



# MAINSTREAM BIO

MAINSTREAMING SMALL-SCALE BIO-BASED  
SOLUTIONS ACROSS RURAL EUROPE

## D3.4

Report on awareness raising and education  
activities - Final version

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## TABLE OF CONTENTS

<b>Executive Summary .....</b>	<b>1</b>
<b>1. INTRODUCTION .....</b>	<b>3</b>
<b>2. BACKGROUND SUMMARY .....</b>	<b>6</b>
<b>3. METHODOLOGY .....</b>	<b>7</b>
<b>3.1 OVERVIEW AND OBJECTIVES OF EDUCATIONAL AND AWARENESS RAISING CAMPAIGN.....</b>	<b>7</b>
<b>3.2 INSIGHTS FROM PREVIOUS CAMPAIGNS AND MATERIALS (Power4Bio, BioRural and AgriforValor) .....</b>	<b>10</b>
<i>3.2.1 Conclusion from previous campaigns and materials.....</i>	<i>11</i>
<b>3.3 MAINSTREAMBIO APPROACH FOR ROUND 1 AND ROUND 2.....</b>	<b>12</b>
<i>3.3.1 Centralized materials: Webinar series (Round 1 and Round 2) .....</i>	<i>16</i>
<i>3.3.2 Regional campaign across seven EU countries (Round 1 and Round 2) .....</i>	<i>21</i>
<i>3.3.3 Outreach and dissemination (Round 1 and Round 2) .....</i>	<i>27</i>
<i>3.3.4 Method for collecting feedback (Round 1 and Round 2) .....</i>	<i>28</i>
<b>4. MAINSTREAMBIO WEBINAR SERIES: EXECUTION OF ROUND 1 AND ROUND 2 .....</b>	<b>30</b>
<b>4.1 OVERVIEW OF WEBINAR SERIES .....</b>	<b>30</b>
<b>4.2 ROUND 1 WEBINARS (INITIAL SERIES).....</b>	<b>30</b>
<i>4.2.1 Introduction to circular bioeconomy .....</i>	<i>31</i>
<i>4.2.2 Small scale bio-based solution for primary producers.....</i>	<i>33</i>
<i>4.2.3 Nutrient recycling solutions for primary producers .....</i>	<i>34</i>
<i>4.2.4 Opportunities for circular bioeconomy to improve the environmental sustainability of primary production.....</i>	<i>36</i>
<i>4.2.5 Business model and social innovations for promoting bioeconomy development in rural and coastal regions.....</i>	<i>37</i>
<i>4.2.6 Bioeconomy tools to support primary producer participation in the bioeconomy</i>	<i>39</i>
<b>4.3 ROUND 2 WEBINARS (EXPANDED SERIES) .....</b>	<b>41</b>
<i>4.3.1 Empowering Rural and Coastal Women in Innovation and Leadership in Primary Production .....</i>	<i>42</i>
<i>4.3.2 Women Industrial Leaders in Agriculture, Marine Beauty, and Bio-based Fashion Textiles.....</i>	<i>44</i>
<i>4.3.3 Youth in the Bioeconomy: Impact and Importance of Involvement in the Bioeconomy Sector .....</i>	<i>46</i>





4.3.4 Empowering Consumers in the Bioeconomy: Sustainable Choices for Health, Wellness, and Future Generations .....	48
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<b>5. REGIONAL CAMPAIGNS AND ACTIVITIES: ROUND 1 &amp; ROUND 2...51</b>	
5.1 INTRODUCTION TO REGIONAL CAMPAIGNS AND ACTIVITIES.....	51
5.2 ROUND 1: INITIAL REGIONAL ACTIVITIES & IN-PERSON EVENTS	51
5.2.1 Bulgarian Campaign: South Central, Bulgaria .....	51
5.2.2 Spanish Campaign: Valle del Ebro region of Spain .....	52
5.2.3 Polish Campaign: Lubelskie region of Poland.....	53
5.2.4 Danish Campaign: Midtjylland, Denmark.....	54
5.2.5 Swedish Campaign: Middle and upper Norrland, Sweden .....	55
5.2.6 Dutch Campaign: Flevoland and Friesland regions of Netherlands.....	57
5.2.7 Irish Campaign: Southern Region of Ireland.....	58
5.3 ROUND 2: EXPANDED REGIONAL ACTIVITIES & IN-PERSON EVENTS	59
5.3.1 Bulgarian Campaign: Plovdiv, Region of South-Central Bulgaria.....	59
5.3.2 Spanish Campaign: Catalonia, Region of North-Eastern Spain .....	60
5.3.3 Polish Campaign: Puławy, Region of Eastern Poland.....	62
5.3.4 Danish Campaign: Odense SØ, Region of Southern Denmark.....	63
5.3.5 Swedish Campaign: Västerbotten, Region of Northern Sweden .....	65
5.3.6 Dutch Campaign: Flevoland, Region of Central Netherlands.....	66
5.3.7 Irish Campaign: Kerry, Region of Southern Ireland.....	68
5.4 STRATEGIC REFLECTION ON REGIONAL CAMPAIGN EVOLUTION	70
<b>6. CAMPAIGN IMPACT AND FEEDBACK (FINAL RESULTS FROM ROUND 1 &amp; ROUND 2) .....</b>	<b>73</b>
6.1 Webinar impact and Feedback (Final results from both rounds) ..	73
6.2 Regional impact and Feedback (Final results from both rounds).....	76
<b>7. LESSONS LEARNED AND STRATEGIC INSIGHTS FOR FUTURE CAMPAIGNS .....</b>	<b>81</b>
<b>8. CONCLUSION .....</b>	<b>84</b>
<b>9. REFERENCES .....</b>	<b>86</b>
<b>10. APPENDIX .....</b>	<b>87</b>



## TABLE OF FIGURES

Figure 1. Schematic indicating structure of Educational and Awareness Raising Plan Activities for both rounds.....	10
Figure 2. Webinar campaign steps.....	16
Figure 3. Snapshot of Webinar 1: Introduction to Circular Bioeconomy (10 <sup>th</sup> of April 2024).....	33
Figure 4. Snapshot of Webinar 2: Small-Scale Bio-Based Solutions for Primary Producers (17 <sup>th</sup> of April 2024).....	34
Figure 5. Snapshot of Webinar 3: Nutrient Recycling Solutions for Primary Producers (24 <sup>th</sup> of April 2024)....	36
Figure 6. Snapshot of Webinar 4: Opportunities for circular bioeconomy to improve the environmental sustainability of Primary Production (30 <sup>th</sup> of April 2024).....	37
Figure 7. Snapshot of Webinar 5: Business model and social innovations for promoting bioeconomy development in rural and coastal regions (8 <sup>th</sup> of May 2024) .....	39
Figure 8. Snapshot of Webinar 6: Bioeconomy tools to support primary producer participation in the bioeconomy (16 <sup>th</sup> of May 2024) .....	41
Figure 9. Snapshot of Webinar 1: Empowering Rural and Coastal Women in Innovation and Leadership in Primary Production (15 <sup>th</sup> of January 2025), captures the highlights of this engaging session.....	43
Figure 10. Snapshot of Webinar 2: Women Industrial Leaders in Agriculture, Forest, Marine Beauty, and Bio-based Fashion Textiles (22 <sup>nd</sup> of January 2025), captures the highlights of this session. ....	45
Figure 11. Snapshot of Webinar 3: Youth in the Bioeconomy - Impact and Importance of Involvement (29 <sup>th</sup> of January 2025), captures the highlights of this engaging session.....	47
Figure 12. Snapshot of Webinar 4: Empowering Consumers in the Bioeconomy - Sustainable Choices for Health, Wellness, and Future Generations (5 <sup>th</sup> of February 2025), captures the highlights of this impactful session.....	49
Figure 13. Regional In-Person Event in Plovdiv on 23 <sup>rd</sup> of February 2024 .....	52
Figure 14. Regional In-Person Event Held in Valderrobres on the 4 <sup>th</sup> and 5 <sup>th</sup> of May 2024 .....	53
Figure 15. Regional In-Person Event in Poland on 23 <sup>rd</sup> of June 2024 .....	54
Figure 16. Danish Regional In-Person Event on 18 <sup>th</sup> of March 2024 .....	55
Figure 17. Swedish Regional In-Person Event on 13 <sup>th</sup> of June 2024.....	57
Figure 18. Dutch Regional In-Person Event held in Lelystad on 30 <sup>th</sup> of May 2024.....	58
Figure 19. Irish Regional In- Person Event on 30 <sup>th</sup> of June 2024 .....	59
Figure 20. Bulgarian Regional In- Person Event on 24 <sup>th</sup> of January 2025 .....	60
Figure 21. Spanish Regional In- Person Event on 10 <sup>th</sup> of April 2025.....	62
Figure 22. Polish Regional In- Person Event on 12 <sup>th</sup> of April 2025 .....	63
Figure 23. Danish Regional In- Person Event on 14 <sup>th</sup> of March 2025.....	65
Figure 24. Swedish Regional In- Person Event on 28 <sup>th</sup> of January 2025.....	66
Figure 25. Dutch Regional In-person event on 4 <sup>th</sup> of June 2025.....	68
Figure 26. Irish Regional In-Person Event on 16 <sup>th</sup> of November 2024.....	69
Figure 27. Award Winning Creative and Sustainable Solutions by Young Participants.....	70
Figure 28. Comparative Trends in Webinar Participation: Round 1 vs. Round 2.....	75
Figure 29. Geographic distribution of feedback respondents from both rounds in the webinar campaign .....	76
Figure 30. Comparative analysis of in-person participation across both rounds.....	77
Figure 31. Regional Campaign Outreach .....	78
Figure 32. Centralised material: Information sheet “Introduction to the Bioeconomy” .....	88
Figure 33. Post Event Summary Report.....	89
Figure 34. Regional Event Attendance List .....	90



Figure 35. In-Person Event Flyer Examples from 1<sup>st</sup> round of Awareness Raising Campaigns in Spain, Ireland, Poland, and Sweden ..... 91

## LIST OF TABLES

Table 1. Summary of Updates from Deliverable 3.2 to Deliverable 3.4 .....	3
Table 2. Regional in-person events-Round 1 .....	22
Table 3. Regional in-person events-Round 2 .....	25
Table 4. Overview of Regional In-Person Campaigns – Rounds 1 and 2 .....	71
Table 5. Summary of Webinar Engagement Metrics Across Campaign Rounds .....	73
Table 6. Example of webinar agenda (Webinar 6) .....	87

## ABBREVIATIONS

<b>AUP</b>	Agraren Universitet - Plovdiv
<b>BIT</b>	BioReCer ICT Tool
<b>CA</b>	Conservation Agriculture
<b>CAP</b>	Common Agricultural Policy
<b>CBEJU</b>	Circular Bio-based Europe Joint Undertaking
<b>CEO</b>	Chief executive officer
<b>EIP-Agri</b>	European Innovation Partnership for Agriculture Productivity and Sustainability
<b>EU</b>	European Union
<b>FBCD</b>	Food and Bio Cluster Denmark
<b>FFFE</b>	Future Farming & Food Experience
<b>FRDK</b>	Foreningen for Reduceret Jordbearbejdning i Danmark
<b>GA</b>	Grant Agreement
<b>INNV</b>	Innovarum
<b>IUNG</b>	Instytut Uprawy Nawożenia I Gleboznawstwa, Państwowy Instytut Badawczy
<b>LAG</b>	Local Action Groups
<b>MCA</b>	Multi-criteria analysis



<b>MIP</b>	Multi-actor Innovation Platforms
<b>MTU</b>	Munster Technological University
<b>NGO</b>	Non-governmental organisation
<b>Q-PLAN</b>	Q-Plan International Advisors PC
<b>RISE</b>	Rise Processum AB,
<b>ROI</b>	Return on Investment
<b>WHITE</b>	White Research SRL
<b>WR</b>	Stichting Wageningen Research





## Executive Summary

This document presents the report on the “Educational and Awareness Raising Campaign” formulated as Deliverable 3.4 (D3.4) within the MainstreamBIO project. It is based on the initial deliverable D3.2, further building on its findings and initiatives. 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, D3.4 focuses on raising awareness about bioeconomy and bio-based solutions. Task 3.5, associated with D3.4, 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. The campaign was implemented in two rounds to maximize stakeholder engagement and broaden participation across different sectors.

The first round of the campaign introduced six educational webinars 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 (Figure 32).

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.

Building on this foundation, the campaign proactively planned from the outset to focus on underrepresented groups such as women and youth. Stakeholder feedback from the first round also highlighted the importance of including real-life examples, social inclusion, and policy discussion, confirming that our approach aligned well with these key issues. This was achieved through targeted webinars and real-life case presentations that showcased leadership and innovation in the bioeconomy. The second round of the campaign expanded outreach through four additional webinars, which engaged 150 attendees, achieving an 85% attendance rate. These sessions addressed critical themes such as women's leadership in bioeconomy sectors, youth-driven innovations, and consumer empowerment in sustainable choices. They featured expert discussions, case studies, and interactive dialogues, providing participants with further opportunities for networking and collaboration. The strong engagement in this round highlighted the importance of inclusivity, with significant participation from women in leadership-focused discussions and active involvement in youth-centered sessions. Additionally, seven further in-person events were conducted, attracting 560 attendees and strengthening practical engagement. This continued the campaign's approach of combining online education with on-the-ground interactions, ensuring that stakeholders could benefit from both theoretical knowledge and real-world demonstrations. 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 (MIPs) 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 final report on the European campaign, conducted from February 2024 to June 2025, 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 6), centralised information in the form of an information sheet (Figure 32), detailed post event report (Figure 33), regional event attendance list (Figure 34) and in-person event flyer examples (Figure 35).



## 1. INTRODUCTION

These deliverable details the "Report on awareness raising and educational activities", available as D3.4 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 3.4 of the MainstreamBIO project encapsulates efforts to promote understanding and engagement in bioeconomy innovations among diverse stakeholders. The main goal of the campaign and D3.4 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 ten weeks across both round (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.

Key developments between the initial deliverable (D3.2) and the final report (D3.4) are summarized in Table 1, highlighting the main aspects in campaign structure, data collection, and stakeholder engagement focus.

*Table 1. Summary of Updates from Deliverable 3.2 to Deliverable 3.4*

Aspect	Initial Deliverable 3.2 (Round 1)	Final Deliverable 3.4 (Round 2)
Number of Webinars	6	4
Number of In-Person Events	7	7
Data Collected	Stakeholder group association only	Added country, gender, educational degree achieved alongside stakeholder group association
Target Groups	Primary producers (farmers, fisheries, foresters, rural and coastal communities)	Broadened to include women, youth, and consumers, while maintaining primary producer engagement
Focus of In-Person Events	Aimed at engaging target stakeholder groups aligned with Round 1 approach	Continued focus aligned with Round 2 approach, with enhanced efforts to broaden audience reach and inclusivity
Survey Feedback	49 responses (avg. <8 per webinar)	36 responses (avg. 9 per webinar)

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 have been used to support 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 were 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 and second round of the regional awareness raising and educational campaigns, which were used by MIPs to develop and implement an action plan tailored to their needs and context.
- ❖ The baseline specifications and the action plans were summarised in D3.4 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 pre-planning to identify target regions and stakeholders from M15 for the first round and M25 for the second round. Baseline specifications (objectives, messages, channels, target groups, timeframe and educational materials) were developed retrospectively at M17 for the first round and M27 for the second round. The campaign then executing awareness and educational campaigns across selected regions (M18–M20 for the first round, M27–M34 for the second round), monitoring and analysing feedback from the campaign (M18–M21 for the first round, M27–M34 for the second round) and summarizing and submitting the final D3.4 deliverable (M22 for the first round, M34 for the second round).
- ❖ 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 women, youth, consumers, primary producers, local businesses, research and academia, industry, policymakers and the general public, was also a key aspect of the process. 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 D3.4 report is structured into 10 distinct sections as follows:

- ❖ **Chapter 1** provides introductory information about the project and Deliverable 3.4, 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 3.4 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.
- ❖ **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, were to foster a deeper understanding and active engagement in the bioeconomy among primary producers and other stakeholders. Conducted in two rounds, the campaign featured a total of 10 educational webinars and 14 in-person events across seven European countries: Ireland, Poland, Sweden, the Netherlands, Spain, Denmark and Bulgaria.

The first round consisted of six webinars and seven in-person events, while the second round included four webinars and seven in-person events. This structured approach ensured continuous engagement, allowing participants to gain insights into bioeconomy practices through both online and in person experiences. The webinars covered a range of topics aimed at enhancing knowledge and engagement in the bioeconomy. In the first round, webinars focused on 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. The second round expanded on these discussions with more targeted themes, including women's leadership in bio-based industries, youth involvement in the bioeconomy, and consumer empowerment in sustainable choices. These webinars highlighted the contributions of women and youth in driving bioeconomy innovation across various sectors and explored the role of consumers in fostering sustainability through responsible choices. Across both rounds, these webinars demonstrated how primary producers and other stakeholders can leverage bioeconomy principles to enhance sustainability and profitability while fostering collaboration across diverse sectors. 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
- ❖ Empowering Rural and Coastal Women in Primary Production: Leadership in Agriculture, Marine, and Textile Production
- ❖ Women Industrial Leaders in Bioeconomy: Innovations in Agriculture, Marine Beauty, and Bio-Based Fashion Textiles
- ❖ Youth in the Bioeconomy: Impact and Importance of Youth Involvement in the Bioeconomy Sector
- ❖ Empowering Consumers in the Bioeconomy: Sustainable Choices for Health, Wellness, and Future Generations

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 ten 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 32). 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

Total of fourteen 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, women, youth and communities could benefit from the latest innovations in the bioeconomy. In addition to the centralized webinar series, each region was required to organize two major in-person event through whole campaign, along with support activities based on the schematic described in Figure 1. For each event, partners completed a pre-event and post-event report to capture plans, insights and outcomes (Figure 33).

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 (Figure 32 and Figure 35). Moreover, 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.



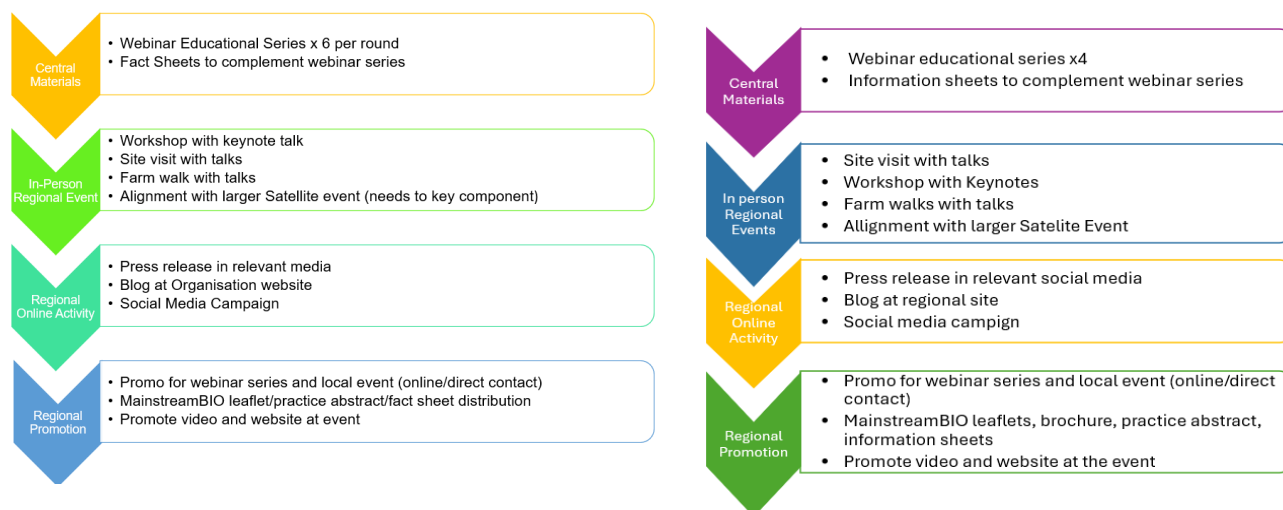


Figure 1. Schematic indicating structure of Educational and Awareness Raising Plan Activities for both rounds

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 for 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 were generated from previous efforts.

**Power4Bio (2018-2021)** 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 such as 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, according to their own analysis, 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 (2022-2025)** 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 (2016-2018)** 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.

Rather than presenting a contrasting strategy, 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 455 participants in the webinars and 760 participants at in-person events across seven EU regions over the course of the campaign. The MainstreamBIO project's approach, apart from mainly targeting primary producers, focuses on broad audience engagement such as women, youth and other vulnerable groups with the aim of promoting specific bio-based solutions available in Europe to inspire the primary sector with these examples. The MainstreamBIO campaign approach is better understood as complementary by helping to close gaps in awareness, reach underrepresented stakeholder groups, and support the wider adoption of bio-based innovations at the local and regional levels.

### 3.3 MAINSTREAMBIO APPROACH FOR ROUND 1 AND ROUND 2

MainstreamBIO sets out to target a number of key stakeholder's groups across the two educational and awareness raising rounds including primary producers, rural and coastal communities, consumers, women and youth audiences and other vulnerable groups. During the first campaign, the main focus was on primary producers and their rural and coastal communities. While women, youth and consumer groups have been covered during the second round.

The campaign titled "Revolutionizing Europe's Rural Regions: Circular Bioeconomy Opportunities" was designed as a single awareness-raising initiative implemented in two rounds. Both rounds shared the same overarching title, scope, and objectives, while each round adapted its thematic focus and outreach efforts based on project campaign progress and stakeholder feedback. The campaign structure consisted of two complementary phases under one unified identity (Figure 1). The campaign 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, helping 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.

Building on the initial phase, the second round of the Campaign strategically expanded its focus to highlight the important role of women in leadership and entrepreneurship, youth empowerment through education and innovation, and consumer behaviour in shaping sustainable markets. This shift responded to project findings that emphasized the need for greater inclusiveness and broader impact across diverse stakeholder groups. In addition to primary producers, outreach efforts were extended to women's organizations, youth networks, and consumer associations, ensuring that messages were accessible, relevant, and aligned with the diverse priorities of rural regions. By adapting communication strategies and channels, the campaign strengthened its capacity to engage and mobilize a more representative audience for the circular bioeconomy transition.

### **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.

## **d) Women stakeholders**

Women play an essential role in driving the bioeconomy, both in primary and secondary production sectors. In the European Union, women account for approximately 35.1% of the agricultural workforce (Eurostat, 2016), yet their access to resources, education, and leadership opportunities remains significantly lower compared to men. Engaging women in bioeconomy initiatives is critical to ensuring that their contributions to sustainable production systems are recognized and supported. Through targeted education, capacity-building, and leadership programs, women can further their involvement in sectors such as sustainable agriculture, marine-based production, and bio-based textiles (Dietershagen & Bammann, 2023; FAO, 2011). MainstreamBIO's second-round campaign focuses on empowering rural and coastal women by highlighting successful examples of female entrepreneurs and innovators, showcasing their roles in developing circular practices and transforming primary production systems. By increasing visibility, offering leadership training, and promoting entrepreneurial opportunities, women can be positioned at the forefront of shaping a resilient, inclusive, and sustainable bioeconomy.

## **e) Youth stakeholders**

Youth represent another crucial group for the long-term success of the bioeconomy, bringing fresh ideas, digital skills, and entrepreneurial spirit that drive innovation across agriculture, energy, biotechnology, and environmental sectors. Globally, the number of people aged between 15 and 24 is expected to rise from about 1 billion in 2015 to 1.2 billion by 2050, representing about 16% of the global population, with a significant majority (88%) living in developing regions (FAO, 2017; ILO, 2015). Involving youth in bioeconomy activities is vital, particularly as the workforce continues to age and sustainability demands increase. The MainstreamBIO campaign recognizes the importance of equipping young people with education, skills development, and start-up support to empower them as future bioeconomy leaders. Youth actors tend to adopt new technologies and innovative practices



more readily than older generations, making them essential for driving bio-based innovations and securing the long-term sustainability of the bioeconomy.

#### f) Consumers

Consumers play a crucial role in driving demand for sustainable, bio-based products and solutions. For circular business models (CBMs) to succeed, businesses must invest in educational and marketing initiatives that positively shape consumer attitudes and increase acceptance of sustainable practices (Lang et al., 2023). Educating consumers is vital for cultivating a mindset that supports the circular bioeconomy (CBE) and for encouraging purchasing decisions that favour bio-based alternatives. Their choices directly influence companies to adopt more ethical, transparent, and eco-friendly practices. By engaging consumers in understanding the benefits of products derived from primary and secondary production, a more sustainable and inclusive market can be created. MainstreamBIO's awareness-raising efforts include tailored social media campaigns, educational materials, and community outreach activities that empower consumers to make informed, responsible choices and support the growth of a sustainable bioeconomy.

**Key Messages (Round 1):** 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 CO<sub>2</sub>, N<sub>2</sub>O and CH<sub>4</sub>. Since these technologies will be embedded 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 (Round 1):** Primary producers and their associations, cooperatives, government agencies, agri-advisory organisations, community groups, agri-supplies manufacturers and suppliers.

**Timeframe (Round 1):** From February until June 2024.

Following the completion of the first round of the MainstreamBIO Awareness Raising Campaign (February–June 2024), the second round (November 2024–June 2025) expanded its focus to include additional target groups such as women, youth, and consumers. This evolution reflected both strategic priorities identified during project implementation and the need to strengthen inclusiveness and broaden impact across different stakeholder communities. Accordingly, communication channels were also expanded and more proactive in the second round to reach women's organizations, youth networks, and consumer associations, while maintaining engagement with primary producers, cooperatives, agri-advisory organizations, and community groups. This adaptive approach ensured that MainstreamBIO's messaging remained relevant, inclusive, and aligned with the broader goals of supporting sustainable rural and coastal bioeconomy development.



**Key Messages (Round 2):** Building on the first round, the second round of the MainstreamBIO Awareness Raising Campaign extended the focus to also include women, youth, and consumers as target groups. The campaign emphasized the critical role that women and youth can play in advancing sustainable bioeconomy practices, while recognizing the importance of consumer engagement in supporting bio-based market development. Women, youth, and consumers are key to ensuring an inclusive and resilient transition to the circular bioeconomy. Highlighting opportunities for women in leadership, entrepreneurship, and sustainable production, empowering youth with education, skills, and innovation opportunities, and informing consumers about the environmental and social benefits of bio-based products were core elements of the second-round messaging. Efforts focused on improving technical knowledge, increasing awareness of emerging bio-based technologies, and promoting behavioural change that supports circular business models and sustainable production and consumption patterns.

**Channels (Round 2):** Primary producers and their associations, cooperatives, government agencies, agri-advisory organisations, community groups, women's organizations, youth networks, consumer associations, and agri-manufacturers and suppliers.

**Timeframe (Round 2):** From November 2024 until June 2025.

### 3.3.1 Centralized materials: Webinar series (Round 1 and Round 2)

The webinar series consisted of ten webinars (six webinar conducted in the 1<sup>st</sup> round and four webinars conducted in 2<sup>nd</sup> round), each 75 minutes in length, covering a range of topics relevant to MainstreamBIO's objectives and MainstreamBIO's target audiences. The series combined background information with practical case studies and success stories. The campaign aimed to involve active primary producers to promote peer learning.

Pre-Webinar Preparation Steps:

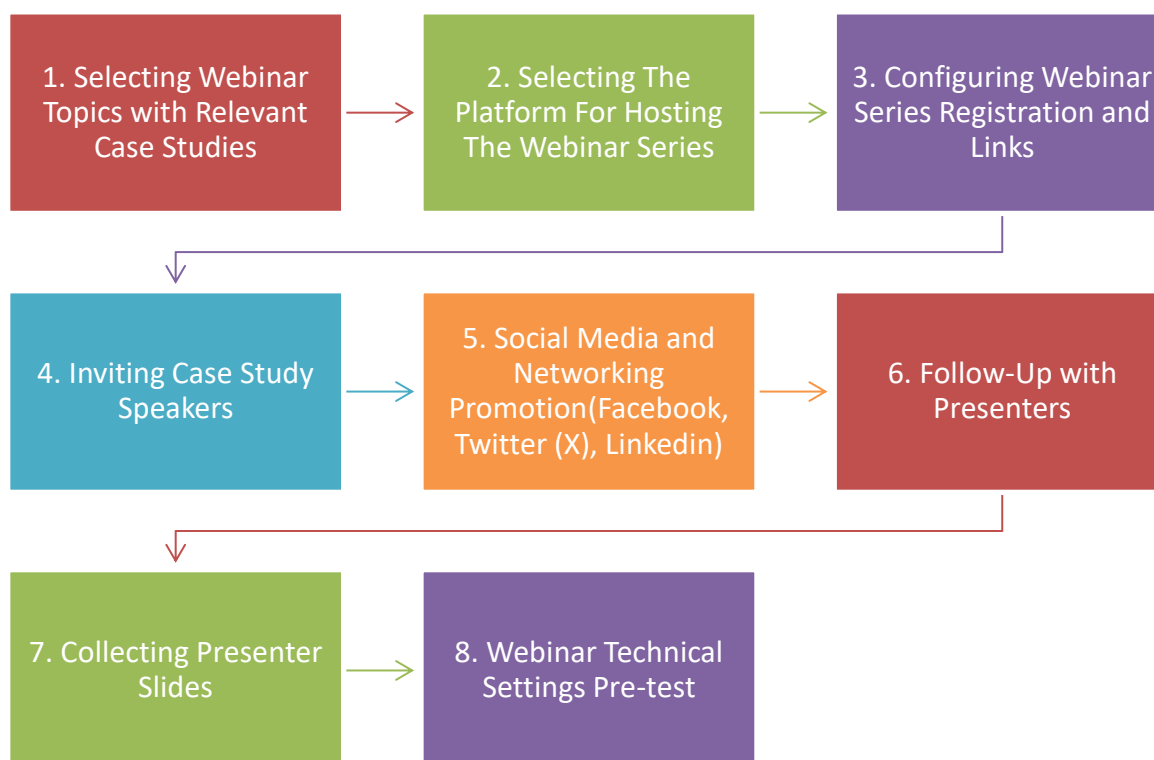


Figure 2. Webinar campaign steps



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), Instagram, 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 the need to record the session (i.e., for educational and awareness raising purposes, in line with the project's broader objectives), as well as the details regarding where and how to access the recorded webinar. The recordings aimed to support participants and those unable to attend live in building their knowledge of the bioeconomy, exploring new practices and case studies in bioeconomy space and accessing key information to support learning and future application.

#### 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.



### **Round 1 - 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.

### **Round 1 - 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.

### **Round 1 - 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.

### **Round 1 - 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.

### **Round 1 - 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.

### **Round 1 - Webinar 6: “Bioeconomy tools to support primary producer participation in the bioeconomy”**

In Webinar 6, the MainstreamBIO toolkit 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 toolkit 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.

### **Round 2 - Webinar 1: “Empowering Rural and Coastal Women in Primary Production: Leadership in Agriculture, Marine, and Textile Production Sector”**

In this webinar 1 of round 2, the role of rural and coastal women in primary production sectors was highlighted, with a focus on leadership, innovation, and sustainability in agriculture, marine industries, and textile production. The session explored women’s contributions to advancing sustainable practices, featuring experts from various industries and case studies of successful women entrepreneurs and leaders showcasing innovative bio-based solutions in these sectors.

#### **Topics and Learning Outcomes:**

Topics and learning outcomes included identifying opportunities and challenges for women in primary production sectors, recognizing women’s leadership in sustainable agriculture, marine industries, and textile production, examining their role in transforming primary production towards sustainable and resilient practices in response to climate and economic changes, exploring



innovations in sustainable agriculture, marine management, and bio-based textile production, and understanding the objectives of the MainstreamBIO project in the context of these developments.

### **Round 2 - Webinar 2: “Women Industrial Leaders in Bioeconomy: Innovations in Agriculture, Marine Beauty, and Bio-based Fashion Textiles”**

In webinar 2, the contributions of women leaders in the bioeconomy sector were explored, with a focus on innovation and sustainability in agriculture, marine cosmetics, and bio-based textiles. The session highlighted the significant role of women in driving advancements and transformative solutions in these industries, showcasing their leadership, expertise, and pioneering innovations. The webinar featured experts from various industries, along with case studies of successful women entrepreneurs leading change in the bio-based economy.

#### **Topics and Learning Outcomes**

Topics and learning outcomes included understanding the importance of women’s involvement in the bioeconomy and their impact in today’s world, supported by case study examples; exploring new trends and innovations in the bioeconomy sector from a women’s perspective; identifying the unique challenges and opportunities that women encounter in the industry; and examining strategies for scaling innovations and encouraging greater female participation in agriculture, marine beauty, and bio-based textile sectors.

### **Round 2 - Webinar 3: “Youth in the Bioeconomy: Impact and Importance of Youth Involvement in the Bioeconomy Sector”**

In this webinar 3, the role of youth in advancing the bioeconomy was explored, highlighting how their involvement in agriculture, energy, biotechnology, and environmental sustainability drives innovation, job creation, and sustainability. The session emphasized their fresh perspectives, digital skills, and entrepreneurial mindset, while also addressing the importance of education, training, and policy support. The webinar featured industry experts, young innovators, and professionals from the educational sector, along with case studies showcasing successful youth-led initiatives in the bioeconomy.

#### **Topics and Learning Outcomes**

Topics and learning outcomes included exploring youth-driven innovation in bio-based sectors, such as agriculture, energy, and biotechnology; identifying career opportunities for young professionals in the bioeconomy; understanding the importance of education, training, and policy support in fostering youth involvement; and recognizing youth’s role in bioeconomy innovation and sustainability through real-world case studies and expert insights.

### **Round 2 - Webinar 4: “Empowering Consumers in the Bioeconomy: Sustainable Choices for Health, Wellness, and Future Generations”**

In webinar 4, the role of consumers in shaping the bioeconomy was explored, emphasizing how everyday choices in areas such as food, energy, personal care, and wellness contribute to a more sustainable future. The session highlighted the importance of eco-friendly product preferences, ethical sourcing, and circular economy principles in driving responsible consumption. Additionally, the discussion addressed how these choices impact health and wellness, focusing on transparency, certifications, and education as key factors in guiding sustainable decision-making. The webinar featured experts from agriculture, education, and bio-based industries, along with case studies showcasing innovative solutions in consumer-driven sustainability.

#### **Topics and Learning Outcomes**



Topics and learning outcomes included understanding how sustainable choices in daily life benefit health and the environment; learning how to make informed, responsible product choices that promote well-being; exploring ways to improve accessibility to bio-based products for vulnerable groups; gaining practical tips on affordable and sustainable living; and recognizing the role of consumers in supporting the circular economy through responsible consumption.

### ❖ 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 Toolkit](#). Information sheets were developed for each webinar topic and made available on the MainstreamBIO Toolkit website. 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 (Round 1 and Round 2)

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 2. 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 Bulgaria on 23rd of February 2024 (Figure 13) and on 24<sup>th</sup> of January 2025 (Figure 20), the event in Spain on the 4<sup>th</sup> and 5<sup>th</sup> of May 2024 (Figure 14) and on the 10<sup>th</sup> of April 2025 (Figure 21), the event in Poland on 23rd of June 2024 (Figure 15) and 12<sup>th</sup> of April (Figure 22), the Danish event on 18<sup>th</sup>



of March 2024 (Figure 16) and on the 14<sup>th</sup> of March 2025 (Figure 23), the Swedish event on 13<sup>th</sup> of June 2024 (Figure 17) and on the 28<sup>th</sup> of January 2025 (Figure 24), the Dutch event on 30<sup>th</sup> of May 2024 (Figure 18) and on 4<sup>th</sup> of June (Figure 25) and the Irish event on 30<sup>th</sup> of June 2024 (Figure 19) and the 16<sup>th</sup> of November 2024 (Figure 26).

The in-person events in both rounds 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 32). 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 2 and Table 3 and elaborated below by region (see Chapter 5).

*Table 2. Regional in-person events-Round 1*

<b>Regional campaign</b>	<b>Title / topic of the campaign</b>	<b>Date of the campaign</b>	<b>Venue</b>	<b>Type of the Event</b>
<b>Bulgaria</b>	Awareness on the bio economy and social innovation for rural development of South-central Region	23.02.24	Hilton hotel, Plovdiv, Bulgaria	Workshop with keynote talks
<b>Denmark</b>	Temadag om Reduceret Jordbearbejdning – Conservation Agriculture Field Visit	25.03.24	Molbo Agro, Vester Velling, Denmark	Farm walk with talks
<b>Spain</b>	Bioeconomy in rural areas – What can it bring to farmers and rural communities?	04.05.24	Livestock and Commercial Fair of Valderrobres, Spain	Satellite event



<b>The Netherlands</b>	Opportunities for circular bioeconomy to improve the environmental sustainability of primary production	30.05.24	Future Farm and Food experience, Lelystad, The Netherlands	Satellite event
<b>Sweden</b>	Utforska nya cirkulära bioekonomimöjligheter med BioReCer och MainstreamBIO	13.06.24	RISE Processum, Domsjö, Sweden	Workshop with keynote talks
<b>Poland</b>	Polish MainstreamBIO Event	23.06.24	National Fields Day/Annual Open Door Day, Lubelskie, Poland	Satellite event
<b>Ireland</b>	Irish Rural Bioeconomy Event- Mainstreaming small scale biorefineries	28.06.24	Irish Bioeconomy Campus Lisheen, Co Tipperary and Green Generation, Co. Kildare, Ireland	Site visits with talks

### 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 C 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 initially planned an in-person satellite event, joining the “Breakfast Studio” as a guest host to talk about the bioeconomy. The initial idea of “Breakfast Studio” consisted of a collaboration between Örnköldsvik Municipality, Örnköldsvik Industry Group, “Företagarna”, and the Chamber of Commerce Midsverige and it 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 that region.

### 3.2.2.3 South Central, Bulgaria

The Bulgaria MIP region planned 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". The 2024 year was 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. Also, INNV took advantage of the Valderrobres Livestock and Commercial Fair, to disseminate the project and inform stakeholders (mainly primary producers) about the bioeconomy opportunities, as well as the Open Call to apply for services.

*Table 3. Regional in-person events-Round 2*

<b>Regional campaign</b>	<b>Title / topic of the campaign</b>	<b>Date of the campaign</b>	<b>Venue</b>	<b>Type of the Event</b>
<b>Bulgaria</b>	Awareness on Sustainability and Economic Opportunities for Primary Producers in the Bioeconomy	24/01/2025	Park Hotel, Plovdiv, Bulgaria	Workshop with keynote talks
<b>Denmark</b>	Temadag om reduceret jordbearbejdning på Sanderumgård	14/03/2025	Sanderumgaardvej 150, 5220 Odense SØ, Denmark	Farm walk with talks
<b>Spain</b>	Conference on bioparks: An industrial model contributing to the sustainability of the primary sector and the economy diversification	10/04/2025	Lleida-Alguaire Airport, Catalonia, Spain	Workshop with keynote talks
<b>The Netherlands</b>	Awareness Raising Campaign MainstreamBIO during de Akkerbouwdag	04/06/2025	Open Teelten, Lelystad, The Netherlands	Satellite event
<b>Sweden</b>	Uniaden labour market fair	28/01/2025	Västerbotten Region, Northern Sweden	Satellite event
<b>Poland</b>	Regional awareness raising and educational event at the Easter marketplace	12/04/2025	Agricultural Experimental Station Kępa, Puławy, Poland	Satellite event
<b>Ireland</b>	Kerry Science Week- Food Not Waste More	16/11/2025	MTU, North Campus, Kerry, Ireland	Satellite event

### 3.2.1.1 Round 2 – Kerry, Region of Southern Ireland

The Ireland MIP region proposed an in-person workshop as part of the second round of the MainstreamBIO Awareness Raising Campaign. Titled "Food Waste No More," the event was scheduled for November 16<sup>th</sup>, 2024, at MTU Kerry North Campus during the Kerry Science Festival and engaged families, children, and young participants in bioeconomy, sustainability, and food waste prevention. The event was supported by online activities, including a social media campaign and an organizational blog. Promotion was carried out through MTU and the Circular Bioeconomy Research



Group, targeting farmer organizations via email, phone, and social media platforms such as Twitter (X), LinkedIn, and Facebook.

### 3.2.2.2 Round 2 – Västerbotten, Region of Northern Sweden

The Swedish MIP region proposed an in-person satellite event at the Uniaden labour market fair on January 28th, 2025, at Umeå University. RISE Processum participated as an exhibitor, engaging with over 8,000 students and 110 exhibitors to discuss bioeconomy, the valorisation of forestry and agricultural side streams, and career opportunities in the sector. To support the event and the broader promotion of bioeconomy awareness, a LinkedIn social media campaign was conducted through the Processum Biorefinery Cluster, highlighting EU projects like MainstreamBIO and research opportunities at RISE.

### 3.2.2.3 Round 2 – Plovdiv, Region of South Central Bulgaria

The Bulgarian MIP region proposed an in-person workshop as part of the second round of the MainstreamBIO Awareness Raising Campaign. Titled *"Awareness on Sustainability and Economic Opportunities for Primary Producers in the Bioeconomy,"* the event was scheduled for January 24, 2024, at Park Hotel in Plovdiv. It brought together farmers and agricultural experts to explore opportunities and challenges in the bioeconomy. The event was organized by AUP, with Petar Borisov as coordinator. It included keynote talks, case studies, and interactive discussions on digital solutions for farm management, sustainability strategies, and circular bioeconomy business models. To support the workshop, a press release and a social media campaign were planned and carried out through AUP's communication channels.

### 3.2.2.4 Round 2 - Odense SØ, Region of Southern Denmark

The Danish MIP region proposed an in-person awareness-raising event as part of the second round of the MainstreamBIO Awareness Raising Campaign. Titled *"Temadag om reduceret jordbearbejdning på Sanderumgård"* (theme day on reduced tillage) the event was scheduled for March 14, 2025, at Sanderumgaardvej, Odense SØ, Denmark and focused on reduced tillage and conservation agriculture through discussions, field demonstrations, and networking activities. The event was coordinated, hosted, and promoted by Food & Bio Cluster Denmark (FBCD). It targeted agricultural students, teachers, farmers, advisors, researchers, and other experts, with promotion carried out via direct email invitations. The agenda included an introduction by Liselotte Puggaard (FBCD), a presentation by Henrik Terp on Sanderumgård operations and FRDK activities, followed by a field walk, demonstration, group discussions, and networking during lunch. Aiming to attract 80 participants, the event facilitated knowledge exchange on sustainable agricultural practices. By combining practical demonstrations with expert-led discussions, it effectively promoted the adoption of sustainable soil management practices within the agricultural community.

### 3.2.2.5 Round 2 - Flevoland, Region of Central Netherlands

The Netherlands MIP region planned to host an in-person awareness-raising event as part of the second round of the MainstreamBIO Awareness Raising Campaign. Titled *"Awareness Raising Campaign MainstreamBIO during de Akkerbouwdag,"* the event was scheduled to take place on June 4, 2025, in Lelystad. The event is hosted by Wageningen Research – Open Teelten and coordinated in collaboration with Misset-Boerderij, with contributions from Wageningen Research experts. Promotion was carried out through advertisements in the weekly farmers' magazine *Boerderij*, as well as through Wageningen Research's networks, LinkedIn, newsletters, and other digital platforms. De Akkerbouwdag is a major agricultural event that typically attracts around 1,500 participants. The event featured field demonstrations, machinery showcases, stakeholder interactions, and excursions tailored for student groups. The agenda included two rounds of student



excursions, offering a choice between visits to experimental field plots or participation in a local biobased economy excursion. A more detailed agenda is made available on [akkerbouwdag.nl](https://akkerbouwdag.nl). The event specifically targeted farmers and agricultural students, aiming to raise awareness of the opportunities and benefits presented by the biobased economy. By combining practical field demonstrations, stakeholder engagement, and targeted excursions, the event aimed to support greater understanding and uptake of bioeconomy practices within the farming community.

### 3.2.2.6 Round 2 – Puławy, Region of Eastern Poland

The Poland MIP region planned to host an in-person awareness-raising and educational event as part of the second round of the MainstreamBIO Awareness Raising Campaign. Titled *"Regional Awareness Raising and Educational Event & Networking at the Easter Marketplace in Puławy,"* the event was scheduled for April 12, 2025, at the IUNG Agricultural Experimental Station Kępa in Puławy. The event was coordinated by Magdalena Borzęcka and hosted by IUNG, with promotion carried out through social media and local posters. Designed as an open-air workshop and marketplace, the event focused on promoting local products, short supply chains, and the principles of the bioeconomy. Activities included the preparation of handmade Easter decorations, egg colouring using natural dyes derived from agricultural products, and the promotion of local food items. MainstreamBIO had a dedicated booth for distributing project leaflets and showcasing project results to the general public. The event targeted a broad audience, with a particular focus on children and teenagers, for whom dedicated interactive activities were organized. Approximately 50 participants were expected to visit booth. Running from 9:00 to 14:00, the event offered continuous hands-on engagement throughout the day. The main objective was to raise awareness of bioeconomy practices, encourage the reduction and reuse of waste, and promote the use of local and bio-based products. The event also supported collaboration among local businesses, strengthened regional networks, and highlighted the importance of sustainability in everyday life.

### 3.2.2.6 Round 2 – Catalonia, Spain

The Spanish MIP region Catalonia planned an in-person awareness-raising event as part of the second round of the MainstreamBIO Awareness Raising Campaign. Titled *"Bioeconomic Industrial Parks: Industrial Models that Contribute to a Sustainable Primary Sector and Economic Diversification,"* the event was scheduled April 10, 2025, at Lleida-Alguaire Airport. It engaged the general public, policymakers, and young audiences in discussions on the bioeconomy, industrial parks, and biogas production. The event was co-organized by Diputació de Lleida, Proyecto Onda ODS, ICAEN, and Innovarum representing MainstreamBIO project, with support from Alguairé Town Council and Lleida-Alguairé Airport as hosts. It featured keynote presentations, round tables, and discussions on the role of the bioeconomy in regional policy, biogas as a key sustainability driver and the benefits of clustering bioeconomic activities within industrial parks. Promotion for the event was carried out through social media, regional newspapers, direct emailing, and newsletters, using the communication networks of all coordinating organizations.

### 3.3.3 Outreach and dissemination (Round 1 and Round 2)

The outreach and dissemination efforts of our campaign were robust and strategically designed to maximize engagement and impact across diverse regions. Ten 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 promoted attendance but also created a sustained interest and ongoing dialogue about the bioeconomy. Complementing the virtual sessions in both rounds, total of fourteen in-person events were organised in Ireland, Poland, Sweden, the Netherlands, Spain, Denmark and Bulgaria from February 2024 until the June 2025. 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 (Round 1 and Round 2)

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 January 2024 until the end of June 2024 for the first round and from November 2024 until June 2025, for the second round, covering the entire duration of the 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 (i.e., 1-to-5 rating scales to assess satisfaction level), 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 covered demographic information, including gender, 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 (Figure 29 and Figure 31) and graphs (Figure 28 and Figure 30), while qualitative feedback was reviewed for future improvement. The feedback collected was shared with Q-Plan, the leader of Task 4.1. and participants' suggestions were used to improve future webinar series and in-person events, ensuring they were even more effective and engaging.



## 4. MAINSTREAMBIO WEBINAR SERIES: EXECUTION OF ROUND 1 and ROUND 2

### 4.1 OVERVIEW OF WEBINAR SERIES

The first round of educational webinar series took place over six weeks, from the 10<sup>th</sup> of April until the 16<sup>th</sup> of May 2024. The second round was conducted over four weeks, from 15<sup>th</sup> of January 2025 to 5<sup>th</sup> of February 2025. To reach primary producers and a wide audience unfamiliar with the bioeconomy, the campaign title “Revolutionizing Europe's Rural Regions: Circular Bioeconomy Opportunities”, 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 first round of webinars covered key thematic areas, including the circular bioeconomy, small-scale bio-based solutions, nutrient recycling, business opportunities, and bioeconomy tools. The second round shifted focus to more specialized themes, more addressing women's leadership in bioeconomy sectors, youth-driven innovations, and consumer empowerment in sustainable choices. The details of each webinar and the esteemed speakers who shared their expertise can be found below.

### 4.2 ROUND 1 WEBINARS (INITIAL SERIES)

The first webinar in the series, "Circular Bioeconomy", took place on April 10<sup>th</sup>, 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 Alias: 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 17<sup>th</sup>, 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 24<sup>th</sup> 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 30<sup>th</sup> 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 8<sup>th</sup> 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 16<sup>th</sup> 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.

#### 4.2.1 *Introduction to circular bioeconomy*

The first webinar, held on the 10<sup>th</sup> 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 (10<sup>th</sup> 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](#)<sup>1</sup> 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](#)<sup>2</sup> 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. A total of 103 individuals registered for the session, with 110 stakeholder role mentions, as several registrants selected more than one category. The majority of registrants identified as Researchers, accounting for 55 mentions (approximately 53%), indicating strong interest from the academic and research community. Industry representatives followed with 16 mentions (16%), showing significant engagement from the commercial sector. Participants from NGO/Society comprised 15 mentions 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.

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<sup>1</sup> Bazancourt–Pomacle Biorefinery case study. RUBIZMO Virtual Library: <https://rubizmo.eu/virtual-library/pomace-bazancourt>

<sup>2</sup> Department of Agriculture, Food and the Marine. Government of Ireland: <https://www.gov.ie/en/organisation/departement-of-agriculture-food-and-the-marine/>



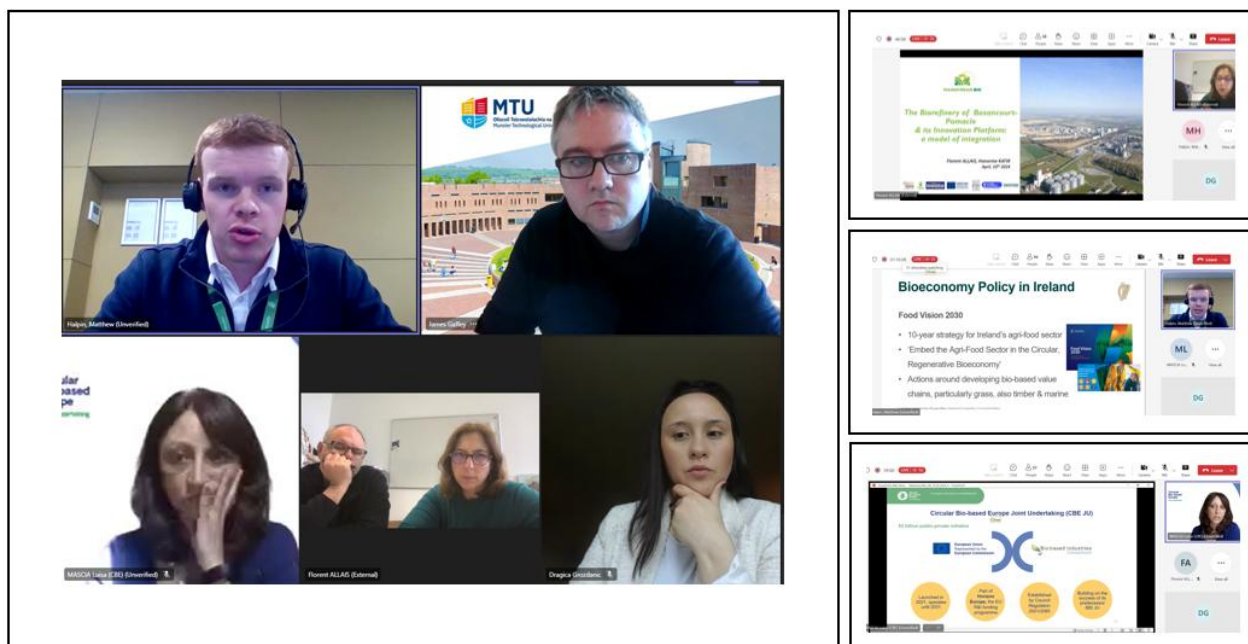


Figure 3. Snapshot of Webinar 1: Introduction to Circular Bioeconomy (10<sup>th</sup> of April 2024)

#### 4.2.2 Small scale bio-based solution for primary producers

The second webinar held on the 17<sup>th</sup> 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 (17<sup>th</sup> 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](https://www.grassa.nl)<sup>3</sup> 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](https://pleurotus.hu)<sup>4</sup> 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.

<sup>3</sup> Grassa. Netherlands-based green biorefinery company: <https://www.grassa.nl>

<sup>4</sup> Pilze-Nagy Kft. Hungarian mushroom producer: <https://pleurotus.hu>



Alvan Hunt from [Hexafly](https://hexafly.com)<sup>5</sup> 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 1<sup>st</sup> webinar. A total of 87 individuals registered and were categorized based on their first self-identified stakeholder group. Some entries included multiple roles such as in the 1<sup>st</sup> webinar, resulting in 90 stakeholder role classifications. The majority of registrants identified as Researchers (46 entries; approximately 52%), indicating significant interest from the academic and research community. Participants from NGO/Society followed, accounting for 14 registrants (about 16%), 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/Policy makers 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.

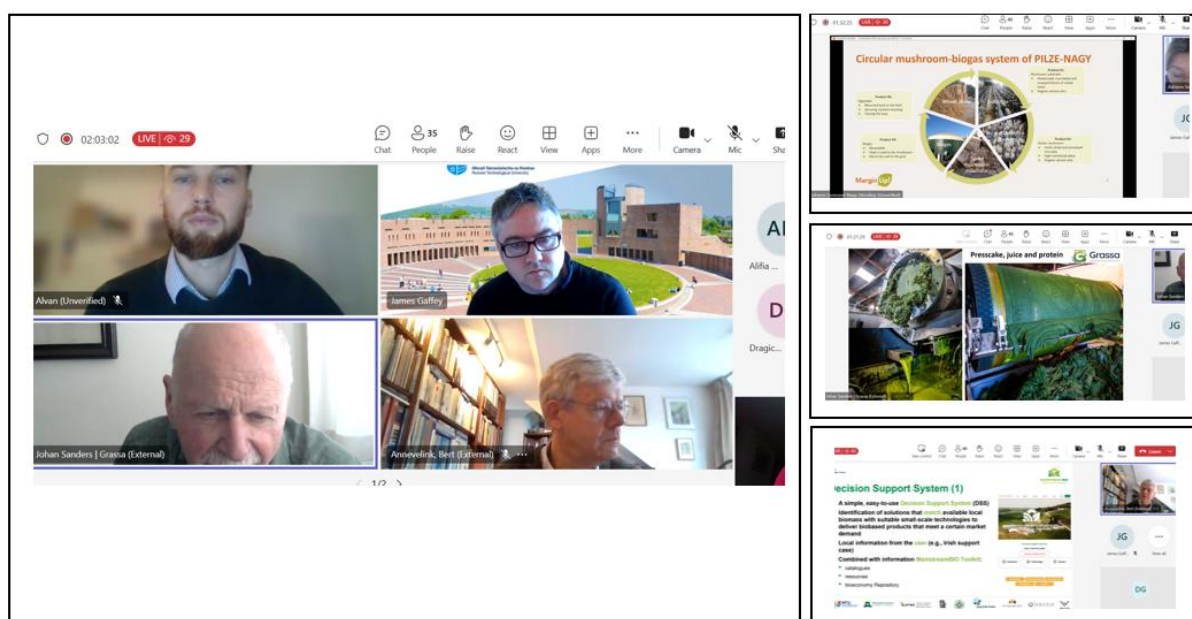


Figure 4. Snapshot of Webinar 2: Small-Scale Bio-Based Solutions for Primary Producers (17<sup>th</sup> of April 2024)

### 4.2.3 Nutrient recycling solutions for primary producers

Webinar 3, held on April 24<sup>th</sup>, 2024, at 11:00 CET, drew a significant interest with 88 registrants, with an actual attendance of 63 and registration page views 351. This indicates a strong engagement

<sup>5</sup> Hexafly. Irish insect-tech company: <https://hexafly.com>



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 (24<sup>th</sup> 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](#)<sup>6</sup> 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](#)<sup>7</sup> 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 (52 mentions), highlighting significant academic interest. Industry stakeholders made up 16% (14 mentions), 7 were NGO/Society participants (8%), and 12 were Primary Producers (14%) reflecting broad sector engagement. Government/Polymakers accounted for 3% with 3 registrations, 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.

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<sup>6</sup> GlasPort Bio. Irish agri-tech company specialising in methane and emissions reduction: <https://glasportbio.com>

<sup>7</sup> Nutramara. Marine bioeconomy company based in Ireland: <https://nutramara.com>



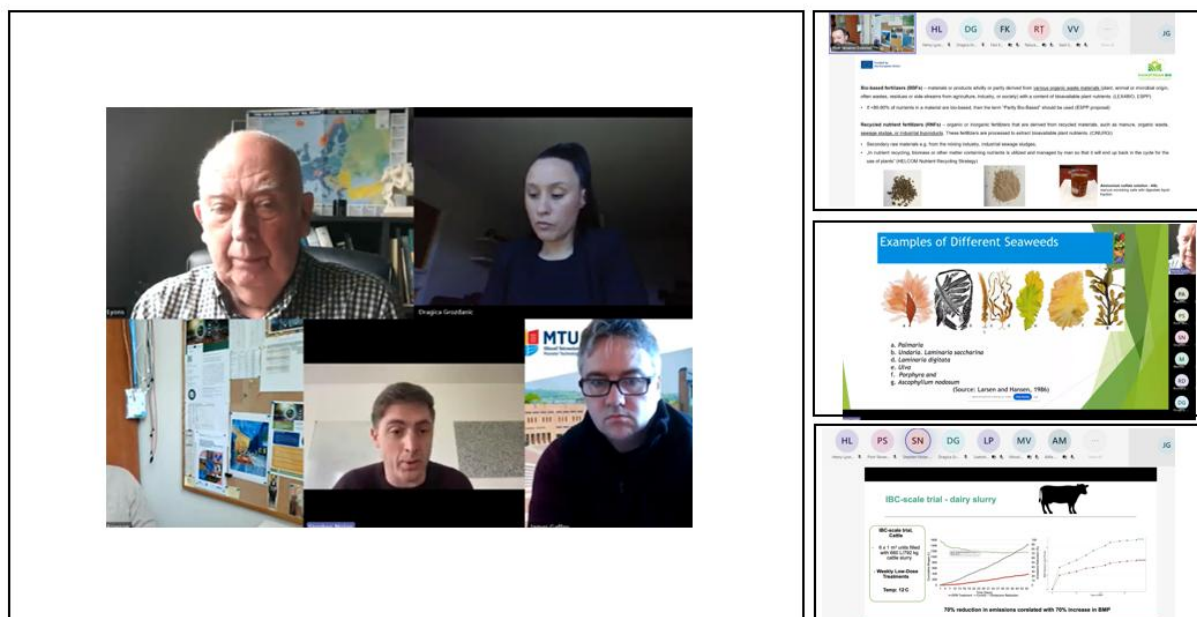


Figure 5. Snapshot of Webinar 3: Nutrient Recycling Solutions for Primary Producers (24<sup>th</sup> of April 2024)

#### 4.2.4 Opportunities for circular bioeconomy to improve the environmental sustainability of primary production

Webinar 4, held on April 30<sup>th</sup>, 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 and registration page views 107, 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 (30<sup>th</sup> 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](https://www.universityofgalway.ie)<sup>8</sup>, 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](https://fibenol.com)<sup>9</sup>, 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

<sup>8</sup> National University of Galway, Ireland: <https://www.universityofgalway.ie>

<sup>9</sup> Fibenol, Estonia-based cleantech innovator: <https://fibenol.com>



sugars, the presentation underscored opportunities for integrating sustainable practices in wood-based chemical production.

Robert Harmoinen, Development Manager at [Valio Ltd](https://www.valio.com)<sup>10</sup>, 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. The same as with previous webinars, some of registrants selected more than one stakeholder category during registration. Of the 78 registrants, 68% were Researchers (53 mentions), 14% were Industry stakeholders (11 mentions), 5% represented NGO/Society organizations (4 mentions), 8% were Primary Producers (7 mentions), and 4% were Government/Polymakers with 3 mentions. This distribution illustrates the broad appeal of the webinar and the importance of engaging various sectors in discussions on sustainable practices in primary production.

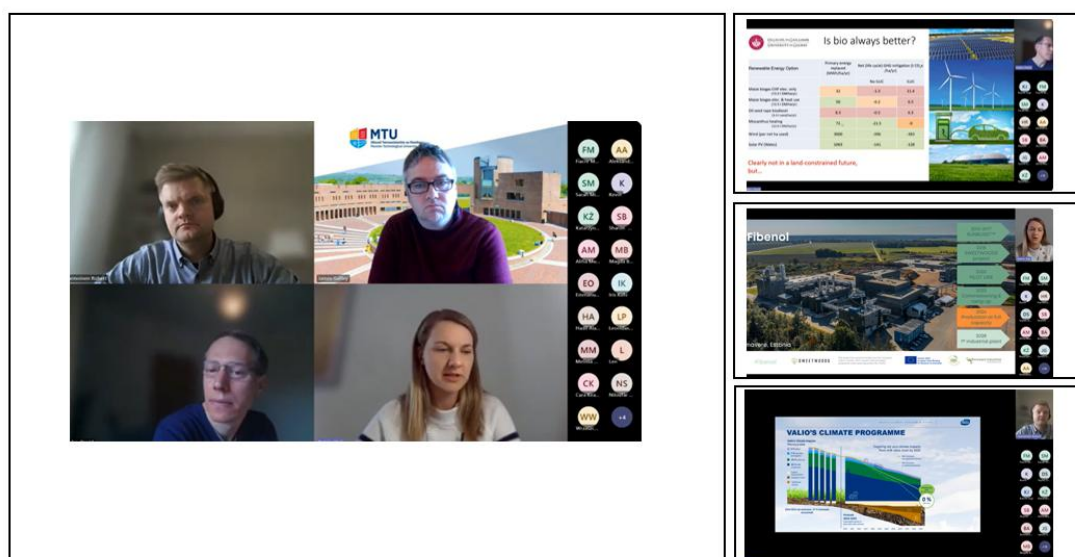


Figure 6. Snapshot of Webinar 4: Opportunities for circular bioeconomy to improve the environmental sustainability of Primary Production (30<sup>th</sup> of April 2024)

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

Webinar 5, held on May 8<sup>th</sup>, 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

<sup>10</sup> Valio Ltd, Finnish dairy company: <https://www.valio.com>



coastal areas. Despite attracting 74 registrants, the attendance was again lower with 39 participants and registration page views 369, indicating, similar as in previous webinars, the need to improve engagement and participation in future sessions. This was a focus for improvement going forward. Figure 7, Snapshot of Webinar 5: Business model and social innovations for promoting bioeconomy development in rural and coastal regions (8<sup>th</sup> of May 2024) provides a visual overview of the webinar, capturing key moments and highlights.

Anastasios Galatsopoulos, Project Manager at [WHITE](#)<sup>11</sup>, 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](#)<sup>12</sup>, 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](#)<sup>13</sup> - 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](#)<sup>14</sup>, 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”, reflected a diverse group, with a strong emphasis on academic participation. A total of 74 individuals registered, with the majority identifying as Researchers (43 registrants; approximately 58%), indicating predominant interest from the academic and research sectors. Industry stakeholders accounted for 11 registrants (15%), demonstrating continued engagement from the commercial sector. In addition, there were 6 Primary Producers (8%), 9 NGO/Society participants (12%), and 5 Government/Policy Makers (7%), highlighting the importance of local actors, civil society, and governance actors 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.

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<sup>11</sup> WHITE Research, Belgium: <https://white-research.eu>

<sup>12</sup> Innovarum, Spain: <https://innovarum.es/en/home/>

<sup>13</sup> CIRCE, Spain: <https://www.fcirce.es>

<sup>14</sup> ClonBio Group, Ireland: <https://www.clonbio.com>



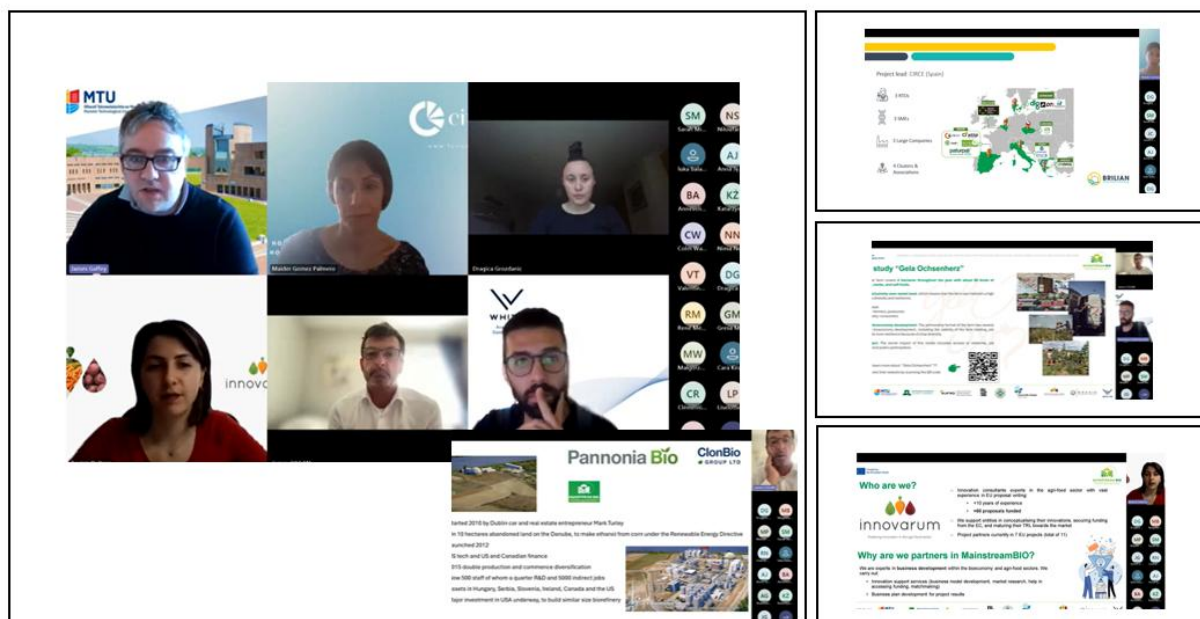


Figure 7. Snapshot of Webinar 5: Business model and social innovations for promoting bioeconomy development in rural and coastal regions (8<sup>th</sup> of May 2024)

#### 4.2.6 Bioeconomy tools to support primary producer participation in the bioeconomy

Webinar 6, held on May 16<sup>th</sup>, 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 (16<sup>th</sup> of May 2024) provides a visual overview of the webinar, capturing key moments and highlights.

Evangelia Tsagaraki, Project Manager at [Q-PLAN](https://qplan-intl.gr)<sup>15</sup>, 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](https://en.iung.pl)<sup>16</sup>, introduced the BioRURAL toolkit, an online platform designed to facilitate knowledge exchange and access to bioeconomy resources across EU

<sup>15</sup> Q-PLAN International, Greece: <https://qplan-intl.gr>

<sup>16</sup> IUNG – Institute of Soil Science and Plant Cultivation, Poland: <https://en.iung.pl>



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](#)<sup>17</sup>,<sup>18</sup> 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](#)<sup>19</sup> 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. A total of 68 individuals registered, with the majority identifying as Researchers (40 registrants; approximately 59%), indicating strong interest from the academic sector. Industry stakeholders made up 8 registrants (12%), reflecting significant engagement from the business sector. In addition, there were 8 NGO/Society participants (12%), 6 Primary Producers accounted for 9%, underscoring their direct interest, and 5 Government/Policy makers 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.

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<sup>17</sup> SAOS (Scottish Agricultural Organisation Society), Scotland: <https://saos.coop>

<sup>19</sup> Innovarum, Spain: <https://innovarum.es/en/home/>



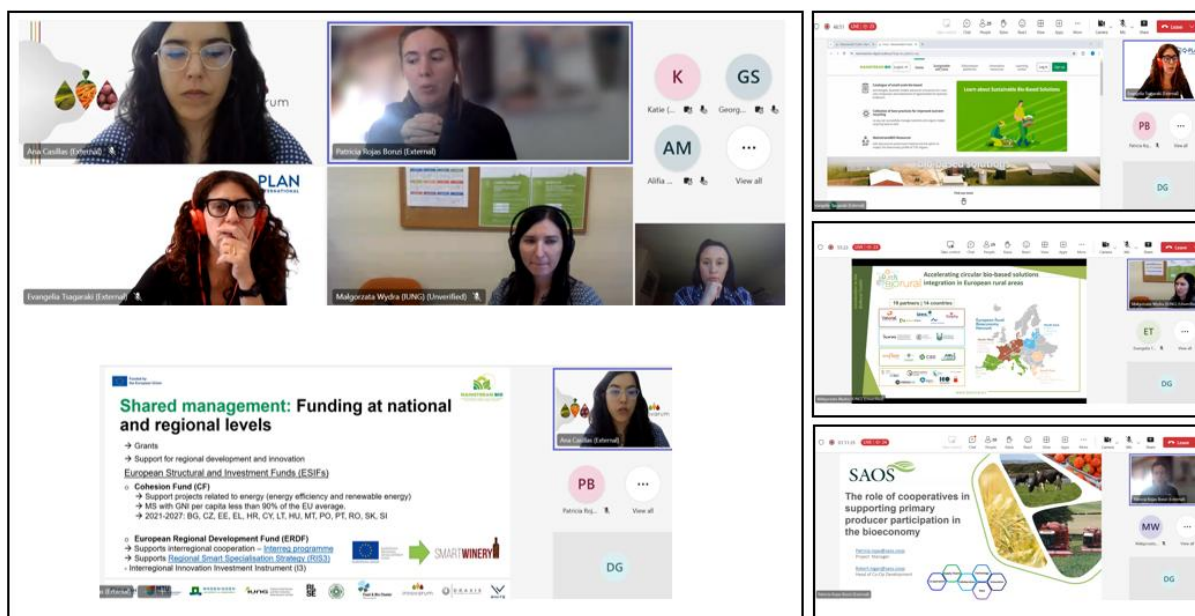


Figure 8. Snapshot of Webinar 6: Bioeconomy tools to support primary producer participation in the bioeconomy (16<sup>th</sup> of May 2024)

## 4.3 ROUND 2 WEBINARS (EXPANDED SERIES)

The first webinar, "Empowering Rural and Coastal Women in Innovation and Leadership in Primary Production," was held on January 15th, 2025, from 11:00-12:15 CET. This session focused on the role of women in primary production sectors, highlighting leadership, innovation, and sustainable practices in agriculture, marine industries, and textile production. The session featured:

- Dragica Grozdanic, Bioeconomy Researcher at Munster Technological University
- Jessica Giannoumis, Aquatech Community Manager at Hatch Blue
- Inés Carballo, CEO at Aitana Espirulina
- Raya Liberman-Aloni, Co-founder & CTO at PoLoPo
- Carmen Hijosa, Founder & Chief Creative and Innovation Officer at Ananas Anam

The second webinar, "Women Industrial Leaders in Agriculture, Forest, Marine Beauty, and Bio-based Fashion Textiles," took place on January 22nd, 2025, from 11:00-12:15 CET. This session explored women's leadership and innovation in the bioeconomy sector, showcasing advancements in agriculture, marine beauty products, and sustainable fashion. The session featured:

- Dragica Grozdanic, Bioeconomy Researcher at Munster Technological University
- Trine Kastrup Dalsgaard, Professor at Aarhus University
- Aleksandra Augustyniak, Postdoctoral Researcher at Munster Technological University
- Paulien Harmsen, Senior Researcher at Wageningen University
- Johan Börjesson, Group Manager at RISE Processum AB
- Mette Lübeck, Professor at Aalborg University



The third webinar, "Youth in the Bioeconomy: Impact and Importance of Involving Youth in the Bioeconomy Sector," was held on January 29th, 2025, from 11:00-12:15 CET. This session emphasized the role of young leaders in shaping the future of the bioeconomy, showcasing initiatives in youth advocacy, sustainable food systems, and bio-waste management. The session featured:

- Dragica Grozdanic, Bioeconomy Researcher at Munster Technological University
- Susanna Albertini, Project Manager at GenB Project
- Ana Marija Peter, Faculty Assistant at the Faculty of Agriculture, University of Zagreb
- Syed Hasnain, Youth Advocate & Project Leader at ACT4FOOD
- Caithriona McCarthy, Lecturer at Edible Landscape Project

The fourth webinar, "Empowering Consumers in the Bioeconomy: Sustainable Choices for Health, Wellness, and Future Generations," took place on February 5th, 2025, from 11:00-12:15 CET. This session explored consumer perspectives on bio-based products, the importance of sustainable food choices, and case studies on plant-based and GM biofortified foods. The session featured:

- Dragica Grozdanic, Bioeconomy Researcher at Munster Technological University
- Annarita Colasante, Researcher at UnitelmaSapienza University of Rome
- Jennifer Attard, Senior Researcher at Munster Technological University
- Hans De Steur, Professor at Ghent University
- Piergiuseppe Morone, Professor at UnitelmaSapienza University of Rome

#### **4.3.1 Empowering Rural and Coastal Women in Innovation and Leadership in Primary Production**

Webinar 1 held on January 15th, 2025, from 11:00 to 12:15 CET, launched Round 2 of the MainstreamBIO campaign "Revolutionizing Europe's Rural Regions: Circular Bioeconomy Opportunities" and the Innovative Bio-Based Solutions Webinar Series. The session provided a focus on the critical role of women in rural and coastal areas. It highlighted how women are leading sustainable practices, fostering innovation, and overcoming challenges in primary production sectors, such as agriculture, food, textile and marine industries (Figure 9).

This webinar attracted 77 registration page views, with 41 registered participants and 34 attendees, demonstrating an 83% conversion rate from registration to attendance. Among the registrants, 63% were female, while 37% were male, reflecting strong participation from women in this gender-focused



session.

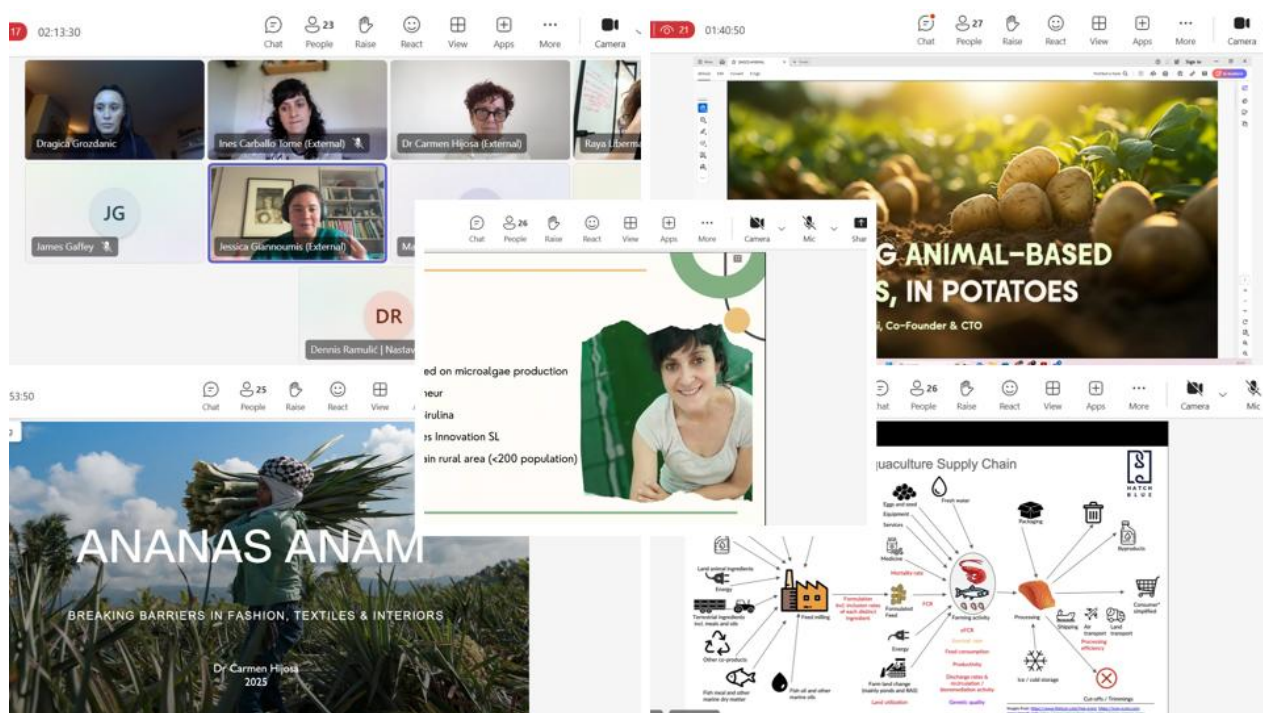


Figure 9. Snapshot of Webinar 1: Empowering Rural and Coastal Women in Innovation and Leadership in Primary Production (15th of January 2025), captures the highlights of this engaging session.

Presentations included:

Dragica Grozdanic, Bioeconomy Researcher at [Munster Technological University](https://www.mtu.ie)<sup>20</sup>, introduced the MainstreamBIO Campaign Round 2 and the goals of the webinar series, setting the stage for the session.

Jessica Giannoumis, Aquatech Community Manager at [Hatch Blue](https://www.hatch.blue)<sup>21</sup>, discussed innovative approaches to aquaculture sustainability, focusing on Hatch Blue's expertise in environmentally responsible practices and leveraging technology to promote economic viability.

Inés Carballo, CEO at [Aitana Espirulina](https://aitanaespirulina.es)<sup>22</sup>, highlighted the potential of sustainable spirulina farming as a regenerative solution for health, environmental conservation, and community development, focusing on its nutritional benefits and contributions to local economies.

Raya Liberman-Aloni, Co-founder and CTO at [PoLoPo](https://www.polopo.tech)<sup>23</sup>, showcased women innovators in plant-based biotechnology, highlighting PoLoPo's groundbreaking work in producing proteins in plants as a sustainable food source.

<sup>20</sup> Munster Technological University, Ireland: <https://www.mtu.ie>

<sup>21</sup> Hatch Blue, Ireland: <https://www.hatch.blue>

<sup>22</sup> Aitana Espirulina, Spain: <https://aitanaespirulina.es>

<sup>23</sup> PoLoPo, Israel: <https://www.polopo.tech>



Carmen Hijosa, Founder and Chief Creative and Innovation Officer at [Ananas Anam](#)<sup>24</sup>, explored sustainable innovation in the textile industry, presenting the success story of Piñatex, a leather alternative made from pineapple leaf fibers.

Feedback from stakeholders indicated a wide range of participation<sup>25</sup> across sectors. Of the 41 registered participants, 20 were academic researchers (49%), reflecting strong interest from the academic community. Industry stakeholders made up 4 participants (10%), while civil society representatives and government/policymakers each accounted for 4 participants (10%), underscoring the role of both public institutions and community engagement. In addition, there were 5 participants (12%) from other professional backgrounds, 2 students (5%) offering fresh perspectives, and 2 primary producers (5%), whose involvement highlighted the value of practical, on-the-ground insights. This distribution demonstrates the broad appeal of the session and the critical need for interdisciplinary collaboration to advance sustainable practices and gender empowerment in the bioeconomy.

### 4.3.2 *Women Industrial Leaders in Agriculture, Marine Beauty, and Bio-based Fashion Textiles*

Webinar 2, held on January 22nd, 2025, from 11:00 to 12:15 CET, continued the Round 2 MainstreamBIO campaign and the Innovative Bio-Based Solutions Webinar Series. This session highlighted the contributions of women industrial leaders in the bioeconomy, with a particular focus on agriculture, marine beauty products, and bio-based fashion textiles. It showcased groundbreaking innovations and sustainable practices led by women across these sectors, emphasizing their pivotal role in shaping the bioeconomy's future. Figure 10, Snapshot of Webinar 2: Women Industrial Leaders in Agriculture, Marine Beauty, and Bio-based Fashion Textiles (22<sup>nd</sup> of January 2025) provides a visual overview of the webinar, capturing key moments and highlights.

The webinar attracted 59 registration page views, with 46 registered participants and 40 attendees, indicating a strong conversion rate of 87% from registration to attendance. Among the registrants, 74% were female, while 26% were male, underscoring the session's appeal to women leaders and stakeholders in the bioeconomy.

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<sup>24</sup> Ananas Anam, UK: <https://www.ananas-anam.com>



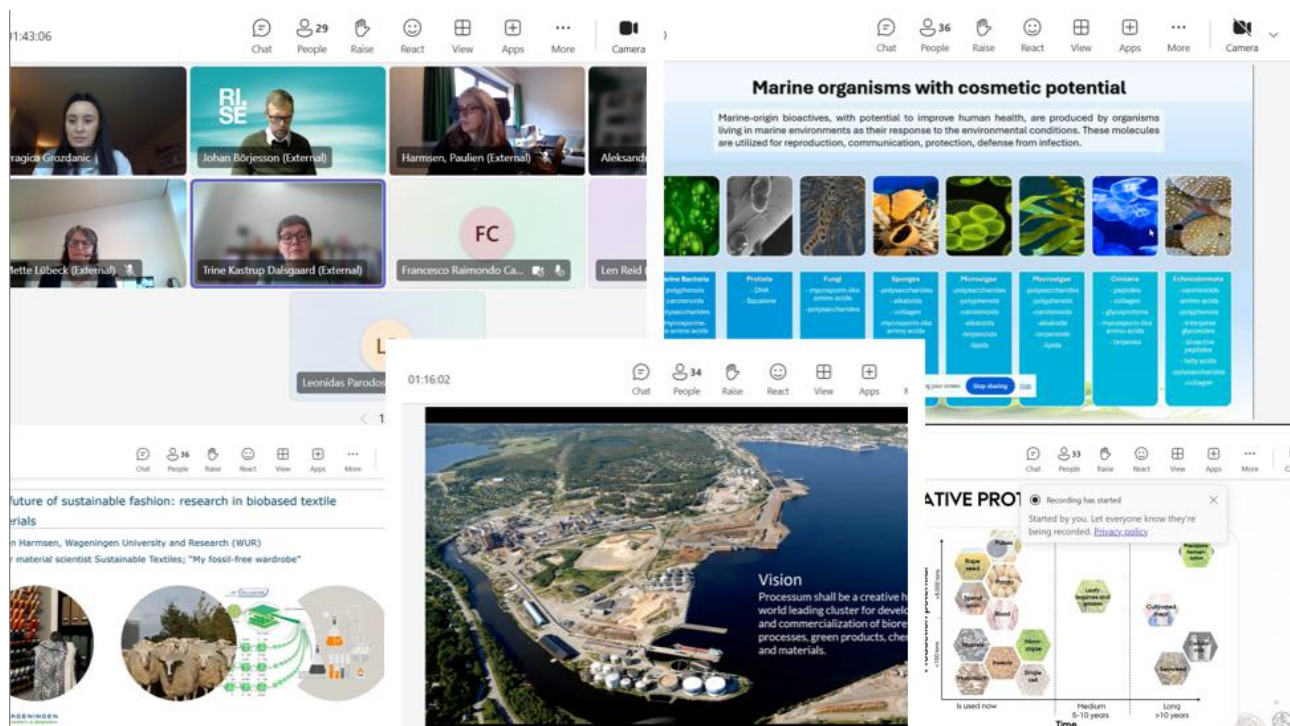


Figure 10. Snapshot of Webinar 2: Women Industrial Leaders in Agriculture, Forest, Marine Beauty, and Bio-based Fashion Textiles (22nd of January 2025), captures the highlights of this session.

Presentations included:

Dragica Grozdanic, Bioeconomy Researcher at [Munster Technological University](https://www.mtu.ie)<sup>26</sup>, opened the session with an overview of the MainstreamBIO Campaign Round 2, introducing the importance of women's leadership and innovation in the bioeconomy.

Trine Kastrup Dalsgaard, Professor at [Aarhus University](https://international.au.dk)<sup>27</sup>, presented on off-flavours in plant protein, focusing on their origins, evolution during processing, and mitigation strategies to enhance the quality and acceptability of plant-based protein products.

Aleksandra Augustyniak, Postdoctoral Researcher at [Munster Technological University](https://www.mtu.ie)<sup>28</sup>, explored marine natural beauty products, highlighting the use of marine resources such as seaweed and algae in creating sustainable, high-performance beauty products.

Paulien Harmsen, Senior Researcher at [Wageningen University](https://www.wur.nl/en)<sup>29</sup>, discussed the future of sustainable fashion, emphasizing innovations in bio-based textile materials, the development of circular textiles, and strategies for reducing the environmental impact of the textile industry.

<sup>26</sup> Munster Technological University, Ireland: <https://www.mtu.ie>

<sup>27</sup> Aarhus University, Denmark: <https://international.au.dk>

<sup>28</sup> Munster Technological University, Ireland: <https://www.mtu.ie>

<sup>29</sup> Wageningen University & Research, Netherlands: <https://www.wur.nl/en>



Johan Börjesson, Group Manager at [RISE Processum AB](#)<sup>30</sup>, presented on forestry-based innovations, showcasing the role of forest-based industries in driving sustainable bioeconomic growth and empowering women through advancements in forestry-related sectors.

Mette Lübeck, Professor at [Aalborg University](#)<sup>31</sup>, moderated the panel discussion, engaging speakers in a dialogue on the challenges and opportunities faced by women innovators in the bioeconomy.

Stakeholder feedback revealed a broad range of participation across sectors. Of the 46 registered participants, 26 identified as academic researchers (57%), reflecting strong interest from the academic community. Industry stakeholders accounted for 4 participants (9%), while civil society was represented by 7 participants (15%). Additionally, 5 participants (11%) identified with other stakeholder categories, and 3 participants (7%) were government policymakers, highlighting their role in shaping enabling frameworks for bioeconomy innovation. Only 1 participant (2%) identified as a student. This distribution emphasizes the importance of cross-sector collaboration and the continued engagement of academic and public stakeholders in advancing sustainable bioeconomy practices.

### ***4.3.3 Youth in the Bioeconomy: Impact and Importance of Involvement in the Bioeconomy Sector***

Webinar 3, held on January 29th, 2025, from 11:00 to 12:15 CET, continued the Round 2 MainstreamBIO campaign and the Innovative Bio-Based Solutions Webinar Series. This session emphasized the vital role of youth in advancing the bioeconomy by driving innovation, creating job opportunities, and fostering a more sustainable future. The session also highlighted how youth involvement in sectors such as agriculture, energy, biotechnology, and environmental sustainability brings fresh perspectives, digital skills, and entrepreneurial spirit to the field (Figure 11).

The webinar attracted 66 registration page views, with 47 registered participants and 41 attendees, indicating a strong conversion rate of 87% from registration to attendance. Among the registrants, 65% were female, while 35% were male, reflecting the inclusive engagement of females and professionals from diverse sectors.

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<sup>30</sup> RISE Research Institutes of Sweden, Sweden: <https://www.ri.se/en>

<sup>31</sup> Aalborg University, Denmark: <https://www.en.aau.dk>



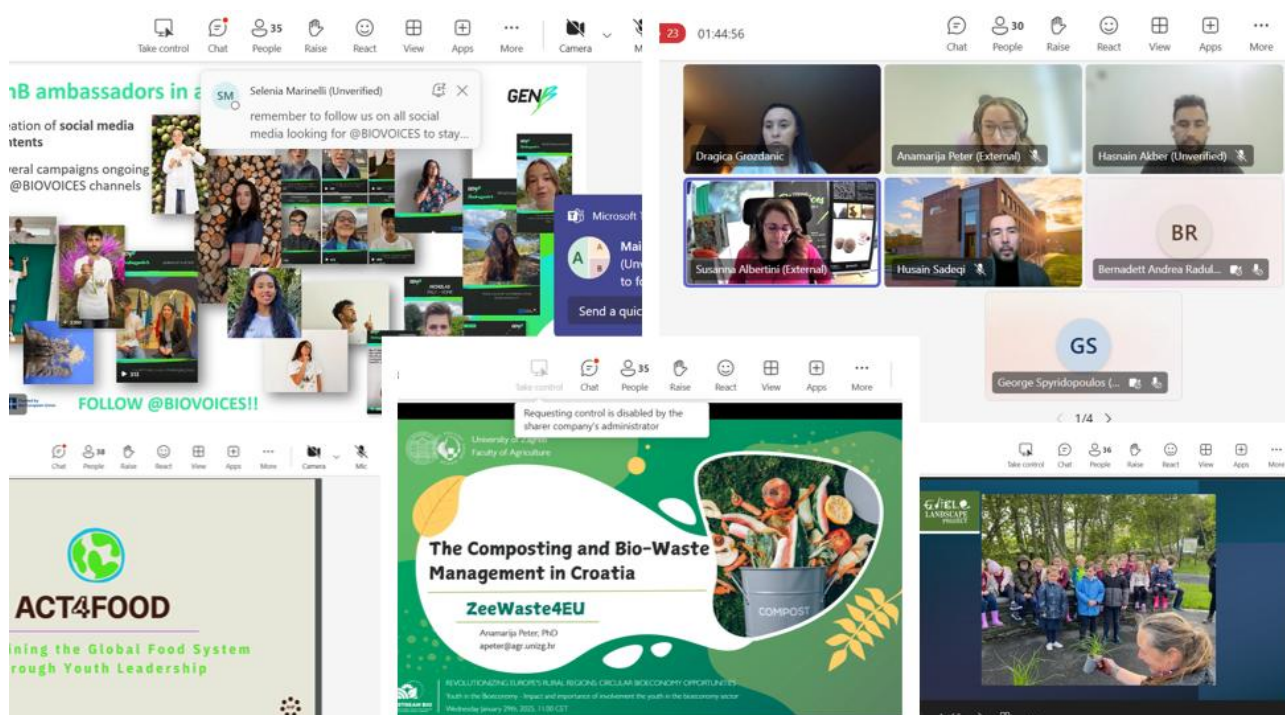


Figure 11. Snapshot of Webinar 3: Youth in the Bioeconomy - Impact and Importance of Involvement (29th of January 2025), captures the highlights of this engaging session.

Presentations included:

Dragica Grozdanic, Bioeconomy Researcher at [Munster Technological University](https://www.mtu.ie)<sup>32</sup>, introduced the session and provided an overview of the MainstreamBIO Campaign Round 2.

Susanna Albertini, Project Manager at [GenB Project](https://genb-project.eu)<sup>33</sup>, discussed amplifying youth voices for a sustainable bioeconomy, focusing on how EU-funded projects like BIOVOICES and Transition2Bio empower young people to shape a sustainable bioeconomy.

Ana Marija Peter, Faculty Assistant at the [Faculty of Agriculture, University of Zagreb](https://www.agr.unizg.hr/en)<sup>34</sup>, Croatia, explored composting and bio-waste management in Croatia, showcasing community-driven initiatives that transform organic waste into valuable resources and support Croatia's transition to a circular economy.

Syed Hasnain, Youth Advocate and Project Leader at [Act4Food](https://actions4food.org)<sup>35</sup>, highlighted the role of youth advocacy in sustainable food systems, sharing insights from the Act4Food/Act4Change initiative, which mobilizes young leaders to create equitable and sustainable food systems.

<sup>32</sup> Munster Technological University, Ireland: <https://www.mtu.ie>

<sup>33</sup> GenB Project, Europe: <https://genb-project.eu>

<sup>34</sup> Faculty of Agriculture, University of Zagreb, Croatia: <https://www.agr.unizg.hr/en>

<sup>35</sup> Act4Food, Global Youth Food Movement: <https://actions4food.org>



Caithriona McCarthy, Lecturer at the [Edible Landscape Project](https://www.ediblelandscapeproject.ie)<sup>36</sup>, presented on youth empowerment in sustainable food systems, showcasing initiatives that engage young people in biodiversity conservation, local food production, and environmental stewardship.

Feedback from stakeholders indicated diverse participation across sectors. Of the 48 registered participants, 24 identified as academic researchers (50%), reflecting strong interest from the academic community. Industry stakeholders accounted for 4 participants (8%), while civil society participants made up 4 participants (8%). Other stakeholder categories included 5 government policymakers (10%), 2 students (4%), and 9 individuals (19%) who identified with other sectors. This distribution underscores the broad appeal of the session and highlights the importance of interdisciplinary collaboration and youth inclusion in driving sustainable innovation in the bioeconomy.

#### **4.3.4 Empowering Consumers in the Bioeconomy: Sustainable Choices for Health, Wellness, and Future Generations**

Webinar 4, held on February 5th, 2025, from 11:00 to 12:15 CET, concluded the Round 2 MainstreamBIO campaign and the Innovative Bio-Based Solutions Webinar Series. This session explored how consumer behavior and choices play a crucial role in shaping the bioeconomy. The webinar emphasized the importance of eco-friendly product preferences, ethical sourcing, circular economy principles, and their impact on health, wellness, and sustainability. Figure 12, Snapshot of Webinar 4: Empowering Consumers in the Bioeconomy: Sustainable Choices for Health, Wellness, and Future Generations (5<sup>th</sup> of February 2025) provides a visual overview of the webinar, capturing key moments and highlights.

The webinar attracted 59 registration page views, with 43 registered participants and 35 attendees, representing an 81% attendance rate. Among the registrants, 56% were female, 40% male, and 4% identified as diverse or chose not to disclose their gender, highlighting the inclusivity of the event.

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<sup>36</sup> Edible Landscape Project, Ireland: <https://www.ediblelandscapeproject.ie>



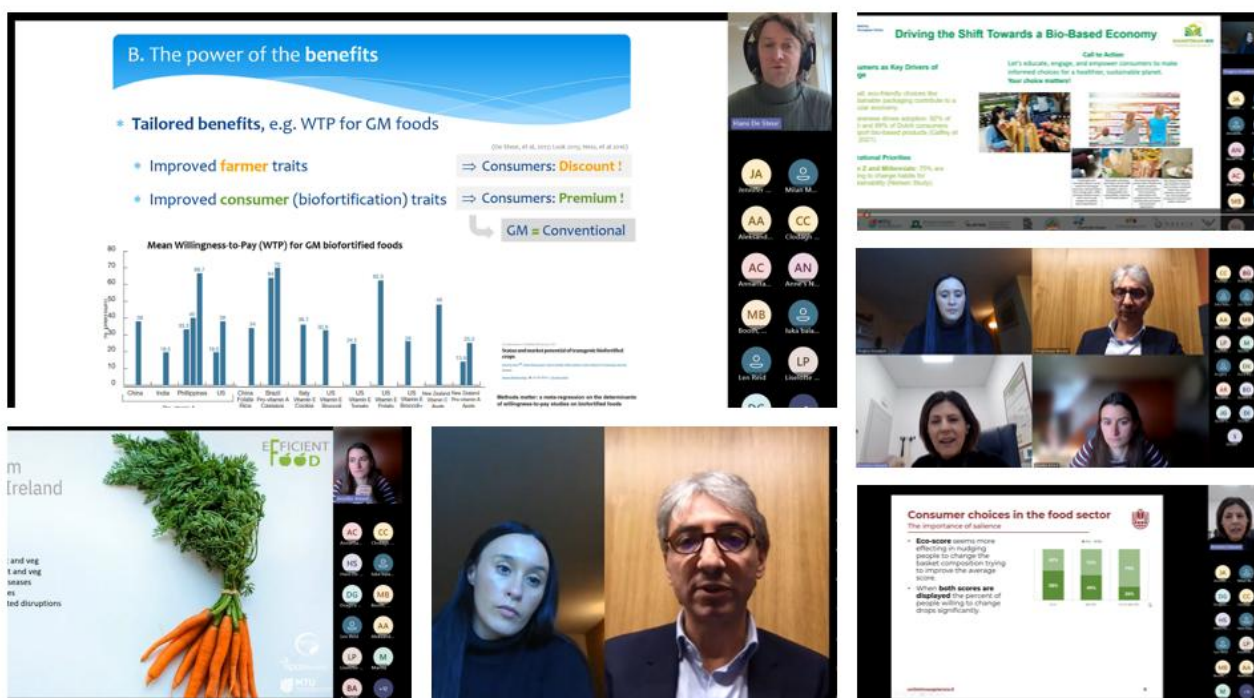


Figure 12. Snapshot of Webinar 4: Empowering Consumers in the Bioeconomy - Sustainable Choices for Health, Wellness, and Future Generations (5th of February 2025), captures the highlights of this impactful session.

Presentations included:

Dragica Grozdanic, Bioeconomy Researcher at [Munster Technological University](https://www.mtu.ie)<sup>37</sup>, opened the session with an overview of MainstreamBIO Campaign Round 2, setting the stage for discussions on sustainable consumer choices.

Annarita Colasante, Researcher at [Unitelma Sapienza University of Rome](https://www.unitelmasapienza.it)<sup>38</sup> presented Consumer Perspectives and Acceptance Towards Bio-Based Products, exploring factors influencing consumer choices, such as perceived benefits, sustainability, and cost considerations.

Dr. Jennifer Attard, Senior Researcher at [Munster Technological University](https://www.mtu.ie)<sup>39</sup>, discussed Educating Consumers to Make Healthier Food Choices and Reduce Food Waste, highlighting awareness campaigns, food planning tools, and community engagement initiatives.

Dr. Hans De Steur, Professor at [Ghent University](https://www.ugent.be/en)<sup>40</sup>, shared insights on Sustainable and Healthy Consumers: Case Studies on Plant-Based and GM Biofortified Foods, focusing on innovative approaches to enhancing nutrition, sustainability, and consumer acceptance of plant-based and GM foods.

<sup>37</sup> Munster Technological University, Ireland: <https://www.mtu.ie>

<sup>38</sup> Unitelma Sapienza University of Rome, Italy: <https://www.unitelmasapienza.it>

<sup>39</sup> Munster Technological University, Ireland: <https://www.mtu.ie>

<sup>40</sup> Ghent University, Belgium: <https://www.ugent.be/en>



Piergiuseppe Morone, Professor at [Unitelma Sapienza University of Rome](https://www.unitelmasapienza.it)<sup>41</sup> moderated the panel discussion, engaging speakers in dialogue about strategies for fostering responsible consumption and advancing consumer-driven sustainability in the bioeconomy.

Stakeholder feedback reflected a diverse range of participants. Of the 43 registered participants, 22 identified as academic researchers (51%), showcasing strong interest from the research community. Industry stakeholders accounted for 6 participants (14%), while civil society representatives comprised 3 participants (7%). Additionally, there were 3 government policymakers (7%) and 9 participants (21%) from other professional backgrounds. Notably, no participants identified as students for this webinar. This distribution underscores the broad interest in consumer-driven sustainability, emphasizing the critical role of education, innovation, and collaboration in empowering consumers to make informed, sustainable choices that benefit the bioeconomy. The webinar concluded the series on a high note, inspiring participants to consider their roles in fostering a healthier and more sustainable future.

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<sup>41</sup> Unitelma Sapienza University of Rome, Italy: <https://www.unitelmasapienza.it>



## 5. REGIONAL CAMPAIGNS AND ACTIVITIES: ROUND 1 & ROUND 2

### 5.1 INTRODUCTION TO REGIONAL CAMPAIGNS AND ACTIVITIES

The MainstreamBIO project conducted a series of 14 regional in-person campaigns from February 2024 until the June 2025, 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.

### 5.2 ROUND 1: INITIAL REGIONAL ACTIVITIES & IN-PERSON EVENTS

#### 5.2.1 *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 23<sup>rd</sup>, 2024, at the Hilton Hotel in Plovdiv (Figure 13). 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 13). 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 13. Regional In-Person Event in Plovdiv on 23<sup>rd</sup> of February 2024

### 5.2.2 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 4<sup>th</sup> and 5<sup>th</sup>, 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 14). 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. Information about the Second Open Call to apply for MainstreamBIO services were provided to the farmers and small companies interested. The event also highlighted regional challenges, such as the fire hazard due to low forest maintenance, shaping how the project can 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.

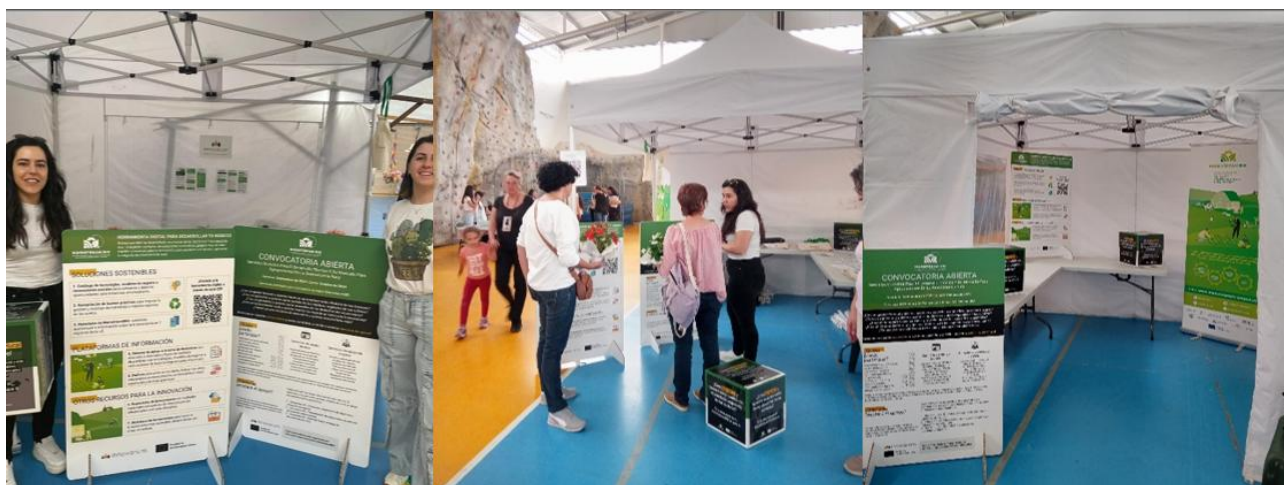


Figure 14. Regional In-Person Event Held in Valderrobres on the 4<sup>th</sup> and 5<sup>th</sup> of May 2024

### 5.2.3 Polish Campaign: Lubelskie region of Poland

The event "Innowacyjne Praktyki Odzyskiwania Składników Odżywczych" (Innovative nutrient recovery practices) was held on the 23<sup>rd</sup> of June 2024 at the Lublin agricultural advisory centre in Końskowola (LODR by its Polish acronym) and its agricultural experimental station (Figure 15). 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 2<sup>nd</sup> 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 CO<sub>2</sub> 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 15. Regional In-Person Event in Poland on 23<sup>rd</sup> of June 2024

#### 5.2.4 Danish Campaign: Midtjylland, Denmark

The in-person event "Temadag om reduceret jordbearbejdning – Conservation agriculture field visit" was held on the 18<sup>th</sup> 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, association for reduced tillage in Denmark (Figure 16). 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), 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 16. Danish Regional In-Person Event on 18<sup>th</sup> of March 2024

### 5.2.5 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 13<sup>th</sup>, 2024, at RISE Processum, Hörneborgsvägen 10, Domsjö. Originally planned as part of the annual "Breakfast Studio" initiative, the event format was adjusted following its cancellation by the organisers. In response, the Swedish



partner co-organized a dedicated awareness-raising campaign together with the BioReCer project. 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 17). 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 13<sup>th</sup> 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 35). 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 17. Swedish Regional In-Person Event on 13<sup>th</sup> of June 2024

### 5.2.6 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 30<sup>th</sup>, 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 3<sup>rd</sup> 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 18). 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 18. Dutch Regional In-Person Event held in Lelystad on 30<sup>th</sup> of May 2024

### 5.2.7 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 28, 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 (Figure 19). 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 visit. The event was focused on increasing awareness and understanding of the objectives, activities and impacts of mainstreaming small-scale biorefineries from MainstreamBIO Project prospective and RuralBio Up and CAP Networking 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. 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 event partners Irish Bioeconomy Foundation and CAP Network Ireland. 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, 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 (Figure 35). The valuable attendance feedback emphasized the need for a stronger social media presence, providing more practical demonstrations and providing some additional information on the funding schemes. 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 19. Irish Regional In- Person Event on 30th of June 2024

## 5.3 ROUND 2: EXPANDED REGIONAL ACTIVITIES & IN-PERSON EVENTS

### 5.3.1 Bulgarian Campaign: Plovdiv, Region of South-Central Bulgaria

The Bulgarian Regional Event, titled "Awareness on the Sustainability and Economic Opportunities for Primary Producers in the Bioeconomy," was organized by the Agricultural University of Plovdiv (AUP) and held on January 24, 2025, at the Park Hotel in Plovdiv (Figure 20). This in-person workshop, targeting farmers and students, aimed to share knowledge and experiences about the economic potential of the bioeconomy, with a focus on sustainability and digital farming technologies. A total of 23 participants registered, with 21 attending. The event provided a platform for engagement among local farmers and agricultural experts. The workshop included keynote presentations, panel discussions, and interactive sessions, fostering an environment conducive to learning and collaboration. Promotion was carried out via email, phone calls, and social media, targeting organizations such as the National Agency for Advisory Services in Agriculture, the Bulgarian Greenhouse Producers Association, and the Career Center at AUP. Event materials, including leaflets, brochures, and a roll-up banner, ensured a cohesive visual identity for the MainstreamBIO project (Figure 20).

The agenda began with registration, followed by an introduction to the MainstreamBIO project. Presentations addressed key topics such as opportunities and challenges in the bioeconomy, the sustainability of small farm business models through digital technologies, and the use of digital solutions to enhance farm management. A case study presented by Victor Asenov, a young farmer, showcased a high-tech farm based on circular bioeconomy principles. His presentation provided practical insights into innovative greenhouse production. Prof. Petar Borisov, PhD, delivered keynote presentations on opportunities in the bioeconomy, digital farming technologies, and tools developed



under the MainstreamBIO and BOOST projects to support improved farm management. These contributions offered participants a comprehensive overview of the potential for innovation and digitalization in agriculture. Panel discussions and workshops focused on identifying roadblocks to sustainable development, exploring the role of digitalization in agriculture, and fostering stakeholder cooperation to improve bioeconomy practices. Participants exchanged knowledge and explored innovative ideas, including digital solutions for greenhouse production and the use of educational resources to improve business sustainability.

The event yielded several key findings, including the importance of replicating successful business models, strengthening stakeholder cooperation, and expanding training programs to support knowledge transfer and capacity building. Presentation slides from the MainstreamBIO and BOOST projects were made available online to extend the event's reach. Promotional efforts also included social media posts and a [LinkedIn article](#) summarizing the event. Feedback collected through questionnaires indicated that the event successfully fostered meaningful discussion and participant engagement.

In conclusion, the event effectively achieved its objectives of raising awareness about the bioeconomy and presenting practical solutions for sustainable agriculture. The discussions and case studies demonstrated the transformative potential of digital tools and circular practices. The workshop laid a foundation for future collaborations and initiatives in the South-Central Region of Bulgaria. By combining expert insights, real-world examples, and interactive formats, the event contributed to the promotion of bioeconomy practices in agriculture and rural development.



Figure 20. Bulgarian Regional In- Person Event on 24th of January 2025

### 5.3.2 Spanish Campaign: Catalonia, Region of North-Eastern Spain

The MIP Region event in Spain, titled *"Conference on Bioparks: An Industrial Model Contributing to the Sustainability of the Primary Sector and the Economy Diversification,"* took place on April 10th, 2025, at the Lleida-Alguaire Airport in Catalonia (Figure 21). Organized by Diputació de Lleida, Innovarum, and the projects Onda ODS and MAINSTREAMBIO, the conference aimed to explore



the opportunities of the bioeconomy in rural areas through the development of industrial bioparks. It sought to raise awareness on the necessity of advancing this model with a strategic focus on biomass sources, biogas plants, and the integration of diverse industries and farms. The one-day in-person event gathered a total of 201 attendees, including 117 high school students and 84 adult participants from various sectors such as policymaking, academia, education, and youth organisations. As the students were under-age, only the adult participants signed the attendance list. The event featured a rich programme of presentations, two expert-led roundtables, and a networking lunch. The event was extensively promoted through several channels, including LinkedIn campaigns by [Innovarum](#) and [Patronat de Promoció Econòmica de la Diputació de Lleida](#), local news coverage by *Lleida Diari*, updates through city council websites like Torrefarrera, and social media activities by institutions such as the Catalan Energy Institute via [X](#). Additional dissemination included a [blog post by Innovarum](#) and regional government articles such as the Diputació Lleida news release ([link](#)) and coverage by *La Ciutat* newspaper ([link](#)).

At the venue, promotional materials including 100 triptychs on key bioeconomy topics, 100 flyers promoting MainstreamBIO's digital toolkit and services, 15 branded cloth tote bags, and roll-up banners ensured strong project visibility. The conference featured an impressive lineup of speakers. Xavier Gómez, Director of Lleida-Alguaire Airport; Joan Guillaumet, Mayor of Alguaire; and Joan Talarn, President of the Lleida Deputation, delivered institutional welcomes emphasizing the region's commitment to circularity and sustainability. Presentations followed from Pili García (event conductor and radio coordinator at Emun FM), Teresa Botargues (Technical Transformation Office at Lleida Diputation and MainstreamBIO MIP member), Flore Victor (Innovation consultant at Innovarum), and representatives of RTV Cardedeu, Susanna Cabiscol and Maria Rovira, who showcased the Onda ODS project.

Two expert roundtables further deepened the dialogue. The first roundtable, with Teresa Botargues, Víctor Falguera (BIOHUB CAT Coordinator), Flore Victor, Xavier Gómez, Miquel Serra (Alcarràs Bioproducers Vice President), and Míriam Díaz de los Bernardos (H2CAT Network Director and Chemistry Unit Director at EURECAT), discussed European examples of successful bioparks and strategies for deploying circular models in rural areas. The second roundtable, featuring Víctor Falguera, Jaume Sió (Head of the Technical Office of DARPA), Ricard Carreras (Beta Center Transfer Promoter), Laia Sarquella (Head of the Energy Department at the Catalan Institute of Energy), Sebastià Farré (Noguera Renewables Responsible), and Eduard Antorn (Architect at Segrià Comarcal Council), focused on the complementarity of biogas and digestate strategies. They underlined the necessity of adjusting current policies to allow the transport of biomass beyond the current 2 km restriction, emphasizing the importance of integrating biogas generation within bioparks. Highlighting innovative ideas and solutions, the event showcased the biopark model as a powerful approach to valorize industrial and agricultural by-products for local energy and material production. The [BioPark concept](#) in Amsterdam was cited as an inspiring example.

Key findings from the conference emphasized that bioparks can drive circular strategies in rural areas by fostering collaboration among companies, maximizing the use of biomass and industrial by-products. However, participants stressed that policies in Spain must evolve to better facilitate these models, especially regarding biomass transportation regulations and a more robust biogas and digestate strategy.

The event's success was reflected in strong participation from across sectors, primary producers, companies, research centers, universities, and policymakers. MainstreamBIO enjoyed high visibility, with all distributed promotional materials being taken by attendees. Media dissemination through radio and TV also boosted the event's impact. A full recording of the event can be accessed [here](#). A full set of pictures can be found [here](#). The feedback gathered from Spanish participants indicated



the need to improve venue accessibility, increase local stakeholder engagement, and incorporate more critical perspectives on industrial bioeconomy models, which may help shape future activities in the region.



Figure 21. Spanish Regional In- Person Event on 10th of April 2025

### 5.3.3 Polish Campaign: Puławy, Region of Eastern Poland

The MIP Region event in Poland, titled "*Regional Awareness Raising and Educational Event at the Easter Marketplace*," was held on April 12th, 2025, at the Agricultural Experimental Station (AES) Kępa in Puławy (Figure 22). Organized by IUNG in collaboration with the local farmers and producers in Puławy, the event served as a satellite meeting within a broader spring/holiday fair. It aimed to raise awareness of bioeconomy principles among farmers, entrepreneurs, consumers, women, and youth, successfully attracting 32+ participants, including local producers, citizens, and children. The event took place in-person at the IUNG premises and was centered around a dedicated booth promoting the MainstreamBIO project. IUNG staff actively engaged visitors and exhibitors in bilateral discussions focused on sustainable practices, and a feedback questionnaire, designed and conducted in Polish, was distributed among participants to assess the fulfilment of Tasks 3.4 and 3.5 objectives.

Promotion of the event was extensive and carried out by both IUNG and AES Kępa. IUNG announced the event through a [post](#) on their official Facebook page and created the [Easter Marketplace Event page](#) to invite local audiences. In collaboration, AES Kępa published a promotional [video](#) and a [highlights](#) reel featuring activities from the event, both shared on their [official page](#). Posters were also displayed throughout Puławy to further boost visibility. During the event, project brochures were distributed, and short presentations at the IUNG booth explained MainstreamBIO's main objectives and results. Local producers presented regional and handmade products at individual stands, promoting sustainable practices and local entrepreneurship. The event focused on several key themes: bioeconomy solutions existing or potentially implementable in the region; the qualities and production processes of local products; and educational activities related to animal welfare and sustainable food practices aimed at children. Special activities included bioeconomy-themed quizzes for children, creative workshops for handmade Easter decorations, egg coloring with natural agricultural dyes, and animal welfare presentations.

Although there were no formal keynote addresses, the event was divided into three main strands: the presentation of MainstreamBIO project results, open discussions around local bioeconomy



solutions, and interactive educational activities for children. This format enabled meaningful one-on-one exchanges. Many farmers and entrepreneurs realized they were already applying bioeconomy principles without formally identifying them as such. Younger farmers showed particularly high awareness of sustainability practices. Participants underlined the value of practical, local events and suggested that targeted education and networking opportunities would strengthen innovation ecosystems in the region.

From the consumer perspective, participants showed high familiarity with local products available in physical stores but lacked awareness of online offerings. Supporting local producers with better marketing strategies and digital sales tools could improve their competitiveness against larger brands. Feedback collected through the event's questionnaire confirmed that participants found the educational and practical aspects of the event engaging. While interest in subscribing to the project newsletter was limited, there was strong interest in attending similar future events focused on bioeconomy solutions.

In conclusion, the Easter Marketplace event successfully fulfilled its objectives of raising awareness about bioeconomy, particularly among women and youth. Women made up more than half of the exhibitors showcasing regional and handmade products, and the children's educational activities were among the most popular features. The event's format, emphasizing experiential learning and community dialogue, proved effective in fostering regional engagement with sustainable practices.



Figure 22. Polish Regional In- Person Event on 12th of April 2025

### 5.3.4 Danish Campaign: Odense SØ, Region of Southern Denmark

The MIP Region event in Denmark, titled "*Tema- og Netværksdag om reduceret jordbearbejdning på Sanderumgård*," was held on March 14th, 2025, at Sanderumgaard Estate, located in Odense SØ (Figure 23). Organized by Food & Bio Cluster Denmark (FBCD), the event served as a combined awareness campaign, network gathering, and farm demonstration, aiming to showcase how conservation agriculture (CA) and reduced tillage practices can be effectively aligned with large-scale vegetable production, specifically onions, potatoes, and asparagus, across more than 700



hectares at Sanderumgaard. The event successfully gathered 80 participants in total, including 70 attendees and 10 individuals involved as speakers or representatives from FBCD. The audience including agricultural students, teachers, researchers, farmers, and representatives from the agro-industry sector. The primary objective was to bring together both current and future farmers to inspire the younger generation toward more sustainable plant production systems.

The program began with a welcome and introduction to the day by Kasper Juhl Klausen, followed by a presentation of the MainstreamBIO project by Liselotte Puggaard. Henrik Terp, Operations Manager at Sanderumgaard and Chairman of FRDK (the Danish association for reduced tillage), gave a keynote speech focusing on current practices at the estate and opportunities within Denmark's Green Tripartite Agreement (Danish version [here](#)). One of Terp's key messages was that future food producers must be open-minded and curious, highlighting that farming today offers far more opportunities than in previous decades. Following the presentations, a field walk was conducted where participants were divided into two teams to explore demonstration plots. The field walk illustrated both success stories and challenges in implementing CA practices, including examples such as the impact of snail invasions on rapeseed fields, which demonstrated both the potential and the risks of reduced tillage methods.

The event was organized entirely as an in-person experience combining project presentations, keynote talks, and a farm walk across Sanderumgaard's production fields. Since projector-based presentations were not possible on-site, information about the MainstreamBIO project, including an introduction to the bioeconomy toolkit and biomass frameworks, was shared via large posters and fact sheets. A QR code was also available for easy access to the MainstreamBIO toolkit. Promotion of the event was targeted primarily at the local agricultural school in Dalum, located only 15 km from the venue, alongside invitations to regenerative agriculture networks and promotion through the FBCD [website and event calendar](#).

Key topics covered in the event included the integration of reduced tillage in vegetable production, soil health challenges in potato cultivation (traditionally a soil-disruptive crop), effective crop rotation strategies ensuring green winter coverage, and the exploration of new business models enabled by land reclassification and conservation agreements under Denmark's tripartite framework.

The event highlighted that Sanderumgaard is neither fully conventional, fully organic, nor fully conservation focused. Instead, it strives to combine the best practices from different production systems in a site-specific manner to optimize soil health, reduce nutrient leakage, and minimize greenhouse gas emissions. A strong emphasis was placed on aligning employees around a shared sustainability vision while maintaining a competitive and healthy business model. The overall goal of Sanderumgaard remains to produce healthy, local vegetables at competitive prices, such as their branded "Sanderumgaard potatoes." Participants, especially the younger agricultural students, found the discussions and field demonstrations highly inspiring. The main takeaway echoed Henrik Terp's call for openness, innovation, and the willingness to embrace new farming opportunities within regulatory frameworks like the tripartite agreement.

Based on participant feedback collected during the event, the talks and farm walk were considered highly engaging and motivational. The event successfully achieved its objectives of raising awareness, inspiring future generations, and showcasing practical bioeconomy solutions in agricultural management.





Figure 23. Danish Regional In- Person Event on 14th of March 2025

### 5.3.5 Swedish Campaign: Västerbotten, Region of Northern Sweden

The MIP Region event in Sweden, titled "Exploring Bioeconomy Opportunities at Sweden's Largest Career Fair," marked the 2<sup>nd</sup> in-person event of the second round of the MainstreamBIO Awareness Raising Campaign (Figure 24). Organized by Uniaden, the event took place on January 28th, 2025, at Umeå University. As one of Sweden's largest labor market fairs, Uniaden attracted over 8,000 students and 110 exhibitors, creating a vibrant platform for students to connect with leading companies and explore future career opportunities. RISE Processum participated as a satellite event partner, aiming to engage youth in the bioeconomy by showcasing career paths, innovations, and the potential of bio-based industries. Uniaden's reputation as a premier event for career exploration and networking provided an ideal venue for promoting the bioeconomy and raising awareness about the valorisation of forestry, agricultural, and industrial side streams. RISE's involvement emphasized the importance of sustainable innovation and the role of youth in advancing the bioeconomy. The event highlighted opportunities in bioeconomy-related careers, while also showcasing the work of RISE in EU-funded projects like MainstreamBIO.

Speakers representing RISE included Johanna Källman, Johan Börjesson, Joel Joelsson, Jesper Dejby, Albert Edman, Joakim Byström, Susanne Thurén, and Sara Lindström (Figure 24). These experts led engaging discussions and provided detailed insights into the bioeconomy, focusing on how renewable resources like forestry residues and agricultural by-products are transformed into biofuels, bioplastics, and other value-added products. Participants gained an understanding of RISE's work in scaling innovative technologies from laboratory research to industrial applications, as well as the organization's efforts to foster collaboration and accelerate bioeconomy adoption through initiatives like the Processum Biorefinery Cluster.

An interactive Bioeconomy Quiz added a fun and educational element to the event, testing students' knowledge of bioeconomy concepts. Questions covered topics such as the percentage (%) of Sweden's land covered by forest, products made from forestry resources, and the benefits of a bio-



based economy. The quiz proved highly popular, drawing significant participation and sparking curiosity among attendees. Many students appreciated the opportunity to learn through this engaging format, with several commenting that it deepened their understanding of bioeconomy principles and inspired new questions.

Promotional efforts for RISE's participation included a social media campaign on [LinkedIn](#), where the Processum Biorefinery Cluster invited attendees to visit the booth and learn about their work in bioeconomy innovation. The campaign also highlighted RISE's role in MainstreamBIO, an EU-funded project that supports small-scale bio-based solutions across rural Europe. At the event, promotional materials such as the MainstreamBIO leaflet and banner captured attention and sparked interest among participants.

The event featured rich discussions about career opportunities in the bioeconomy sector, particularly at RISE. Students expressed enthusiasm about the potential to work on meaningful projects that address climate change and promote sustainable resource use. Several inquired about internships, master's thesis opportunities, and entry-level positions at RISE, emphasizing their desire to contribute to impactful and innovative work. Notable interactions included a student's surprise upon learning that textiles like viscose and lyocell are derived from wood, which prompted a deeper appreciation for bio-based alternatives to fossil-derived materials. Another participant highlighted how Sweden's leadership in the bioeconomy stood in stark contrast to her home country and expressed a desire to contribute to similar initiatives. By engaging students through thought-provoking conversations, hands-on activities like the quiz, and accessible promotional materials, the event successfully raised awareness of the bioeconomy and its career potential. RISE's participation not only inspired students to consider roles in bio-based industries but also reinforced the critical role of youth in advancing sustainability and innovation. As part of the MainstreamBIO Awareness Raising Campaign, this event demonstrated how targeted engagement, and education can foster meaningful connections and build momentum for a more sustainable future.



Figure 24. Swedish Regional In- Person Event on 28th of January 2025

### 5.3.6 Dutch Campaign: Flevoland, Region of Central Netherlands

The MIP Region event in the Netherlands, titled “Akkebouwday Event” (Arable Farming Day), marked the seventh and final in-person event of the second round of the MainstreamBIO Awareness



Raising Campaign (Figure 25). Organized by ACRRES (part of Wageningen University and Research – Field Crops), it took place on Wednesday, June 4th, 2025, in Lelystad (the Netherlands) at Edelhertweg 1, Proefstation (testing station). As a national open day for the arable farming sector, the event attracted approximately 1,200 participants, including farmers, researchers, students, and the general public, under the theme: “Discover the latest developments in soil-saving working, climate-proof farming, and the application of robots and technology in arable farming.”

The programme included interactive sessions such as “Ask Anything” discussions, guided farm excursions, demonstrations, and product fairs. To support the awareness and educational goals of the MainstreamBIO project, three dedicated tours with 75 total participants were organized for students from agricultural schools. These visits focused on local bioeconomy examples and introduced students to the goals and innovations of the MainstreamBIO project. A specially designed poster featuring the project and regional biobased innovations was displayed in multiple locations during the event, with a QR code linking to both the awareness-raising and networking campaign questionnaires.

The key themes of the event included smart mechanization for soil-saving cultivation techniques and healthy crops, climate-proof farming, and smart technology in arable farming. The message “Healthy food starts with the farmer and makes the market more sustainable” was also emphasized. Circular agriculture was a prominent topic, particularly in discussions on improving nitrogen efficiency. Among the sessions relevant to MainstreamBIO, attendees participated in a walking tour of the ACRRES site with a focus on energy and its relationship to the biobased economy. In addition, the student group tours explored local opportunities for biobased economy development and introduced the MainstreamBIO initiative as an example of European collaboration supporting small-scale, sustainable solutions. Students engaged enthusiastically in discussions during the tours, expressing interest in a range of bioeconomy practices such as on-farm digestion, the production of crops for biobased materials, and the use of grass or algae side streams for innovative end products like paper or biomass. While there was significant curiosity, students also raised thoughtful questions about the economics of biobased products and the challenges of securing market demand—highlighting both growing interest and critical awareness. There was also interest in the machinery used. Teachers accompanying the student groups expressed strong interest in the subject and indicated they would likely incorporate some of the takeaways into future teaching on the biobased economy.

The event was promoted through various channels, including the official [Akkerbouwdag website](#), and several LinkedIn posts on the [Open Teelten](#) and [ACRRES pages](#) in the lead-up to the event. It also received attention from the national agricultural press, [Akkerbouwdag op 4 juni: inspiratie en dialoog voor de toekomst - Boerderij](#), with further articles expected from publisher Misset, which co-organized the event.

This event marked the final in-person event in the MainstreamBIO project and successfully raised awareness of sustainable practices in arable farming. It also served as a practical example of how local demonstrations and targeted engagement with youth can promote bioeconomy education and foster adoption in rural regions.



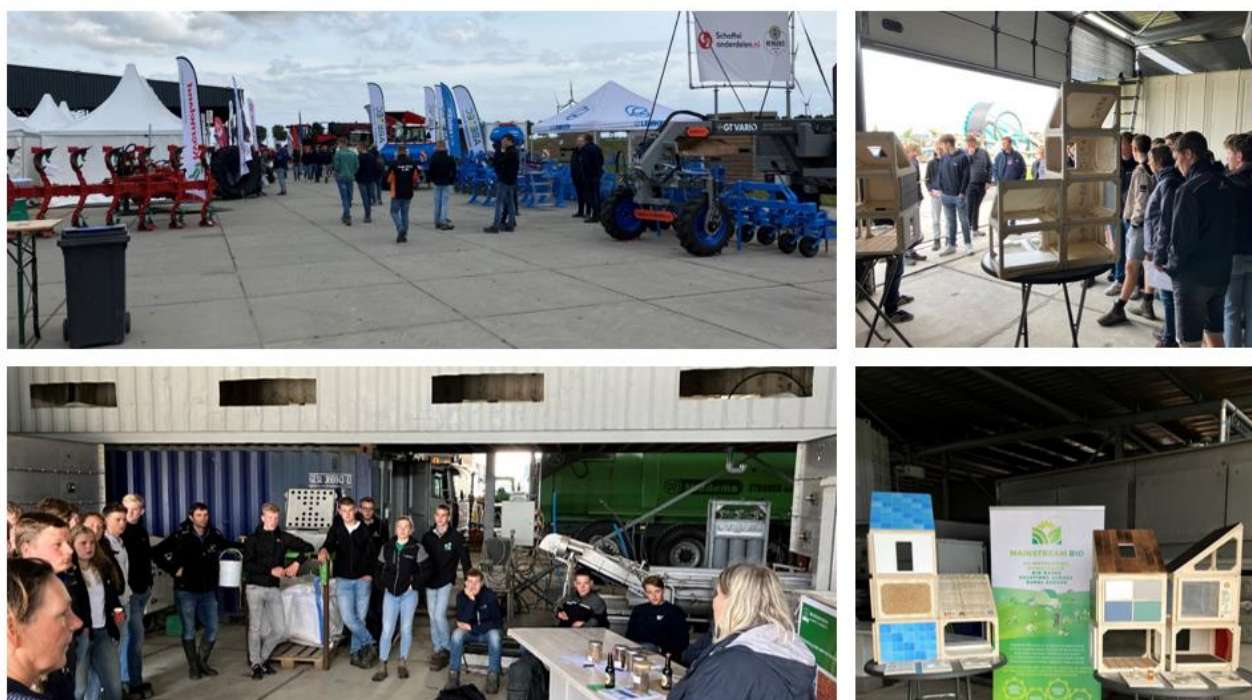


Figure 25. Dutch Regional In-person event on 4th of June 2025

### 5.3.7 Irish Campaign: Kerry, Region of Southern Ireland

The MIP Region event in Ireland, titled "Food Waste No More," marked the first in-person event of the second round of the MainstreamBIO Awareness Raising Campaign. Organized by Munster Technological University (MTU), it took place on November 16th, 2024, at the MTU Kerry North Campus as part of the Kerry Science Festival (Figure 26). Spanning two sessions from 11:00 to 14:00, the workshop combined hands-on learning, community engagement, and sustainability awareness to inspire families, children, and young participants across Southwest Ireland (Figure 26).

The [Kerry Science Festival](#) is widely celebrated for promoting science, innovation, and sustainability through dynamic, community-centered events. As a flagship initiative in Southwest Ireland, the festival fosters curiosity and collaboration among families, researchers, and organizations. The "Food Waste No More" workshop seamlessly aligned with this mission, offering impactful and creative educational experiences and creating meaningful connections within the community.

Speakers at the event included Tracey O'Conner, Dragica Grozdanic, and Eve Savage, who provided insights into the themes of the workshop and guided participants through the activities. Targeting women, families, and children, the workshop emphasized the critical role these groups play in advancing sustainable practices and shaping the bioeconomy. Participants explored themes such as bioeconomy, renewable energy, biodiversity, sustainable systems, and food waste prevention. These themes, which align closely with the bioeconomy webinar and information sheet topics, underscore the importance of engaging women as primary producers and industrial leaders, the involvement of youth in shaping the future of the bioeconomy, and the role of consumers in supporting bio-based industries.

The event featured activities including a LEGO innovation workshop, interactive discussions led by the speakers, and awards for creative solutions. Among the 41 families and approximately 60 children who attended, several participants were farmers. Notably, one family, through their child's vision, developed a sustainable solution that earned an award, showcasing the potential of young individuals as future advocates for the bioeconomy (Figure 27).



In order to support the maximum outreach and engagement, an improved promotional strategy was implemented. The event was promoted through MainstreamBIO's social media platforms ([LinkedIn](#), [Twitter](#), and [Facebook](#)) as well as MTU's own accounts, including [Instagram](#), which was introduced specifically to target younger audiences and expand outreach. A promotional video, developed by MTU, was shared during the workshop and featured highlights from the first round of the campaign, reinforcing its outcomes and significance. Separately, a promotional video created by WHITE RESEARCH was used on [MainstreamBIO social media](#) platforms to engage a broader audience and amplify the campaign's reach. Posts leading up to the event captured attention across diverse demographics, and following the workshop, a [blog](#) was published detailing the event's activities and outcomes, further amplifying its impact.

At the event, participants received [MainstreamBIO leaflets](#) and [MainstreamBIO information sheets](#) that provided insights into the project's goals and bioeconomy themes. Feedback forms, distributed as part of Task 4.1, collected valuable input to improve future activities. Visual content was also created and shared on social media to generate excitement around the event.

The "Food Waste No More" workshop not only inspired sustainable thinking but also highlighted the creativity and enthusiasm of participants. By empowering families, particularly those already engaged in agricultural practices, it demonstrated how grassroots actions can align with broader sustainability goals. The involvement of young individuals, whose ideas showcased immense promise, underscored the importance of nurturing future bioeconomy advocates.

As the first in-person event of this campaign round, the workshop underscored Southwest Ireland's commitment to aligning local initiatives with global sustainability efforts. It served as a powerful example of how education, community engagement, and innovation can inspire meaningful change and lay the foundation for a more sustainable future in Ireland and wider.

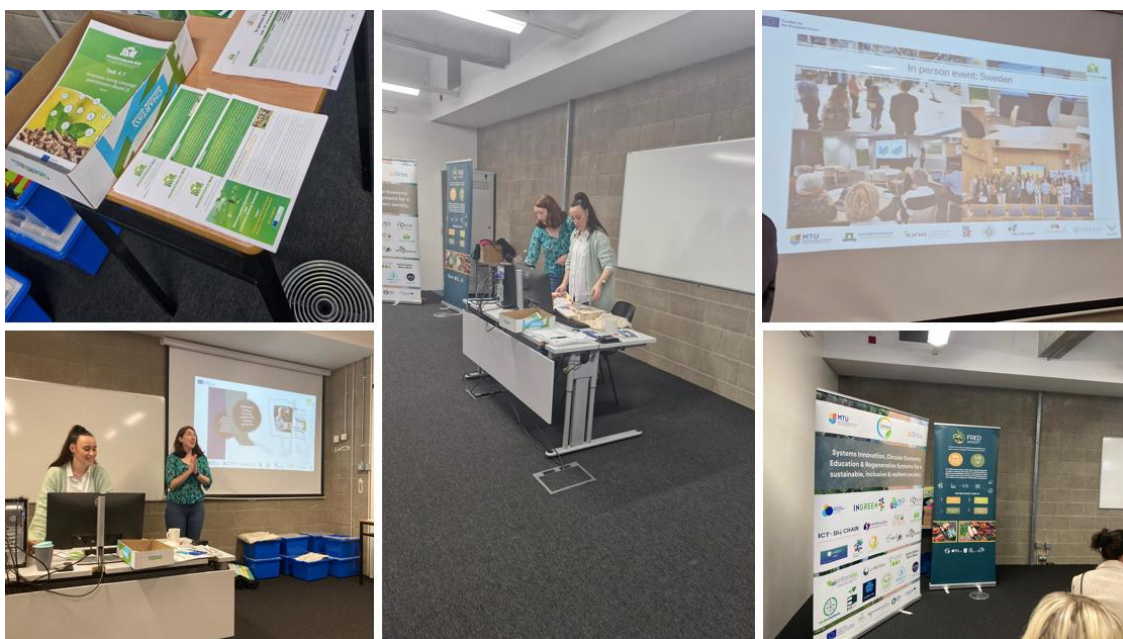


Figure 26. Irish Regional In-Person Event on 16<sup>th</sup> of November 2024





Figure 27. Award Winning Creative and Sustainable Solutions by Young Participants

## 5.4 STRATEGIC REFLECTION ON REGIONAL CAMPAIGN EVOLUTION

The action plans referred to this document represent the strategic adjustments and campaign evolution approaches designed between Rounds 1 and 2 to maximize outreach, inclusivity, and engagement of targeted stakeholder groups. Between Round 1 and Round 2 of the MainstreamBIO regional campaigns, a clear evolution in strategy, outreach, and stakeholder engagement became evident. The number of attendees across the seven participating countries grew from 200 in Round 1 to 560 in Round 2, reflecting a 180 % increase in outreach. This growth was attributed to a combination of diversified event formats, improved timing, and strategic partnerships with larger-scale public events that significantly boosted visibility and accessibility.

In Round 1, most events were structured as standalone workshops, site visits, or field demonstrations with talks. Attendance was strongest in Poland with 40 participants, followed by Sweden with 36, Denmark with 30, and the Netherlands with 30. Spain, Ireland, and Bulgaria engaged smaller groups of 24, 20, and 20 participants respectively. These events were largely expert-driven and focused on establishing foundational awareness of the bioeconomy and introducing the MainstreamBIO toolkit.

Round 2 marked a shift toward more integrated and inclusive formats. Events were often organised as satellite engagements within larger public gatherings such as career fairs, science festivals, or community markets. This approach proved particularly effective in Spain with 201 attendees, Ireland with 101, Denmark with 80 and the Netherlands 75, where visibility, popularity and foot traffic were significantly amplified. Sweden reached 48 participants, Bulgaria 23 and Poland 32.

The increased turnout in Round 2 reflected a more deliberate targeting of underrepresented groups. Events in Sweden, Ireland, the Netherlands and Poland specifically focused on youth, students, and families, resulting in more diverse participation. For instance, in Sweden all 43 feedback respondents were students. Across all Round 2 in-person events, women made up approximately 47% of participants based on survey feedback, compared to 35% in Round 1. Men accounted for just over 53%, indicating a more balanced gender representation overall but with a decrease comparing to the 1<sup>st</sup> round. This shift highlights the success of targeted outreach and youth-focused formats, which also contributed to 30% youth participation in the in-person events in the 2<sup>nd</sup> round. The data collected in surveys indicated that the majority of participants in the 2<sup>nd</sup> round (32%) had some



college education but no degree, while other half (20%) held either a Bachelor's or Master's degree (30%) or Doctorate degree (5%). This suggested that the campaign reached individuals with a solid educational foundation, likely supporting stronger understanding and engagement. Lower participation among those with only a high school diploma (8%) or less (5%) highlights ongoing opportunities to improve accessibility for audiences with lower formal education.

Stakeholder diversity also improved. In round 1, feedback respondents were predominantly men (71%), and most were biomass producers (29%) that held master (41%) or doctorate degrees (24%). In contrast, round 2 drew a broader audience. Of the 156 respondents:

- 100 % in Sweden were students
- 70 % in Bulgaria were biomass producers and 20% were agri-business
- 65 % in Denmark were from academic and educational institutions, 30% were biomass producers
- 59 % in Ireland were from civil society
- 54 % in Poland were agri-business and 38% were biomass producers
- 53% in Spain were governance and policy makers or public authorities and 35% were from business sector
- 41% in the Netherlands were biomass producers and 27% were from academia

This wider mix of participants from grassroots producers to university students and civil society, demonstrated the expanded relevance and accessibility of campaign content in the second round.

*Table 4. Overview of Regional In-Person Campaigns – Rounds 1 and 2*

Country	Round 1 – Event Type	Round 1 – Participants	Round 2 – Event Type	Round 2 – Participants
Ireland	Site Visit with Talks	20	Satellite Event	101
Spain	Satellite Event	24	Workshop with Keynotes Talks	201
Denmark	Farm Walk with Talks	30	Farm Walk with Talks	80
Sweden	Workshop with Talks	36	Satellite Event	48
Bulgaria	Workshop with Talks	20	Workshop with Keynotes Talks	23
Poland	Satellite Event	40	Satellite Event	32



Netherlands	Satellite Event	30	Satellite Event	75
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Several strategic improvements contributed to this evolution:

- The total number of participants increased significantly from 200 in Round 1 to 560 in Round 2
- Event formats shifted from standalone workshops to satellite events embedded in larger public programmes, increasing reach and accessibility
- Campaign planning placed greater focus on women, youth, and primary producers, ensuring content and formats were engaging and relevant
- Real-world examples and local success stories were prioritised, making content more regionally applicable and relatable
- Stronger collaborations with academic institutions, municipalities, and other public organisers expanded reach and added credibility
- A more dynamic and strategically targeted promotional approach blended personalised invitations with broader institutional and digital outreach to strength engagement.

These adaptations not only broadened participation but also enhanced the inclusivity and local impact of the campaigns. Stakeholder engagement evolved from passive attendance to active interaction and meaningful feedback. This demonstrated that embedding bioeconomy promotion into high traffic, thematically aligned popular public events is an effective strategy for reaching new audiences and increasing outreach impact.

Maintaining this outreach trend in the future will depend on continuing to tailor campaign content to regional contexts, integrating activities into relevant events and ensuring inclusive engagement strategies that centre women, youth and producers as key stakeholders in the bioeconomy.



## 6. CAMPAIGN IMPACT AND FEEDBACK (FINAL RESULTS FROM ROUND 1 & ROUND 2)

### 6.1 Webinar impact and Feedback (Final results from both rounds)

The educational and awareness raising campaign, encompassing both webinars and in-person events, yielded valuable insights and feedback. Participants across diverse sectors, including primary producers, policymakers, industry leaders, academia and researchers, showed 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. In Round 1, a total of 497 individuals registered for six webinars, with 305 attending, resulting in a 61% attendance rate. The registration page views reached a cumulative total of 1,372, indicating strong initial interest in the events. In Round 2, four webinars attracted 177 registrants and 150 attendees, yielding a higher attendance rate of 85% from 261 page views (Table 5). Gender data was collected directly from webinar attendees only during Round 2, revealing a strong female presence of 64% particularly in sessions focusing on gender-related bioeconomy topics, while in Round 1 gender information was limited to participant survey responses.

*Table 5. Summary of Webinar Engagement Metrics Across Campaign Rounds*

Round	Total Registrants	Total Attendees	Attendance Rate	Registration Page Views
Round 1	497	305	61%	1,372
Round 2	177	150	85%	261
Total	674	455	~67.5%	1633
AVG	~337	~227.5	~73%	~816.5

Across both rounds, the campaign engaged 674 registrants with 455 attendees, achieving an average attendance rate of approximately 67.5% (5). The detailed gender data from Round 2 highlights growing female participation, supporting the campaign's focus on inclusivity and engagement of underrepresented groups. From April 2024 to the end of May 2024, in the round 1, 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. 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 (Figure 28).

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, Facebook and in the later stage Instagram. In addition, the frequency of these posts was increased to extend the reach to relevant audiences with an interest in the bioeconomy. As a result, these efforts helped achieve a strong average attendance rate of 85% across all four webinars in Round 2.

The 2<sup>nd</sup> round of the MainstreamBIO Awareness Raising Campaign expanded outreach through a series of webinars, including more engagement metrics such as gender registration data, engaging a diverse audience of researchers, industry professionals, policymakers, and civil society representatives. Across the four webinars, there were a total of 177 registrants and 150 attendees, resulting in an average attendance rate of 85%, indicating strong interest and commitment from participants. This marks a notable improvement from Round 1, where the overall attendance rate was 61%. The Round 2 registration pages were viewed 261 times, indicating lower outreach compared to Round 1. However, the campaign achieved solid engagement and a higher conversion rate from interest to actual attendance than in the previous phase.

The first webinar focused on the role of women in primary production sectors. It drew 41 registrants, with 34 attendees, resulting in an attendance rate of 83%, closely aligning with the overall Round 2 average of 85%. Among the participants, 63% were female and 27% male, reflecting strong female engagement. Academic researchers made up 49% of attendees, followed by professionals classified as 'Other' (12%) and business representatives (10%). The highest share of registrants came from Ireland (61%), followed by Croatia (10%) and Greece (10%), reflecting strong regional interest in gender roles within the bioeconomy. The second webinar continued this trend of high female engagement, with 48 registrants and 40 attendees, an attendance rate of 83%. Women accounted for 74% of participants and male for 26%, underscoring the relevance of discussions centered around bioeconomy leadership. Academic researchers dominated again (57%), followed by civil society representatives (15%) and other professionals (11%). Regionally, interest remained concentrated in Ireland (46%), Sweden (15%), and Greece and Poland (9%). The third webinar attracted 47 registrants and 41 attendees, yielding an impressive 87% attendance rate. The gender split was 65% female and 25% male. As with previous sessions, academic researchers comprised half the audience (50%), with others from 'Other' professional categories (19%) and government representatives (10%). Participation was highest from Ireland (31%), Romania and Greece (10%), and Poland (8%), with increasing institutional interest in youth-led bioeconomy conversations. The fourth webinar gathered 43 registrants and 35 attendees, corresponding to an 81% attendance rate. The audience was diverse: 56% female, 40% male, 2% non-binary, and 2% preferring not to disclose. Academic researchers again formed the majority (51%), followed by "other" stakeholders (21%) and business professionals (14%). The strongest regional engagement came from Ireland (53%), with additional representation from Greece and Croatia (7%) and other countries.



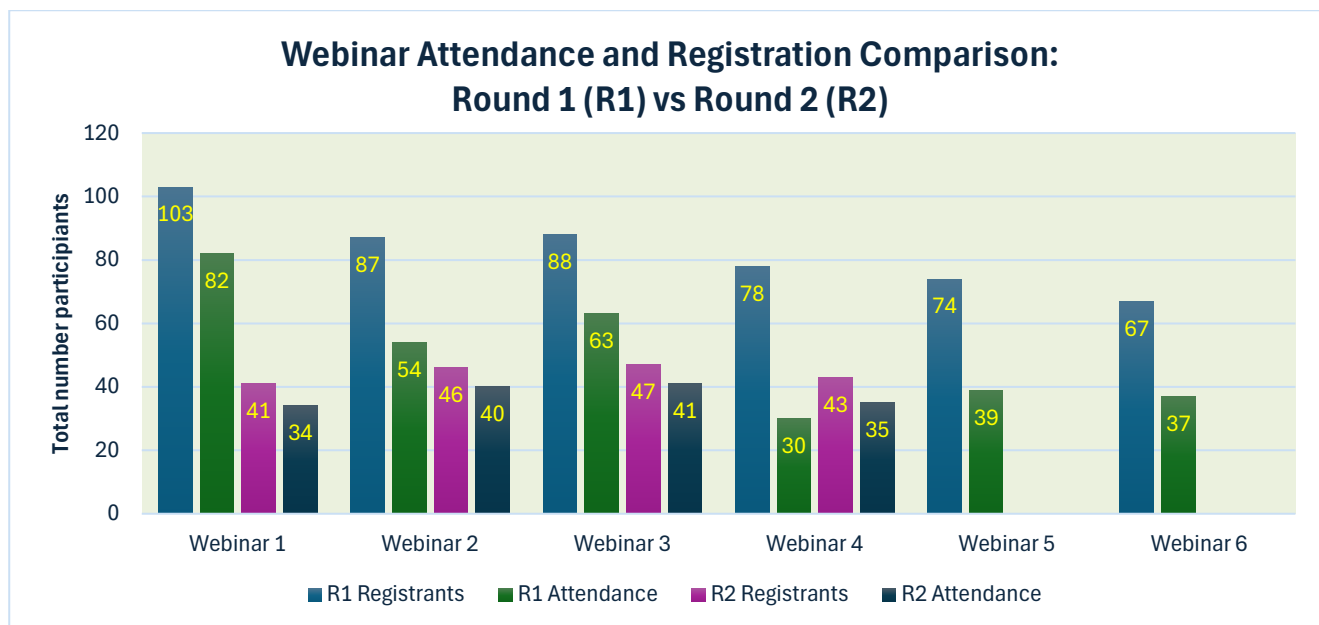


Figure 28. Comparative Trends in Webinar Participation: Round 1 vs. Round 2.

Across both rounds of the MainstreamBIO webinar campaign, a total of 85 responses were collected 49 during Round 1 (April to May 2024) and 36 in Round 2 (January to February 2025). These responses offered valuable insight into participant demographics, stakeholder representation, geographic spread, and the overall effectiveness of the campaign.

In Round 1, the majority of 49 respondents, approximately 49%, identified themselves as academics or researchers, reflecting strong interest from the scientific and educational community. Business representatives from the agri-food and bio-based sectors made up 16% of responses, followed by another 18% from participants who categorized themselves under “Other,” indicating a mix of roles such as consultants or NGO staff. Civil society accounted for around 10% of responses, and smaller shares were reported from government or policy-making institutions (4%) and biomass producers (2%). Although gender data was not systematically collected in Round 1, insights from the overall survey responses indicate that 51% of participants identified as male, 47% as female and 2% as diverse/non-binary.

In Round 2, the academic and research community remained the most represented group, continuing to account for around half of the responses. This was followed by business and industry professionals, civil society actors, government representatives, and a diverse range of independent specialists. The gender distribution was available for this round and revealed a strong female presence, with 64% identifying as female and 34% as male. Additionally, insights from the overall survey responses (36) indicate that 42% of participants identified as male, 58% as female. This shift suggested a growing engagement from women, particularly in sessions that emphasized gender-related topics in the bioeconomy.

Participants in both rounds joined from a wide range of countries, demonstrating the campaign’s broad international reach. Ireland had the highest level of engagement, contributing 43% of all responses across both rounds, with 18 responses in Round 1 and 8 in Round 2. Croatia followed with 11 responses (7 from Round 1 and 4 from Round 2), while Greece contributed with 18 responses (9 from Round 1 and 9 from Round 2). Other responses came from Poland, Germany, Spain, Sweden, and Romania, while individual entries were submitted from countries such as the Netherlands, Bulgaria, the United Kingdom, France, Iceland, Indonesia, Ecuador, Bolivia, and Cuba (Figure 29).



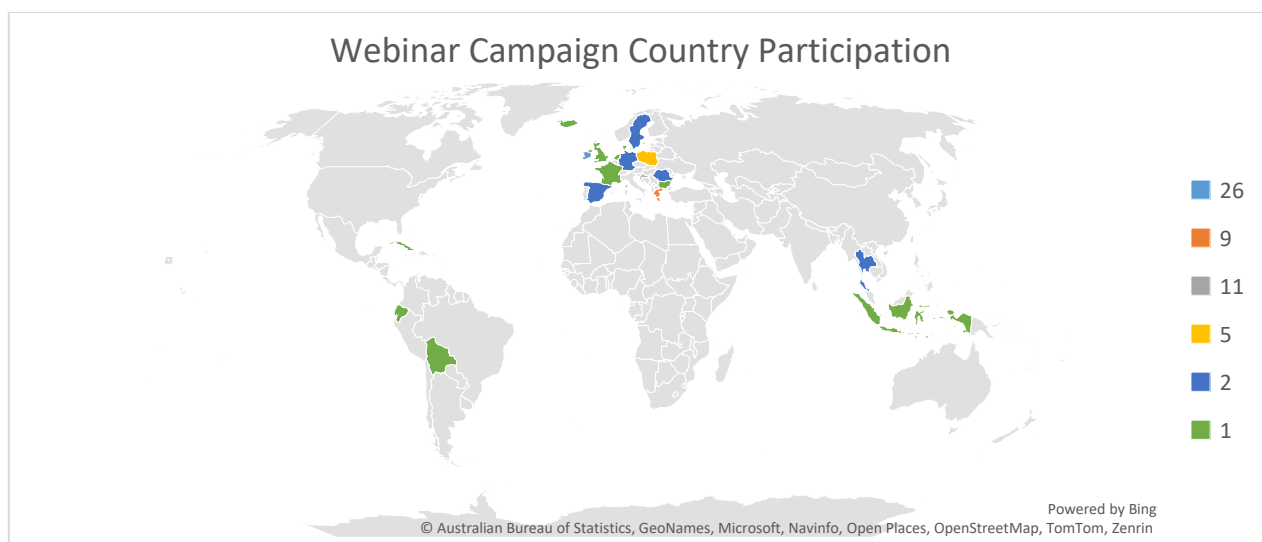


Figure 29. Geographic distribution of feedback respondents from both rounds in the webinar campaign

A survey was conducted among participants to assess the effectiveness of the webinars.

Feedback from both rounds consistently emphasized strong satisfaction with the clarity and practical value of the webinar content, structure, and practical relevance. Attendees particularly valued the diverse speaker lineup, real-world case studies, and discussions, which helped bridge the gap between theoretical knowledge and practical applications. Attendees in Round 2, in particular, highlighted the benefit of using more local examples and real-life case studies. Suggestions for future improvement included featuring youth-led initiatives, forming a women-led community of practice, and increasing regional relevance through tailored content. Participants also called for greater interactivity, enhanced follow-up communication, and more targeted outreach to underrepresented groups.

For future awareness campaigns, several recommendations can enhance outreach and engagement. Expanding the range of topics covered to focus on emerging areas of the bioeconomy, such as the latest circular economy solutions, bio-waste valorisation, and the newest digitalization in agriculture to attract younger participants, will ensure continued relevance. Collaborating with industry associations, universities, schools, and government agencies can broaden the campaign's outreach and increase interest and participation. Strengthening promotional efforts through targeted email campaigns and partnerships with educational, governmental, and civil organizations, as well as cooperatives, can help reach a wider and more diverse audience. Implementing live multilingual subtitles based on participant origin will enhance accessibility for non-English speakers, making attendance more attractive. Improving registration-to-attendance conversion through email reminders and interactive pre-webinar materials can ensure a higher turnout for online events. In addition, allocating a budget to compensate contributors for real case studies should be considered, as some participants expressed the need for financial incentives for their contributions. This could also be a way to attract small producers, who might find participation more appealing if compensated for sharing their experiences.

## 6.2 Regional impact and Feedback (Final results from both rounds)

In-person events enhanced engagement through interactive sessions, presentations by key speakers and networking opportunities, fostering community building and collaboration. Through interactive formats such as workshops, farm walks, site visits, and satellite events, the MIP Regional



campaign has reached diverse audiences across rural and regional Europe, reflecting diverse interests and engagement levels.

During the first round of in-person events, which took place from February to June 2024, a total of 200 participants engaged in seven regional campaigns. Figure 30 presents the attendance figures for in-person events across both rounds, showing notable growth for each of these seven regions. These events reflected a variety of tailored formats and regional contexts, with most structured as standalone workshops, field visits, or demonstration sessions. Poland led the round with the highest attendance, hosting a satellite event as part of the National Field Days or Open Door Day in the Lubelskie region, attracting 40 participants. Sweden followed with 36 participants attending an exploratory workshop in Domsjö, while Denmark's conservation agriculture field visit in Vester Velling welcomed 30 attendees. The Netherlands also drew 30 participants through a site visit integrated into the Future Farm and Food Experience in Lelystad. Spain contributed a smaller-scale satellite event at the Livestock and Commercial Fair in Valderrobres, involving 24 attendees. Ireland hosted a workshop and site visit at the Irish Bioeconomy Campus and Green Generation, with 20 participants. Bulgaria likewise organized a workshop on bioeconomy and social innovation in Plovdiv, which also gathered 20 attendees (Figure 30).

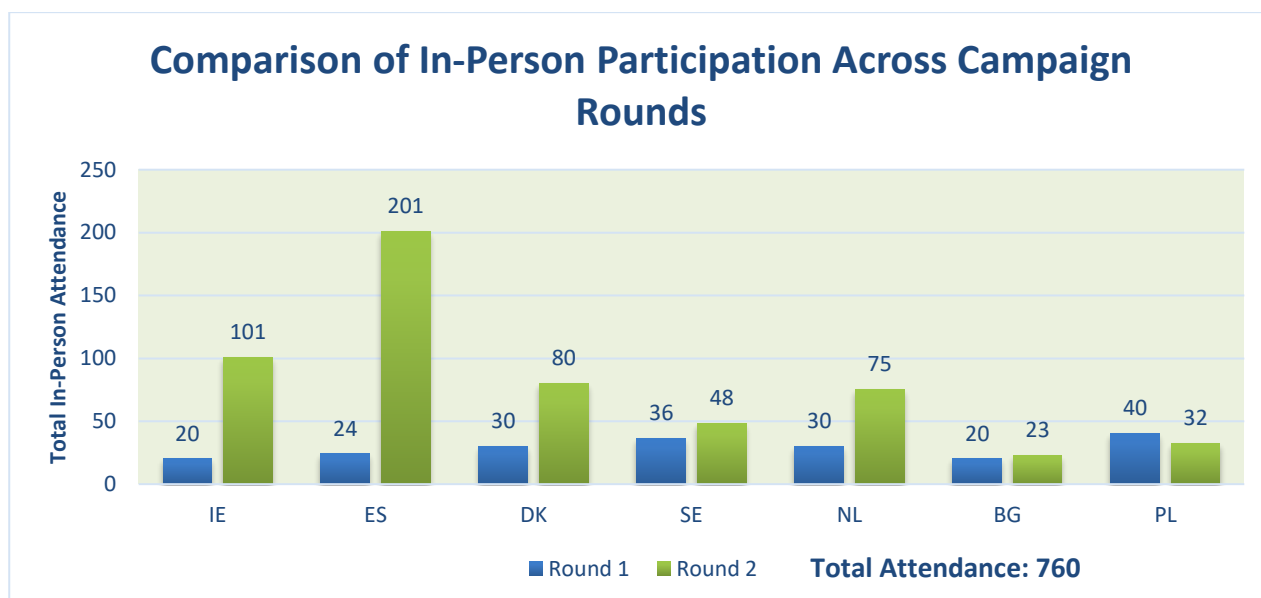


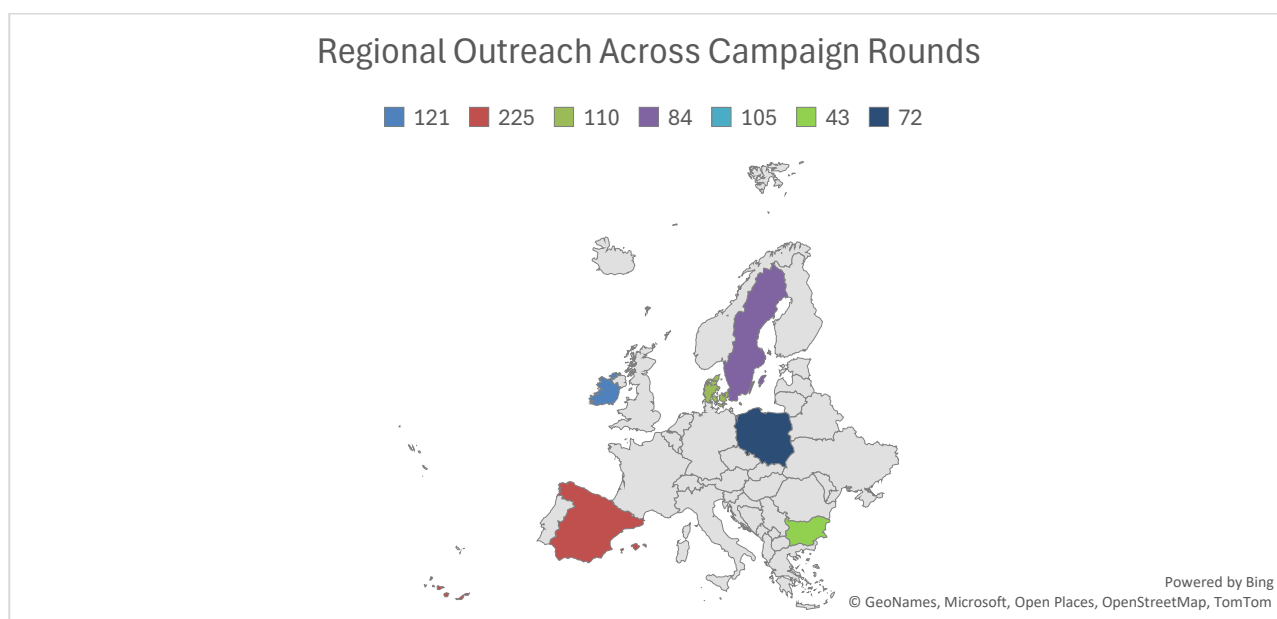
Figure 30. Comparative analysis of in-person participation across both rounds

Building on Round 1, Round 2 deepened overall campaign outreach. The second round, running from November 2024 to June 2025, marked a significant expansion in outreach, with 560 attendees across seven completed regional events with an increase of 180% compared to round 1. Spain led this round with 201 participants attending a workshop with keynote talks on *Bioparks at Lleida-Alguaire Airport*, marking a 738% increase from their first-round turnout. Ireland also showed the dramatic improvement, rising from 20 to 101 participants with an increase of 405% through its satellite event integrated into *Kerry Science Week*. The Netherlands' second-round event attracted 75 participants and reflecting a 150% increase. Denmark saw its attendance more than double, with 80 participants at a farm walk with talks in Sanderumgaard, up 167% from the previous round. Sweden sustained its outreach with 48 attendees at the *Uniaden Labour Market Fair* satellite event, reflecting a 33% increase. Poland's satellite event at the Easter marketplace in Puławy attracted 32 attendees, a slight 20% decrease, though still notable for its focus on engaging the general public and youth. Local organizers estimated that total participation likely exceeded 100, including



unregistered youth and accompanying individuals. Bulgaria workshop with keynote talks in Plovdiv, attracting 23 participants and reflecting a 15% increase (Figure 30).

A standout feature of Round 2 was the strategic use of satellite events and joint formats, which significantly contributed to increased attendance across multiple regions. Unlike round 1, where only two satellite events were integrated into broader platforms, round 2 saw the majority of regions embed their awareness activities into existing large-scale and popular public events, such as science festivals, labour fairs, and public marketplaces. This shift proved highly effective in lowering barriers to entry, boosting visibility, and drawing in wider, more diverse audiences beyond traditional stakeholders. Satellite events offered the advantage of meeting audiences where they already were leveraging established platforms to amplify MainstreamBIO's presence and message. The comparative growth across rounds highlights not only increased interest in bioeconomy topics, but also the campaign's adaptability in tailoring engagement strategies to local contexts. Spain, Ireland, and Denmark in particular demonstrated substantial increases in participation, underlining the value of high-quality programming, local partnerships, and carefully selected event formats.



*Figure 31. Regional Campaign Outreach*

With a total of 760 participants engaged across both rounds, the MainstreamBIO campaign has achieved substantial outreach through regionally adapted, well-promoted in-person events (Figure 30 and Figure 31). From expert-led workshops and interactive field visits to vibrant, community-based satellite engagements, the campaign has succeeded in promoting broad interest in circular bioeconomy practices. This approach has helped to build momentum toward inclusive, place-based innovation and collaboration across Europe's rural and regional communities.

Among the 17 respondents from the 1<sup>st</sup> round 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 four holding doctorate degrees (24%), seven master's degrees or equivalents (41%) and a two with bachelor's degrees (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.

In Round 2, 156 respondents completed feedback surveys across four countries: Ireland (17), Bulgaria (20), Poland (13), Spain (17), Denmark (24), the Netherlands (22) and Sweden (43). The stakeholder profile varied by country, reflecting the different target audiences and event formats. In Sweden, all 43 respondents (100%) were students attending the Uniaden Labour Market Fair, aligning fully with the region's focus on engaging youth, consumers, and women. In Denmark, the majority of the 24 participants were from educational and academic institutions (65%), followed by biomass producers (30%) and a smaller portion with business or industry affiliations (5%). In Ireland, the feedback showed that 59% of respondents were from civil society, 18% from academia or research, 12% were biomass producers, and another 12% represented other stakeholder types that were mostly students. In Bulgaria, from 20 respondents (70%) identified as biomass producers and 20% as an agri-business reflecting the strong connection to the primary production sector. In Spain, from 17 respondents (53%) identified as a government or policy makers and 35% as an agri-business or industry affiliations. In the Netherlands, the feedback showed that 41% identified as biomass producers and 27% as an academia or research.

Across both rounds and all regions, a total of 173 feedback responses were collected from in-person event participants (17 in Round 1 and 156 in Round 2). Combined with the 85 responses from the webinar participants, these 258 responses provide comprehensive insights into stakeholder engagement, promotional effectiveness, and perceptions across different event types and campaign rounds. Respondents indicated that their understanding of the bioeconomy had improved, with many reporting a significant increase in awareness. Participants praised the educational content, practical value, and local relevance of the events. Suggested improvements included tailoring content more closely to regional challenges, incorporating more success stories, expanding digital communication, and increasing outreach to younger audiences and schools. In particular, respondents from Bulgaria and Ireland emphasized the importance of localised follow-up activities, while Danish participants appreciated the real-world applicability of the farm walk format. Swedish students expressed general satisfaction, though levels of follow-up interest varied depending on individual background. From the Netherlands, a practical suggestion was raised to improve the in-person experience by ensuring better visibility of presentation materials. In Spain, participants recommended improving venue accessibility, involving more local stakeholders and businesses, and incorporating more critical perspectives on industrial bioeconomy models.

Generally, across both rounds, attendees appreciated the comprehensive approach to knowledge sharing and expressed satisfaction with the quality of information provided. The results from Round 2 reinforced several themes observed during the first round, particularly the importance of accessible content, real-life examples, and the value of in-person engagement. 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 campaign can evolve to better support inclusive and sustained bioeconomy engagement across Europe.

Through the educational and awareness raising campaign dissemination activities, which included ten webinars and fourteen in-person events, an estimated total of 1215 stakeholders were reached and had their awareness enhanced. This figure comprises from round 1, where 305 participants from the webinars, which averaged 51 attendees each, and 200 participants from the in-person events, which averaged 29 attendees each. And from figure comprises from round 2, where 150 participants from the webinars, which averaged 38 attendees each, and 560 participants from the in-person events (Figure 30), which averaged 80 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. LESSONS LEARNED AND STRATEGIC INSIGHTS FOR FUTURE CAMPAIGNS

Both rounds of the Educational and Awareness Raising Campaign successfully built upon previous efforts, enhancing engagement and inclusivity while focusing on mainstreaming small-scale bio-based solutions. The first round consisted of six webinars and seven in-person events, while the second round included four webinars and seven in-person events. This campaign featured a diverse range of activities designed to foster knowledge-sharing and further stakeholder collaboration. A key achievement was the strong representation of women, an increased interest among youth, both groups showing particular interest in leadership roles within the bioeconomy sector. Participation also rose among industry representatives and policymakers.

Findings from the first round of the campaign demonstrated strong initial engagement, with a total of 497 registrants and 305 attendees across six webinars. While interest was high, attendance conversion rates varied, indicating a need for improved follow-up and targeted engagement strategies. Feedback from the first round highlighted the importance of providing more practical case studies and enhancing outreach to primary producers. Women and youth participation were identified as areas needing improvement in the first round, as their representation was relatively lower, especially for the youth. Among the 49 respondents, 51% identified as male and 47% as female, indicating slight gender imbalance that needed to be addressed in subsequent efforts.

Building on these insights, the second round focused on refining content delivery, improving engagement strategies, increasing female and youth participation, and enhancing accessibility. With 177 registrants and 150 attendees across four webinars, the second round achieved a higher attendance rate, demonstrating the effectiveness of tailored outreach efforts (average 83%). A notable improvement in the 2nd round was the increased participation of women (58%) professionals, who represented a larger share of the audience compared to the first round (47%), as indicated by survey responses. The integration of diverse speakers, with a greater emphasis on female representation, interactive discussions, and practical applications proved highly effective in sustaining participant interest, particularly among these target groups. However, despite the improved engagement rate, overall registration and attendance levels remained lower compared to the first round, likely due to a more targeted audience approach such as youth and women and potential scheduling conflicts that may have impacted attendance availability.

The key strength of the second campaign was the broad stakeholder engagement, which included researchers, business representatives, civil society members, and organizations. Digital platforms played a central role in ensuring accessibility and active participation, with targeted social media outreach on LinkedIn, Twitter (X), Facebook, and Instagram amplifying the message. Notably, Instagram was utilized more extensively in this round, as it is a platform widely used by youth and women, aligning with the campaign's objective to increase engagement among these groups. Promotional strategies, such as personalized invitations and increased engagement on social media from MTU as the host institution, other project partners, and the MainstreamBIO project site, played a crucial role in converting registrants into active attendees. This coordinated approach ensured that direct outreach was complemented by broader online visibility, fostering higher participation rates. The use of case studies and real-world applications in webinar content proved to be an effective strategy, making discussions more relatable and actionable for participants in both rounds.

The second campaign also highlighted the importance of addressing language barriers in international participation. A challenge identified during the campaign was the language barrier faced by participants from certain regions with limited English proficiency. To address this issue and



improve accessibility, integrating multilingual live subtitles was suggested as a potential solution. This feature would help expand engagement across diverse linguistic groups and ensure that more stakeholders can actively participate in discussions, enhancing overall inclusivity in future campaigns. Another key takeaway was the need for localized content that directly addresses regional bioeconomy challenges and opportunities. This was evident in the success of regional events, which provided tailored insights and practical solutions relevant to specific geographic areas. Expanding localized approaches in future campaigns could enhance their impact and relevance to a broader audience.

The evaluation of engagement metrics, including registration numbers, attendance rates, and participant feedback, was instrumental in assessing the effectiveness of outreach strategies. This aspect was particularly improved in the second round to obtain more comprehensive data on gender balance, stakeholder roles, and the geographic distribution of participants. Continuous monitoring allowed for adjustments to be made, such as increasing the frequency of promotional posts and strengthening collaboration with industry partners. These adaptive strategies contributed to a higher engagement rate and demonstrated the effectiveness of a dynamic and responsive campaign structure.

Moving forward, future awareness campaigns can build upon these insights to refine their outreach strategies and engagement approaches. Strengthening collaborations with industry associations, universities, educational organizations, and government agencies will ensure a wider reach and sustained interest. In addition, maintaining a strong emphasis on women and youth participation will require continued efforts, as it remains essential in fostering inclusive dialogues on bioeconomy innovations. Expanding the scope of discussion topics, including the latest insights on bio-waste valorisation, advancements in circular economy solutions such as marine cosmetics and textiles, and the ongoing digital transformation in agriculture, will contribute to maintaining relevance and engagement of these groups. In addition, allocating a budget to compensate contributors for real case studies should be considered, as some participants expressed the need for financial incentives for their contributions. This recommendation emerged from a practical experience during the campaign where an invited speaker had a pre-existing fee agreement that the project was unable to cover. Recognizing that some contributors require encouragement, often provided as honoraria or fees in professional contexts, compensation can also motivate small producers to participate by making involvement more appealing. Even for webinars, contributions demand significant time, preparation, and practical knowledge that may not be readily accessible. While travel and accommodation for physical events like workshops are often considered by project budgets, remuneration for webinars is often undefined. Small producers may face participation challenges due to limited time, but appropriate compensation can help make their involvement more feasible. Therefore, offering fair compensation primarily refers to honoraria or fees for online contributions, acknowledging the value of their insights and the effort involved. Industry best practices suggest that providing such incentives can enhance engagement and improve the reach and impact of online events by attracting diverse and qualified contributors (Qincade, n.d.). For example, Gotham Artists (2024) offers detailed guidance on speaker fees, including typical cost ranges for different categories of speakers, which may assist event organizers in budgeting (Gotham Artists, 2024). These sources may emphasize the importance of fair compensation in improving webinar quality and participation outreach for future campaigns.

Furthermore, the MainstreamBIO campaign has effectively strengthened awareness of bioeconomy opportunities and fostered meaningful discussions on sustainability, innovation, and circular practices. The insights and lessons gathered through both rounds, from refined outreach to more inclusive engagement strategies will serve as a foundation for enhancing future initiatives. These



findings not only demonstrate the value of continued investment in local bio-based solutions but also highlight the importance of inclusive participation, regional relevance, and knowledge-sharing as driving forces for the evolution of sustainable bioeconomy systems.





## 8. 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. Across both rounds, the webinars attracted a total of 674 registrants and 455 attendees, resulting in an average attendance rate of approximately 67%. In round 1 there were a total of 497 registrants and 305 attendees, representing a 61% overall attendance rate, while in Round 2, four webinars drew 177 registrants and 150 attendees (85%). 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 cumulative total of 1,633 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 opportunities for refining engagement strategies.

Between both rounds, a total of 85 feedback responses were collected from webinar participants (49 in Round 1 and 36 in Round 2). The feedback from round 1 (49) showed strong interest from academics (49%) and business representatives (16%), with significant participation from both male (51%) and female (47%) attendees and 2% as diverse/non-binary. In the second round of feedback (36), female engagement increased to 58% while male participation was 42%. While gender data was not collected during registration in Round 1, available Round 2 registration data showed female engagement accounted for 64% with male participation at 34% which supports the targeted outreach objectives of the campaign's second round. Ireland recorded the highest engagement, followed by Greece, Croatia, and several other EU and non-EU countries, illustrating the campaign's international reach, similar to the pattern of national engagement observed in the first round.

In-person events further enriched the campaign by fostering interactive discussions, presentations by key speakers, networking opportunities and site visits to bioeconomy facilities. Across both rounds, 14 regional events were held in seven countries. Round 1 reached 200 participants through primarily standalone workshops and site visits, while Round 2 expanded significantly to 560 participants with an increase of 180%. This growth was driven by a strategic shift to satellite events, integrated into existing platforms such as science festivals, job fairs, and marketplaces. Countries such as Spain (201 attendees), Ireland (101), the Netherlands (75) and Denmark (80) saw notable gains in attendance, in part due to their success in targeting civil society, youth and students.

Running from February 2024 to June 2025, the campaign reached a total of 1,205 stakeholders through a combination of webinars and in-person events, illustrating its broad impact across various event types and regions.

In total, 173 feedback responses were collected from in-person participants (17 in Round 1, 156 in Round 2). Round 2 feedback showed strong representation from students (100% in Sweden), civil society (59% in Ireland), biomass producers (70% in Bulgaria and 41% in the Netherlands), government and policy makers (53% in Spain) and education/research professionals (65% in Denmark). Overall, women accounted for 47% of in-person feedback respondents, with male participation dominating in several regions with a total of 53%.



Participants across both rounds expressed enthusiasm for continuing these educational efforts, emphasizing the importance of ongoing dialogue and shared learning in advancing bioeconomy goals. The campaign's success highlights the importance of tailoring outreach to local contexts, strengthening partnerships, and prioritizing inclusiveness in future awareness-raising efforts. In the future, initiatives may 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 6. 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






Figure 32. Centralised material: Information sheet “Introduction to the Bioeconomy”





## 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 33. Post Event Summary Report



## Date: \_\_\_\_\_

[illegible]

Page 80



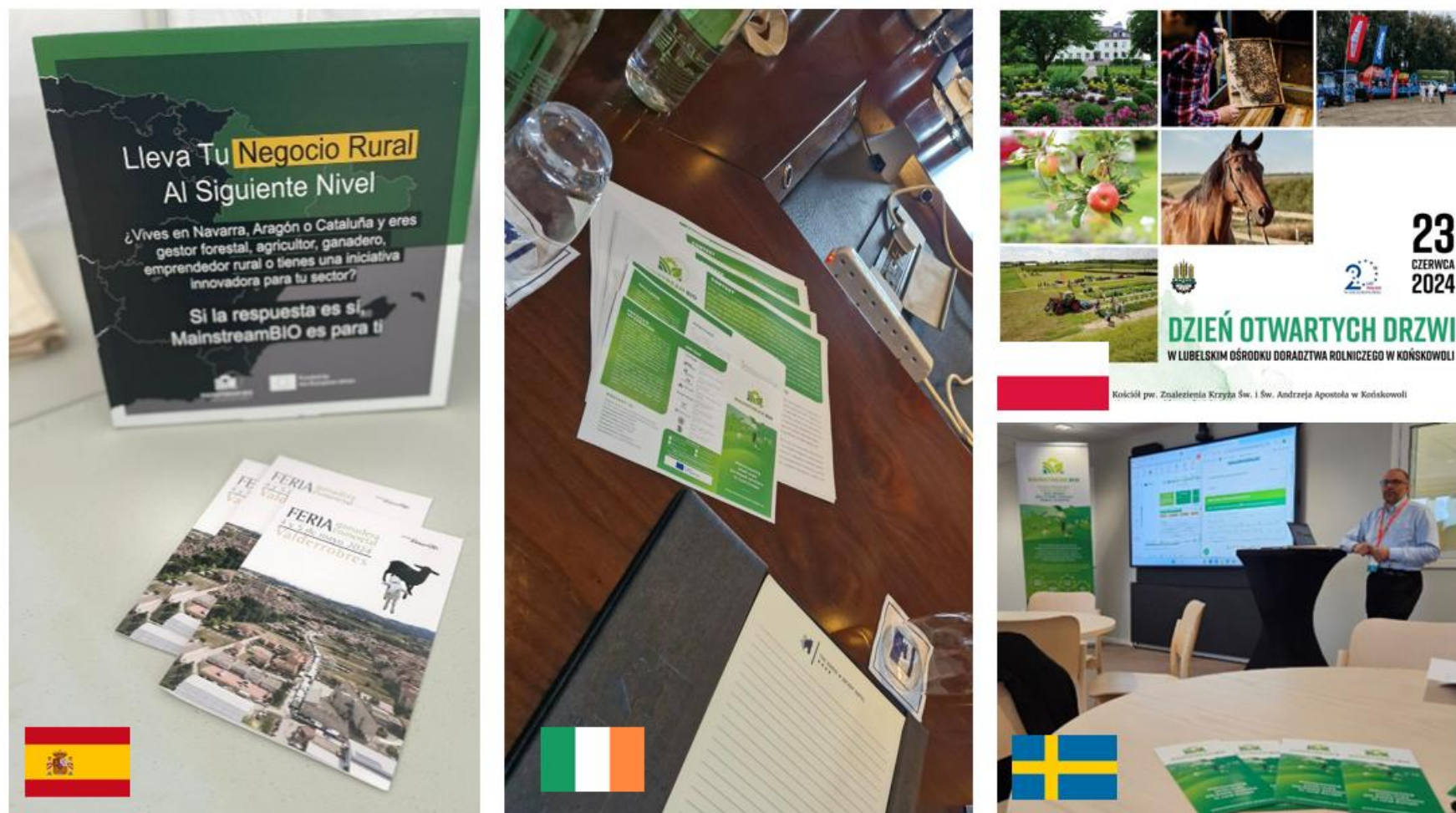


Figure 35. In-Person Event Flyer Examples from 1<sup>st</sup> round of Awareness Raising Campaigns in Spain, Ireland, Poland, and Sweden















## 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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