, brochure, fact sheets/information sheets...

EVENT OVERVIEW:

Key Topics

- 1)
- 2)
- 3)

SESSIONS AND HIGHLIGHTS:

Speakers

Provide speakers names and the main points of their talks.

Panel Discussions and Workshops

Provide summaries of various panel discussions and workshops, including topics covered, panel participants names, professional background and key takeaways.

Highlight innovative Ideas and Solutions Presented (if applicable)?

KEY FINDINGS AND RECOMMENDATIONS

Provide a summary of the major findings and recommendations that developed from the event's discussions, including insights and future research recommendations.

ADDITIONAL RESOURCES

Provide links to presentation slides

Provide photographs

Provide link to event recordings (if applicable)

FEEDBACK AND PARTICIPANT IMPRESSIONS QUESTIONER FROM Q-PLAN

Collect the data from participants-The short questioner (5-6 questions) will be provided by Q-PLAN.

CONCLUSION

Indicate the success of the event, its objectives and the quality of discussions held.

APPENDIX

- Event Program
- List of Speakers and topics
- Contact Information for Further Inquiries

Figure 20. Post Event Summary Report

Date: _____

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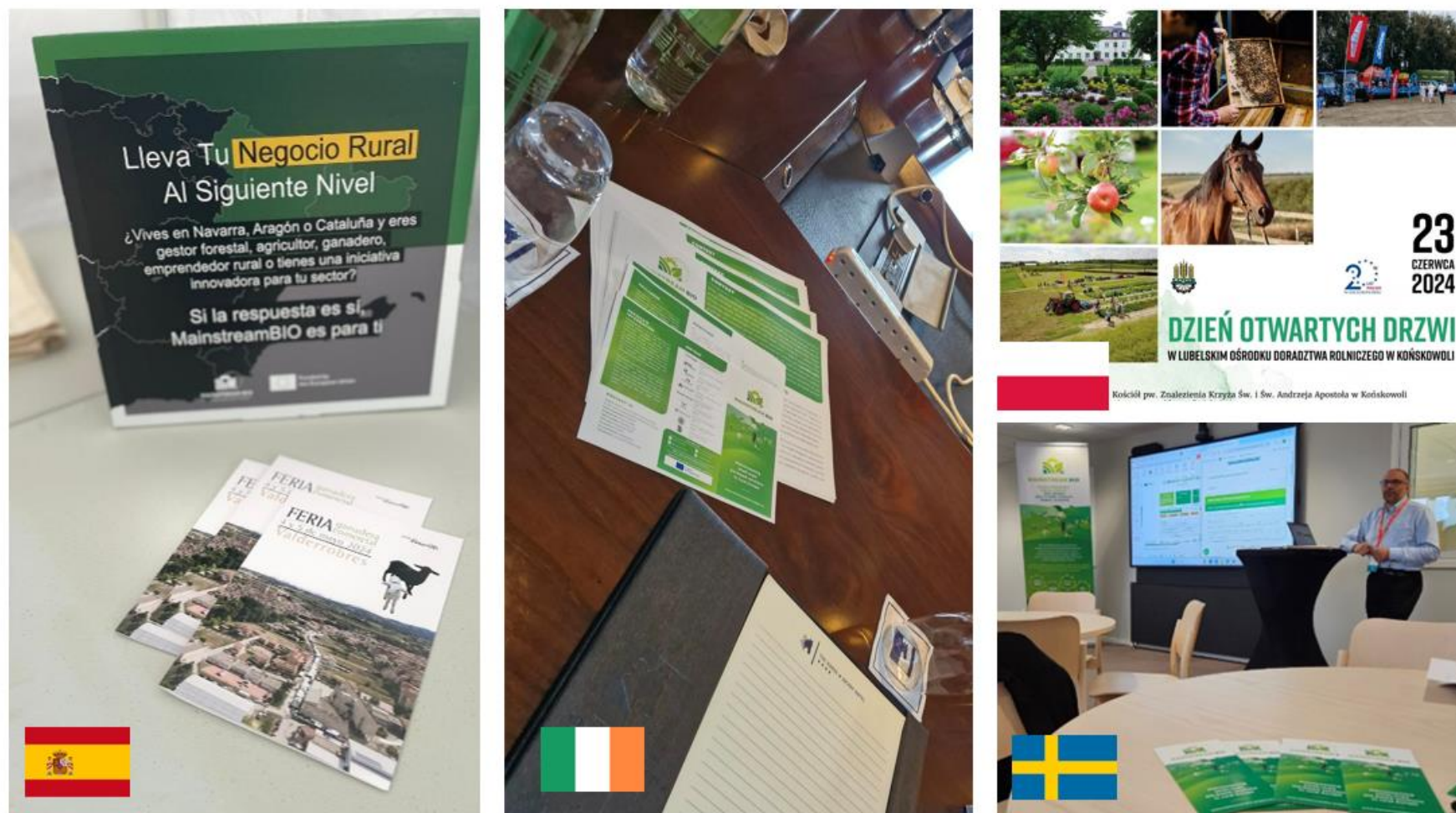


Figure 22. In-Person Event Flyer Examples from Awareness Raising Campaigns in Spain, Ireland, Poland, and Sweden













MAINSTREAM BIO

MAINSTREAMING SMALL-SCALE BIO-BASED SOLUTIONS ACROSS RURAL EUROPE

The project

MainstreamBIO is a Horizon Europe EU funded project, which sets out to get small-scale bio-based solutions into mainstream practice across rural Europe, providing a broader range of rural actors with the opportunity to engage in and speed up the development of the bioeconomy. Recognizing the paramount importance of bioeconomy for addressing key global environmental and societal challenges, MainstreamBIO develops regional Multi-actor Innovation Platforms in 7 EU countries (PL, DK, SE, BG, ES, IE & NL). The project aims to enhance cooperation among key rural players towards co-creating sustainable business model pathways in line with regional potentials and policy initiatives. MainstreamBIO supports 35 multi-actor partnerships to overcome barriers and get bio-based innovations to market with hands-on innovation support, accelerating the development of over 70 marketable bio-based products and services. Furthermore, the project develops and employs a digital toolkit to better match bio-based technologies, social innovations and good nutrient recycling practices with available biomass and market trends as well as to enhance understanding of the bioeconomy with a suite of educational resources building on existing research results and tools. To achieve these targets, MainstreamBIO involves 10 partners across Europe, coming from various fields. Thus, all partners combine their knowledge and experience to promote the growth of bioeconomy in a sustainable and inclusive manner.

Coordinator: **Q-PLAN INTERNATIONAL ADVISORS PC (Q-PLAN)**

Partner		Short Name
	Q-PLAN INTERNATIONAL ADVISORS PC	Q-PLAN
	MUNSTER TECHNOLOGICAL UNIVERSITY	MTU
	STICHTING WAGENINGEN RESEARCH	WR
	INSTYTUT UPRAWY NAWOZENIA I GLEBOZNAWSTWA, PANSTWOWY INSTYTUT BADAWCZY	IUNG
	RISE PROCESSUM AB	PROC
	AGRAREN UNIVERSITET - PLOVDIV	AUP
	FBCD AS	FBCD
	EURIZON SL	INN
	DRAXIS ENVIRONMENTAL SA	DRAXIS
	WHITE RESEARCH SPRL	WHITE

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MainstreamBIO



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MainstreamBIO Project



MainstreamBIO Horizon Europe