BIOVOICES

POLICY BRIEF FOR THE RESEARCH SECTOR

www.biovoices.eu

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#1

Introduction to the Policy Briefs

The purpose of these four Policy Briefs - one for each quadruple helix stakeholder group (civil society, research, business, policy sectors) - is to present the insights gathered from the BIOVOICES experience - over 70 Mobilisation and Mutual Learning events - in a format that is both straightforward, accessible and usable.

These documents have been developed for active use and exploitation by the key stakeholders of the quadruple helix and all actors working across the circular bio-based economy, in their work and practice to deliver knowledge, best practice and lessons learnt to drive debate, support pro-active discussion and collaboration to address the associated challenges relating to the up-scaling of bio-based products (BBP).

The key themes from the Policy Briefs common to all stakeholder groups have informed the development of the BIOVOICES Action Plan for Citizen Engagement which is a framework of recommendations for all stakeholders to consider when designing and delivering their own action plan to drive citizen engagement, advocacy and ultimately action to support the purchase and use of bio-based products (BBP) and services for the benefit of key stakeholders and society as a whole.

BIOVOICES materials to enhance citizen engagement are available to download at

https://biovoices.eu

#2

The Policy Context

BIOVOICES has run from January 2018 to April 2021, its start coinciding with the launch of the EC's revised **Bioeconomy Strategy**[1]. Throughout the project, the gathering of key insights and actionable knowledge from MML events has been coloured by the constantly evolving nature of the wider socio-economic and policy landscape and in the last year the impact of Covid-19. Due to restrictions imposed by the pandemic, many MML workshops planned for 2020 have been transformed into online events, resulting for many, in an increase in the numbers of participants from a wider range of geographical locations. This responsiveness to changing priorities in each of its partners' territories to maintain relevance has been a key aspect of the BIOVOICES project.

Global economic challenges have provided a constant backdrop to the BIOVOICES project and are reflected in the selection of the BIOVOICES challenges relating to the market acceleration of innovative bio-based products (BBP). The policy background against which the BIOVOICES project has been delivered is outlined here. The update of the EC **Bioeconomy Strategy** published in October 2018 reconfirmed the urgent need for development of the bio-based sector.

"Global challenges like climate change, land and ecosystem degradation, coupled with a growing population force us to seek new ways of producing and consuming that respect the ecological boundaries of our planet."

The **European Green Deal**[2] launched by the new EU Commission (EC) in December 2019 aims to drive the transition to a fair and prosperous society, with a modern, resource-efficient and competitive economy in Europe, promoting a new economic action plan to help modernise the EU's economy and draw benefit from the opportunities of the circular economy domestically and globally.

The Green Deal is an integral part of the Commission's strategy to implement the **United Nation's 2030 Agenda**[3] and the associated sustainable development goals (SDGs), the COP 21 Paris Climate Agreement[4] and the other green priorities announced in **President von der Leyen's political guidelines**[5]**.** Additionally, the **"Decade of Action**[6]**"** , promoted by UN Secretary-General, calls for accelerating sustainable solutions to all the world's biggest challenges, applying the 'do no harm' principle, which will require honest communication and 360º vigilance against 'unexpected adverse consequences'.

Since 2010, as described in the **Europe 2020 Strategy**[7] , the bioeconomy has been identified as a key element for driving smart and green growth in Europe, aimed at alleviating pressures on the natural environment, whilst creating new business opportunities, employment and growth.

At the European level, whilst a dedicated bioeconomy strategy has been in effect since 2012, it is presented as a 'Communiqué' not as legislative proposal. This strategy was updated in 2018 together with a progress report on implementation ("EC Bioeconomy Strategy," 2018). The strategy provides a framework for shifting the economic resource base in Europe from a linear model drawing on finite raw materials, to a circular model that focuses on innovative renewable materials from biomass from land and sea as well as wastes.

The bioeconomy already accounts for 8% of the EU's workforce[8] but modelling has indicated that bio-based industries could create up to 1 million new 'green' jobs by 2030, especially in rural and coastal areas[9]. Nonetheless, the share of the bioeconomy (including energy, food & feed and material applications) in EU GDP is still low, with most employment in low-tech bioeconomy sectors.

1. https://knowledge4policy.ec.europa.eu/publication/updated-bioeconomy-strategy-2018_en#:~:text=The%20update%20proposes%20an%20action,ecological%20boundaries%20of%20the%20bioeconomy
2. https://ec.europa.eu/info/sites/info/files/european-green-deal-communication_en.pdf
3. https://www.un.org/sustainabledevelopment/
4. https://unfccc.int/process-and-meetings/the-paris-agreement/the-paris-agreement
5. https://ec.europa.eu/commission/sites/beta-political/files/political-guidelines-next-commission_en.pdf
6. https://www.un.org/sustainabledevelopment/decade-of-action/

the share of the bioeconomy (including energy, food & feed and material applications) in EU GDP is still low, with most employment in low-tech bioeconomy sectors.

The reasons for this are manifold and range from low acceptance of BBPs among customers, to technical challenges with material property requirements, to political frameworks as well as labelling and standardisation, hindering dynamic developments in the bioeconomy. The contextualisation and basis of bioeconomy policy is overall still weak in Europe (Devaney et al., 2017[10]) Directives that impact on the depth and pace of bioeconomy development in Europe have yet to be adapted and aligned with the objectives of the strategy, whilst current legislation sometimes even hinders the further up-take of BBP (e.g. EU Waste Framework[11]). The BIOVOICES project identifies that

"Bioeconomy is a complex and multi-factoral domain and its wide diffusion depends on the active collaboration of a broad range of stakeholders including industry, researchers, civil society and public authorities."

(BIOVOICES DoA 1.1)

A set of new transformative policies have A set of new transformative policies have been recently launched by the European Commission[12] and are planned to support the Green Deal. These include the new EU Circular Economy Action Plan (CEAP)(2020)[13], which promises to deliver key fixes to legislation in the area of waste generation- and management as well as eco design and obligatory use of secondary materials requirements by 2021/22. The CEAP links with the EC's Bioeconomy Action Plan in two key areas:

- in sustainable production, supporting the bio-based sector in its circularity potential.
- and in the area of food, nutrients and water, where it supports increased shares of extraction of sustainable biomass materials in the EU, building a sustainable circular bioeconomy.

Circular bioeconomy can indeed significantly contribute towards a broad range of EU targets and the UN Sustainable Development Goals (STGs), including climate change mitigation, the circular economy and resource efficiency, environmental protection, creating jobs, growth and revenue. In particular a circular bioeconomy can create and maintain sustainable economic growth, prosperity and high-value employment in rural, coastal and industrial areas where these are greatly needed, reduce fossil carbon dependence and improve the economic and environmental sustainability of primary production and processing industries.

Examples of other transformative legislation are the **Single-use Plastics Directive**[14] , the '**Farm to Fork'** Strategy[15], the **Food 2030 policy**[16] , the new **EU Forest strategy**[17], the **new Common Agricultural Policy**[18] to name a few. This wide-ranging political vision will have significant impacts relating to the wider deployment of the bioeconomy and the increased development of BBPs, contributing to the modernisation of the EU's economy and providing societal, economic and environmental benefits.

Additionally, the EC Council of Regulation has adopted a regulation, strengthening the intellectual property rights office. The first legislative delivery from the Commissions IPR Strategy of May 2011[19]. Here, the EC sets out its new Intellectual Property Rights strategy intended to foster innovation, as well as the growth and competitiveness of the EU economy to include the development of the bio-based sector.

The EC has to date placed emphasis on the development and implementation of bioeconomy strategies at a national level. More recently, the implementation of regionally focused bio-based economies with a local dimension has been encouraged by the EC to support overall sustainability and circularity, including trade- offs, synergies, business models, social innovation and participatory approaches. Insights and actionable knowledge obtained from the BIOVOICES MML events has highlighted the opportunities for regional and mutual co-operation, for example expert clusters which bring all relevant actors together.

All stakeholders have to urgently address global challenges such as climate change, land and ecosystem degradation and a growing population forcing 'demand side', 'supply side', 'multipliers' and the 'supportive environment' to seek new ways of producing and consuming that respect the ecological boundaries of our planet.

7. https://ec.europa.eu/eu2020/pdf/COMPLET%20EN%20BARROSO%20%20%20007%20-%20Europe%202020%20-%20EN%20version.pdf
8. https://ec.europa.eu/research/bioeconomy/pdf/ec_bioeconomy_actions_2018.pdf
9. https://biconsortium.eu/about/our-vision-strategy/benefits-europe
10. Devaney, L., Henchion, M., Regan, Á., 2017. Good Governance in the Bioeconomy. EuroChoices 16, 41–46. https://doi.org/10.1111/1746-692X.12141
11. https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32008L0098
12. https://ec.europa.eu/info/sites/info/files/european-green-deal-communication-annex-roadmap_en.pdf
13. https://ec.europa.eu/environment/circular-economy/pdf/new_circular_economy_action_plan.pdf
14. https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32019L0904&from=EN

Engagement of these stakeholders to participate in systemic change towards a more sustainable global model, promoting growth and development, thus preserving the ecosystem is essential. Opportunities abound for the circular bioeconomy to help meet climate change targets, in a move away from a fossil fuel-based economy.

However, governance of the bioeconomy in Europe currently appears to be fragmented with some of the major policy agendas (e.g. Regional Development, Circular Economy, Climate Neutrality) being insufficiently aligned with the bioeconomy (or vice versa), to support the rapid transition to a biomass-based economy. Stronger alignment and exploitation of complementarities of the bioeconomy with the circular economy would be beneficial to both agendas.

As demonstrated by BIOVOICES MML workshops as well as by a number of studies, awareness, knowledge, and education relating to sustainable production and consumption, are important factors determining behavioural changes that lead to more sustainable lifestyles. Despite the important investments, strategies and action plans implemented at Regional, National and European level, the 2018 revision of the European Bioeconomy Strategy states that "increasing public awareness and knowledge about all areas of the bioeconomy remains a major challenge, which the European Commission aims to address by supporting communication initiatives to raise awareness of the environmental and socio-economic impacts of the bioeconomy and bio-based products, and its benefits, such as more green jobs". Insights from the BIOVOICES project have identified and confirmed that together with awareness and communication, the need for specific education for the bioeconomy is widely recognized as the sector is growing and will require more new employees to keep growing and innovating.

The current and future situation regarding COVID-19 will require special attention by policy makers in terms of the implications of the crisis for sustainable local and regional development, in the context of climate mitigation, resilience and the circular bioeconomy as a means for stimulating a more sustainable resource base in light of the recovery of the European economy.

The recovery from the economic effects of the COVID-19 pandemic could provide an opportunity to promote actionable knowledge gathered by projects such as BIOVOICES to contribute to the creation of a more sustainable way of living, to rethink and redesign a more responsible and fair future together. BIOVIOCES MML events scheduled post pandemic will reflect this change.

It will be very important to ensure that key recommendations from the BIOVOICES project are made widely available to ensure that the economic, environmental and societal benefits of the circular bioeconomy are pushed to the forefront, in what is likely to be the rush to get the world economy back on track. As there is a risk that 'non-essential initiatives' will be forgotten or delayed including major international events such as COP-26[20].

As a positive, the COVID-19 experience has focused attention towards the importance of local and regional economies as this is where the circular bioeconomy seems to operate best, as identified during BIOVOICES MML events.

To maximise these opportunities, BIOVOICES advocates that communication and education should be highlighted to raise awareness of **all bioeconomy sectors**, as well as the environmental and socio-economic benefits. The whole range of target audiences – multi-actors need to be engaged and addressed through tailored activities implemented at local, regional and national level.

The BIOVOICES funded experience has resulted in the generation of important insights about effective communication and engagement with multi-actors, ready for implementation to further embed the circular bioeconomy into EU life and livelihoods.

BIOVOICES insights are laid out in four Policy Briefs, one for each of the four key stakeholder groups (Policy Makers, Research, Business, Civil Society), containing Key Messages, the insights on which the messages are built and case studies captured during the project's MMLs and wider events.

The aim of each Brief is to drive debate and discussion within and between all stakeholder groups to progress and scale up the implementation of the circular bio-based bioeconomy.

15. https://ec.europa.eu/food/sites/food/files/safety/docs/f2f_action-plan_2020_strategy-info_en.pdf
16. https://ec.europa.eu/research/bioeconomy/index.cfm?pg=policy&lib=food2030
17. http://eur-lex.europa.eu/resource.html?uri=cellar:21b27c38-21fb-11e3-8d1c-01aa75ed71a1.0022.01/DOC_1&format=PDF
18. https://ec.europa.eu/info/food-farming-fisheries/key-policies/common-agricultural-policy/future-cap_en
19. https://ec.europa.eu/transparency/regdoc/rep/1/2011/EN/1-2011-287-EN-F1-1.Pdf
20. https://ukcop26.org/

#3

The Role of the Research Sector

Developing and supporting the circular bio-based economy

The research ecosystem made up of the entire tertiary academic field plus dedicated research organisations and individual researchers are critical to the successful on-going development of the bioeconomy in Europe. The main functions of the research ecosystem to support the bioeconomy overall and the emergence and validation of bio-based products and processes are to;

Primarily:

1. Develop new knowledge to support the validity of bio-based sectors through research actions at programme and project level;

2. Collate and present new and/or amended knowledge on bio-based resources and their utilisation for innovative bio-based products and services to targeted audiences that can either invest in or utilise this knowledge to bring new products and services to the market for the benefit of society and the planet;

3. Provide advice and evidence to European, national and regional funders on the 'direction of travel' for the bioeconomy and bio-based products in order to support decision-making on sectors and topics for calls that will reap progressive results;

4. To drive the development and delivery of research programmes and projects that adhere to the best principles of Responsible Research & Innovation (RRI) by involving all appropriate stakeholders and actors to deliver a 360-degree assessment of potential impact on all stakeholders and the planet.

Second:

1. To respond to funding calls at European, national, regional/local levels to ensure the long-term and continued research investment into the most productive and relevant investigations into bio-based resources, products, production techniques and services;

2. To provide education resources and opportunities for under and post graduate study into the bioeconomy, bio-based and circular economy sectors, taking particular care to secure a multi-disciplinary approach to that study, supporting the emergence of technical and practical expertise that supports the delivery of a fully inclusive 'bio-society', supported also by the lay community.

#4

BIOVOICES Key Messages

Recommendations to drive dialogue and debate

Researchers must commit to **Communicating** circular bio-economy research to all stakeholders.

Contribute to the development of a **Common Language** to describe research into the bio-based circular economy that can be understood by all stakeholders and actors.

Bio-based research should focus on understanding of the **Best Use of Resources** within the constantly evolving landscape.

Prioritise and provide circular bio-based economy related **Skills Education** for students, graduates and employers and develop modules related to particular national/ regional challenges.

Valorise and communicate **Best Research Practices** and **Optimising Protocols** to support the bio-based sector.

Support the creation of an **Open Access Knowledge Hub** for information on lessons learnt from bio-based product research whether positive or negative, utilised or not.

Information Must Be Shared, under licence as appropriate, not held back under Intellectual Property (IP) rules.

Research should develop and drive clearer **Connections to and Understanding of Market Needs** by increasing collaboration with all stakeholders.

Focus research using **Cascading Principles** to optimise resource use and reuse.

Involve Regional and Local Stakeholders in research agenda development and actions to boost routes to local development.

Be aware that **Regulatory Frameworks can Lag Behind** innovative research, hindering innovation & implementation.

Prioritise research topics that **Explore the Effects of a Scaled-up Circular Bioeconomy** on regional and local ecosystems.

The research community has a role to play in defining **Criteria for Monitoring Bioeconomy Impacts** and developing benchmarks to evaluate these impacts against fossil-based counterparts.

#5

Insights relating to Key Messages

Based on evidence collated from BIOVOICES Mobilisation and Mutual Learning (MML) Events at European, National and Regional levels.

At the start of the project BIOVOICES partners agreed on the twelve challenges that need to be addressed to drive development and market uptake of bio-based products. The challenges can be accessed in Annex on page 15. The challenge or challenges most relevant to each key message and insight are referenced below.

Researchers must commit to Communicating Circular Bio-based Economy research to all stakeholders

"Drive positive collaboration and provide opportunities for all stakeholders to present and share experiences."

Bioeconomy Specialist - Policy

- Develop a dialogue between researchers and consumers.
- Create appropriate research awareness campaigns using qualified information presented through attractive communication addressed to all generations, using a terminology that everyone can understand.
- It is crucial to involve researchers in the dissemination of a simple and clear message and to involve citizens in the testing out of bio-based innovations - citizen science.
- Continuously promote the benefits and unique selling points of bio-based products from early stages of research to product development via various channels including all forms of social media.
- Communicate research findings and developments within a circular bio-based economy approach to maximise the impact of research within the sector on all sections of society.
- Actively participate in events such as "Researcher's Night" and communicate circular bio-based research to a civil society audience.

Challenges – Find First Customers, Specify Unique Selling Points.

Develop a Common Language to describe research into the circular bio-based economy that can be understood by all stakeholders and actors.

- Research participation is required to increase awareness and active knowledge of circular bio-based terminology, to develop a common language and a universal terminology to increase the dialogue between all stakeholders.
- Develop appropriate research awareness campaigns using qualified information presented through attractive communication addressed to all generations, using a terminology that everyone can understand.
- Define clear objectives involving all stakeholders involved in designing, delivering and utilising research agendas focused around the circular bio-based economy to drive and support collaboration in order to achieve common goals.
- "Get the story right and be the advocates".

Challenges – Changes in Purchase Habits, Increase the Adoption, Realise Standardisation.

Bio-based research should focus on understanding of the Best Use of Resources within the evolving circular landscape.

"There is an opportunity for the bio-based industry to 'leapfrog' over current materials by providing quality and reliable product data that can be used by industry."

Capability Lead-Industry/Research

- Bio-based product research must 'choose its niches' – particularly at the 'early development' stage in order to maintain its relevance to society.
- Encourage students/researchers to understand how their research fits within the wider environmental perspective.
- Identify specific national/regional challenges for the focus of research.
- Researchers must identify opportunities that make the best use of available resources as sometimes fossil is more appropriate for certain applications.

Challenges – Specify Unique Selling Points.

Prioritise and provide bio-based circular economy related Skills Education for students, graduates and employers.

- Researchers have an opportunity to reach and inspire younger generations by working with schools to create campaigns and projects that act as amplifiers.
- Researchers are well placed to identify opportunities to increase the promotion of bio-based product research using new technologies to communicate research innovations.
- Research institutions must work with industry to support the delivery of circular bio-based economy skills training that is essential for the development, maintenance and repurposing of workforces maximise emerging opportunities.
- Work in partnership with key stakeholders to develop school level awareness of circular bio-based economy via national curriculum.

Challenges – Introduce EU & National Incentives, Boost local employment.

Valorise and Communicate Best Research Practices and Optimising Protocols to support the bio-based sector.

- Research institutions have a responsibility to communicate to highlight excellence and stimulate discussion in order to valorise research best practice related to the development of bio-based products through the exploitation of already financed instruments, such as platforms.
- Opportunities for public outreach should be pursued. Research case studies and best practices from research to product marketing can have strong motivational power.
- Research findings and developments should be communicated within a circular approach to maximise the impact of bioeconomy research on all sections of society.

Challenges – Up-Scaling, Improve Resources to Enhance Business Cases.

Support the creation of an Open Access Knowledge Hub for information on bio-based product research whether positive, negative, utilised or not.

"Secure the attention of policy-makers to a national online Information point, by providing a coalition/consensus group across all stakeholders to press the case via awareness, engagement and ultimately action. An independent / professional organisation should take the lead here to counter any accusations of bias."

Lead Scientist-Research

- Create an open-source collective knowledge hub that maps information on all university, EU funded and associated BBP research whether taken to commercialisation or not.

Challenges – Introduce EU & National Incentives.

Information Must Be Shared, under licence as appropriate, not held back under Intellectual Property (IP) rules.

"Barriers include regulation, competition and protection of research and innovation between parties in stakeholder groups."

Principal Research Officer- Policy

- Enhance potential commercial uptake of BBP by addressing the locking of Intellectual Property (IP) within universities and research institutions.
- Research progress and outcomes must be shared in timely and effective ways for the benefit of society not just the holders of the information - utilising accepted good practices that stimulate engagement and discussion.

"For the 'greater good' industry/research will need to relinquish secrecy."

Capability Lead-Industry/Research

Challenges – Introduce EU & National Incentives.

Research should develop and drive clearer Connections to and Understanding of Market Needs by increasing collaboration with all stakeholders.

"We need more information about bio-based products and their qualities."

Capability Lead-Industry/Research

- Connect the actors in order to promote dialogue and build bridges to bring academics closer to other stakeholders preventing sectors from working in silos.
- Researchers must co-operate with relevant stakeholders to ensure that the full value of bio-based research is made widely accessible to feed into market development.
- Research ecosystem is well placed to connect all actors, to build bridges that bring academia closer to business, policy makers and consumers to deliver actionable knowledge and engagement within the circular bio-based economy.
- Research findings, if communicated appropriately can aid institutionalised knowledge exchange between purchasing and expert departments relating to technical specifications and sustainability criteria such as Life Cycle Assessment.

Challenges – Improve Resources to Enhance Business Cases, Realise Standardisation, Enhance Local Bioeconomy Action Plans.

Focus research using Cascading Principles to optimise resource use and reuse.

"Co-operation between stakeholders essential to prevent sectors from working in silos which has caused problems and the full value of waste products cannot be seen or achieved."

Manager - Industry

- Research should suggest optimised pathways for biomass utilisation, through cascading use of resources, to ensure sustainability and maximize the exploitation.
- Analyse cooperation within the value chain with a focus on better end-of-life solutions. CO_2 impacts are related to the cascading principles that give priority to higher value uses that allow the reuse and recycling of products instead of burning or composting them.
- End of life options for bio-based products critical for up-scaling potential.
- Focus research on CO_2 impacts instead of bio-based inputs as priority is given to a reduction of CO_2-impacts within the circular economy. stakeholders to ensure that the full value of bio-based research is made widely accessible to feed into market development.

Challenges – Specify Unique Selling Points, Realise Standardisation.

Involve Regional and Local Stakeholders in research agenda development and actions to boost routes to local development

- Bring regional and local stakeholders into contact with the research ecosystem via the creation of multi-actor networks to secure multi-level cooperation.
- Actively participate in providing technical input to forward the development of regional bioeconomy clusters as a strategic component of industrial policy to support synergies and innovation within the circular economy.
- Investment in research and in the relative dissemination and exploitation of results by all local stakeholders will assist in regional and local development, of the circular bioeconomy.

Challenges – Increase the Adoption; Introduce EU & National Incentives; B2B Users as Frontrunners; Enhance Local Bioeconomy Action Plans.

Be aware that Regulatory Frameworks can Lag Behind innovative research, hindering innovation & implementation

"Behaviour change by all stakeholders essential to increase uptake of BBPs - paradigm shift. In conjunction with disruptive legislation from government. Involve social scientists in change process."

Lecturer- Research/industry

- Understanding of and communication with policy and regulation landscape & agencies is essential at all stages of research to planning effective research initiatives.

"Legislative & regulatory constraints severely reduce transfer of knowledge from R&D to commercialisation e.g. End-of-waste regulations constraining delivery of bio-fertiliser to agriculture. Policy must support innovation rather than constrain it."

Manager AD plant-Industry

Challenges – Introduce EU & National Incentives.

Prioritise research topics that Explore the Effects of a Scaled-up Circular Bioeconomy on regional and local ecosystems

- The research community must investigate possible negative effects such as rebound effect and suggest roadmaps for sustainability to ensure that a possible bioeconomy scale-up will not impact negatively on society or the environment.
- Successful implementation of research-based innovation is dependent on a 360° assessment of impact on bio-related agriculture, water & land use, and biodiversity.

Challenges – Increase Sustainable Feedstock for BBP, Enhance Local Bioeconomy Action Plans.

The research community has a role to play in defining Criteria for Monitoring Bioeconomy Impacts and developing national/regional benchmarks to evaluate these impacts against fossil-based counterparts.

- Enhance research which clarifies the CO_2-impacts of bio-based products compared to their fossil-based counterparts. LCA-analysis and Total Cost of Ownership (TCO) are important tools for this.
- Develop benchmarks for life cycle assessment (LCA) and define thresholds for sustainability assessment.
- Focus research on finding tools to assess the impact of composite bio-based materials.
- Work with all stakeholders to define key performance indicators (KPI) to support bio-based industries, defined in the short, medium and long-term.
- Offer research input into methods for calculating the impact of a bio-based product compared to a fossil-based one, including externalities, that can be used by civil society to understand environmental, social and economic impacts of bio-based products.
- Simplify the benchmarking process so it is applicable for use by SMEs and start-ups.

Challenges – Introduce EU & National Incentives, Increase Sustainable 2G Feedstock.

#6

Shared Best Practice Actions

Provide opportunities for researchers to communicate their work at public events

Bioeconomy Village at Maker Faire

Public events such as Maker Faires provide core opportunities for researchers to present their work to a mixed, largely lay audience. The Bioeconomy Village concept was initiated by the BIOWAYS project to bring together researchers, innovators and businesses including Small and Medium Enterprises (SME) and start-ups, to promote awareness of the bioeconomy among citizens. Invited researchers, such as ENEA and CNR setup an exhibition booth where the most relevant research in bioeconomy was showcased. Visitors were actively encouraged to participate in an interactive, 'hands-on' bioeconomy through the exhibition of products, curiosities, thematic workshops and practical demonstrations. Visitors were shown that the bioeconomy is increasingly part of our everyday lives.

The initial Bioeconomy Village event took place at the 2017 Maker Faire in Rome. Since then the format has been replicated by both the BIOVOICES and Biobridges projects at a variety of large-scale events, reaching in total over 150,000 visitors and involving more than 400 researchers, companies and projects.

http://www.bioways.eu/multimedia/articles/the-bioeconomy-village-bioways-at-the-maker-faire-rome/

European Researchers' Night attracts 1.6 million visitors

Researchers' Nights are annual events supported by the European Commission. The primary focus is to bring researchers closer to the general public and to showcase the diversity of current research. Visitors to the events can discover research taking place into the development of the bio-based sector and researchers themselves have the opportunity to highlight the positive impact their work has on our daily lives and for the future. An additional aim is to engage and motivate young people to embark on careers in research. To ensure a broad socio-economic demographic of people participating a variety of venues can be used as well as online platforms. During 2019, Researchers' Night 2019 attracted 1.6 million visitors across 400 cities in Europe and beyond.

Inviting researchers to take part in Researchers' night

Promote collaboration between academia, industry and the regions to develop an enhanced workforce able to respond to the market needs of bio-based sectors

The European Bioeconomy University

Researchers involved with the bioeconomy sector can take advantage of this collaboration between six European universities (Agro Paris Tech, Bologna University, University of Eastern Finland, University of Hohenheim, University of Natural Resources & Life Sciences, Vienna, Wageningen University & Research). This group has a mission to promote empowerment of the European knowledge-based bioeconomy by educating a new generation of truly European experts. Education and training will exploit the full potential of the future bioeconomy by attracting the best talents and training them as the best suited experts to meet the sector's needs, fostering rigorous, relevant and responsible research and transferring this knowledge into society and the economy. Sharing of skilled lecturers and experts in the field is a clear benefit of the collaboration.

https://european-bioeconomy-university.eu

Highly innovative collaboration between the UK universities of York, Hull and Teesside through the THYME project is an exemplar of good practice in knowledge exchange to drive regional development.

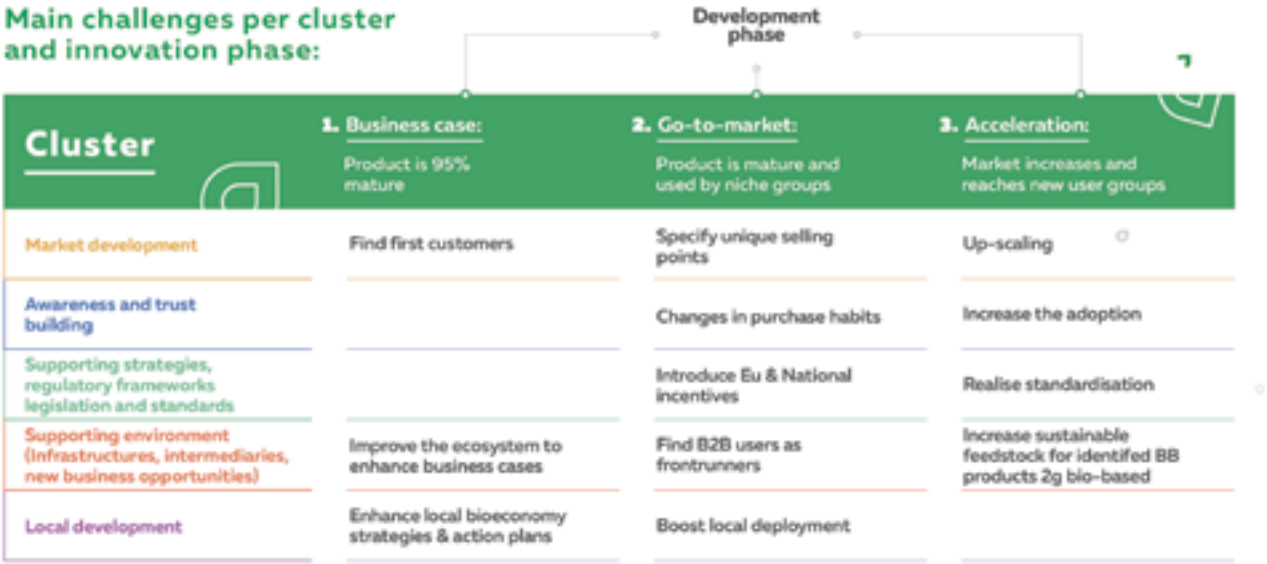
This innovative collaboration between the universities of York, Hull and Teesside has become is an exemplar for good practice in Knowledge Exchange between Higher Education Institutions (HEI) and industry, attracting trade and inward investment into sustainable bio-based industries and HEIs. Other partners include BioVale, York and the Biorenewables Development Centre.

The fast-growing bioeconomy represents a major economic opportunity for the UK and particularly for the North of England. The THYME project (funded by UKRI) aims to build on regional assets to drive increased productivity of companies operating in the bioeconomy across Yorkshire, Humberside and the Tees Valley. The project is supported by the Connecting Capability Fund of Research England.

"The North of England has huge potential to lead the UK's shift to a bio-based economy and the THYME project has played a fantastic role in driving this forward. Through THYME, the universities of York, Teesside and Hull have found new and innovative ways to work together and to reach out to bio-based businesses and other regional stakeholders."

Annex

The 12 Challenges identified by BIOVOICES to contribute to the market uptake of BBP



This Project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 774331