

BIOVOICES
POLICY BRIEF
FOR CIVIL
SOCIETY

www.biovoices.eu

Table of Contents

1. Introduction to the Policy Briefs	2
2. The Policy Context	3
3. The Role of Civil Society	6
4. BIOVOICES Key Messages	7
5. Insights related to Key Messages	8
6. Shared Best Practice Actions	12
Annex - the 12 BIOVOICES challenges	17

#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 proactive 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 Agreement⁴ 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 360° 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 workforce⁸ but modelling has indicated that bio-based industries could create up to 1 million new 'green' jobs by 2030, especially in rural and coastal areas⁹. 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., 2017¹⁰). 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 Framework¹¹). 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 been recently launched by the European Commission¹² 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 Directive¹⁴**, the **'Farm to Fork' Strategy¹⁵**, the **Food 2030 policy¹⁶**, the new **EU Forest strategy¹⁷**, the **new Common Agricultural Policy¹⁸** 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 2011¹⁹. 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. BIOVOICES 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-26²⁰.

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 Civil Society

Gatekeepers to Citizen Engagement

Civil Society is represented by organisations such as non-governmental organisations (NGOs) and Civil Society organisations (CSOs) with interested members of society who both lead and respond to initiatives and information channelled through their organisations. NGOs and CSOs play an important role in providing information and responding to requests/initiatives from wider society, governments and policy-players at all levels, and increasingly to industry and research groups, on matters that impact on daily lives and on their specific interests.

The functions of Civil Society as defined above with relation to the bioeconomy are:

Primarily:

1. To engage with their membership groups to canvass opinion about the bioeconomy, bio-based sectors and products in order to cascade this information, and their response to it, to other stakeholder groups and wider society as appropriate. As 'gatekeeper' organisations, they use their influence and data, powered by their memberships, to present to and lobby policy-players at all levels, industry and trade organisations to support, or 'put the brake on' bio-based sectors, innovative practices and products over which questions still remain, where clarity and/or safeguards are required.

2. To provide education to their memberships on the bioeconomy and bio-based sectors appropriate to their interests providing innovative, updated and validated information, thus raising awareness of the realities of the bioeconomy and its relevance to everyday life, aiding their memberships, and by cascade, wider society to make informed decisions on lifestyle and purchasing choices.

Second:

1. Liaise with appropriate organisations and groups across the quadruple helix at European, national, regional/local levels – research, industry, policy and civil society – to contribute the views of their membership based on evidence and data to drive informed debate across the spectrum, endeavouring to ensure 'nothing about us without us'.

2. Respond to requests from authoritative entities for example, governments, specialist scientific/research organisations, business sectors to provide evidence, viewpoints and information on bioeconomy and bio-based topics relevant to their expertise and membership interests. Knowledge exchange can be provided in 'public' environments such as conferences via workshops or panel discussions, or in closed meetings to provide advice on, for example, priority research topics to comply with Responsible Research & Innovation (RRI) principles. Civil Society may also decide to disclose data based on membership views to either support or challenge initiatives presented to them by authoritative entities.

See also BIOVOICES D3.1 Synthesis of market perspectives, to develop bio-based value chains section 4.3: Greet Overbeek & Anne-Charlotte Hoes (2018).

<https://www.biovoices.eu/download.php?f=5&l=en&key=d4d623ecfaf04313fb52c36f48bcccf2>

#4

BIOVOICES Key Messages

Recommendations to drive dialogue and debate

Support the development of a **Common Language** with an agreed terminology accessible to all stakeholders, to drive useful dialogue about the circular bio-based economy and specific bio-based sectors.

Support development of a simple, clear and consistent **Labelling Standard** at EU level for bio-based products to help establish understanding and drive consumer trust.

Work towards the elimination of '**Greenwashing**' as this results in lower consumer confidence in bio-based products (BBPs) and their producers.

Set the 'Bioeconomy Story' into the **Circular Bio-based Economy context** to drive further understanding and adoption.

Promote implementation of an **Education Curriculum** to increase knowledge and awareness of sustainability issues and the bio-based circular economy aimed at adults and all student levels.

Citizens are in general **Receptive to the Purchase of Bio-based Products**, a positive backdrop and an opportunity for all stakeholders to engage in productive dialogue.

Continuously promote and **Communicate the Unique Selling Points (USP)** of bio-based products, their benefits and relevance to everyday life.

Establish the appetite amongst your members/group for the **Implementation of a Carbon Tax** on fossil-based products to make bio-based materials more affordable.

Enable and encourage the **Participation of Citizen Groups** particularly in the development of regional and local circular bio-based economy policies.

#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 17. The challenge or challenges most relevant to each key message and insight are referenced below.

Support the development of a **Common Language** with an agreed terminology accessible to all stakeholders, to drive useful dialogue about the circular bio-based economy and specific bio-based sectors.

"I was not aware of the meaning of the terms bioeconomy and bioscience and even after the MML I do not have an understanding of the terms."

MML event attendee-Civil Society

- Define a common goal, all actors involved must be clear about what it is they want to achieve so that they can work together for long-term change.
- Collaborate to develop a Common Language that can be easily understood by all - the language used to describe the bioeconomy is currently too complex and inconsistent - stakeholders using a standard terminology.
- Drive understanding of exactly what the bioeconomy is and what the benefits to society are, or it will continue to be a challenge to develop and market bio-based products.
- Promote awareness and active knowledge of standard bioeconomy terminology to increase dialogue between all stakeholders to communicate the positive impact bio-based products can have on the environment.

- Engage with start-ups to develop a coherent story about innovative bio-based products that can be explained to citizens.

"Plain language and common terms would be helpful."

Interviewee – Civil society

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

Support development of a simple, clear and consistent **Labelling Standard** at EU level for bio-based products to help establish understanding and drive consumer trust.

"Standards are needed so that consumers (and all stakeholders) can understand what is meant by bio-based. This will develop trust."

General Manager- Industry

- Involve citizens in the development of a simple, functional labelling standard.
- Obtain citizen trust through involving them in the development of clear, consistent labelling and standards achieved with the involvement of policy makers supporting bio-based products at national, regional and municipal level.
- Respond to initiatives from other stakeholders relating to the development of labelling standards.
- Engage with the debate on transparent and traceable life cycle assessment (LCA) data that can be transferred to a labelling system. Complete value chain information required for bio-based products.
- Understand that citizens are more interested in end-of-life solutions for plastics than in bio-based inputs.

- Work with regional producers of bio-based products to give consumers a quality guarantee that goes hand in hand with the good reputation of the brand and the region.

Challenges – Specify USP, Up-Scaling, Promote Changes in Purchase Habits, Increase the Adoption, Realise Standardisation.

Work towards the elimination of 'Greenwashing' as this results in lower consumer confidence in bio-based products and their producers.

"There is a lack of transparency in communication around the use of bio-based materials in packaging – Corporate responsibility must kick in and be real."

General Manager-Industry

- Cooperate with all relevant stakeholders to develop awareness and active knowledge of standard circular bio-based economy terminology to increase dialogue to communicate the positive impact BBP can have on the environment in terms of functionality compared to traditional products.
- Drive informed debate using honest and transparent information which is increasingly required as consumers become more knowledgeable and enquiring.
- Respond to requests from policy makers and industry to provide accurate and actionable knowledge and insights relevant to members' interests in furthering the uptake of bio-based products.
- Challenge industry to provide the information that citizens require to build trust in bio-based products and to address preconceptions relating to product efficiency, durability and end-of-life issues.

"I think we need to stop proposing compostable as an alternative for single-use items, especially' on the go', they are complicating the infrastructure requirements and creating confusion."

General Manager-Industry

Challenges – Promote Changes in Purchase Habits, Increase the Adoption, Realise Standardisation, Boost Local Deployment.

Set the 'Bioeconomy Story' into the Circular Bio-based Economy context to drive further understanding and adoption.

"Biobased products such as plant-based coffee cups are still a niche market and the purchase of one is not going to save the planet."

MML event attendee-Civil Society

- Adopt the "circular concept" to facilitate promotion of the bio-based sector to the general public.
- Highlight the social, economic and environmental benefits of the circular bio-based economy.
- Collaborate with stakeholders to ensure that the 'Bioeconomy Story' being shared is consistent and set into the relevant global, national, or regional context.
- Address that fact that the bioeconomy is still a 'niche' sector and will continue to have limited impact unless joined up with and communicated within circular economy approaches.
- Develop a specialist network to tell one main story to achieve wider acceptance of the bioeconomy, bio-based sectors and bio-based products by governments and society in general.

"It seems to me that a focus on the circular economy is the right context – with bio-based fitting into that."

Collaboration Lead - Industry

Challenges – Specify Unique Selling Points; Promote Changes in Purchase Habits; Increase the Adoption; Realise Standardisation.

Promote implementation of an Education Curriculum to increase knowledge and awareness of sustainability issues and the bio-based circular economy, aimed at adults and all student levels.

- Provide innovative and up to date information to secure participative and proactive citizen involvement to promote trust, conscious consumption and environmental sustainability.
- Contribute to development of National Curricula at school level to raise awareness of the benefits of a circular bio-based economy and the link to global sustainability.

- Collaborate with the education community and the regions to provide educational paths for vocational training and life-long learning as citizen awareness and understanding are the essential elements to focus on to drive the change.
- Ensure the younger generation are involved in the debate as young people are currently very receptive to the development of new lifestyle skills relating to reducing the effects of climate change.
- Promote the opportunity for careers and academic study related to the circular bio-based economy.

Challenges – Find First Customers, Up-scaling, Promote Changes in Purchase Habits, Increase the Adoption.

Citizens are in general Receptive to the Purchase of Bio-based Products, a positive backdrop and an opportunity for stakeholders to work with.

“Behaviour change by all stakeholders essential to increase uptake of BBPs, in conjunction with disruptive legislation from government. Involve social scientists in change process.”

MML event attendee-Industry/Research

- Embrace the opportunity that most people, regardless of age, are favourable towards the purchase of bio-based products and believe that it is necessary that more of these reach the market.
- Promote conscious consumption, environmental sustainability and ensure the participative and proactive involvement of citizens.
- Focus communication about bio-based products taking into account age, education level to target message delivery.
- Pursue public funding at European and national level to encourage public engagement.
- Utilise social media, television and radio as highlighted by citizens as the most appropriate methods to convey the benefits of bio-based products to the general public.
- Maximise involvement with citizen-science projects and living labs which are an opportunity to involve citizens in design and research questions and the physical testing of bio-based innovations.
- Highlight and promote to citizens public entities implementing Green Public Procurement as single “champions” (a business or public entity using green procurement on a wide scale).

Challenges – Promote Changes in Purchase Habits, Increase the Adoption, Introduce EU & National Incentives.

Continuously promote and Communicate the Unique Selling Points of bio-based products, their benefits and relevance to everyday life.

“The whole sector is immature and currently ‘very niche’.”

Collaboration Lead - Industry

- Enhance citizen awareness of the positive impact that bio-based products can have at a social, environmental and economic level, to encourage consumers to change their purchase habits.
- Drive behavioural change by continually promoting USP, which are not always self-evident, appropriately and in understandable formats to individual generations of citizens.
- Develop attractive visual campaigns using innovative technology to raise awareness, in particular to younger generations, of how bio-based products can be incorporated into daily lives.
- Harness the strong motivational power of physical examples and case studies of bio-based products by promoting and exhibiting in public spaces.

Challenges – Specify USP, Up-Scaling, Promote Changes in Purchase Habits.

Establish the appetite for the Implementation of a Carbon Tax on fossil-based products to make bio-based materials more affordable.

- Ask Consumers to identify initiatives, for example tax benefits, that would increase their confidence in and ability to purchase bio-based products.
- Develop dialogue with citizens to debate the issue of price parity of bio-based products with their fossil equivalent – ‘Why are the fossil-based products so cheap?’
- Challenge policy makers about price parity to introduce initiatives that result in economic benefits for citizens.
- Provide continuity of the message during policy regime change to avoid hinderance of the development of bio-based sectors.

Challenges – Specify USP; Introduce EU & National Incentives; Boost Local Deployment; Increase the Adoption.

Enable and encourage the Participation of Citizen Groups particularly in the development of regional and local circular bio-based economy policies.

“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.”

MML attendee- Industry/research

- Address societal and citizen concerns through the influencing of policy and industrial agendas.
- Create a new participative governance by involving citizens in public consultations about the circular bio-based economy to develop a set of ideas and measures which can be included in public policies.
- Civil Society organisations must work with all stakeholders to identify the needs of the citizen, businesses and the territory in order to facilitate multi-stakeholder networks.
- Promote the bioeconomy in a regional context to encourage citizen involvement in the revitalisation of the local economy by enhancement of social enterprises and social innovation action plans.
- Communicate to society that the sectors working within the circular bio-based economy can create opportunities to boost national and regional employment.
- Develop online platforms where citizens can access local bio-based products.

Challenges – Promote Changes in Purchase Habits, Increase the Adoption, Introduce EU & National Incentives, Enhance Local Bioeconomy Action Plans, Boost Local Deployment.

#6

Shared Best Practice Actions

Support Regions in the design of innovative bioeconomy educational pathways

The Friuli Venezia Giulia Region (Italy) created a regional HUB for Bioeconomy Education with support from the BIOVOICES project and the European Bioeconomy Network (EUBioNet) which is a proactive alliance of 47 EU funded projects dealing with Bioeconomy promotion, communication and support. The HUB was developed through the organisation of a Mobilisation and Mutual Learning (MML) workshop attended by stakeholders from the quadruple helix to identify the educational needs of the region, including formal education, education of value chain actors, and others involved with capacity building within the bioeconomy.



Co-creation and presentation to regional stakeholders during the MML organised with BIOVOICES (24 January 2019)

Representatives from a number of other EU Funded projects and initiatives including STAR-ProBio, NextFood, UrBIOFuture, ASKFood, and the European Bioeconomy University, were invited to present inspirational good practices to workshop participants. Support for the region will continue for several months with additional activities planned to embed and facilitate progress.

Launch Regional Bioeconomy Prizes to celebrate school bioeconomy projects

The “Bioeconomy Prize” was created by Lazio Innova (Lazio Region Innovation Hub) in collaboration with the BIOVOICES project, Novamont and the European Bioeconomy Network as a response to the lack of public awareness regarding the opportunities available within the bioeconomy sector. A workshop was delivered for Startupper School Academy to highlight these opportunities, to info-educate teachers and tutors as multipliers of this knowledge and to encourage students to participate in the “Bioeconomy Prize” by designing a bio-based product. The prize aims to raise student awareness of a more sustainable economic model using renewable resources as an alternative to fossil-based resources.

In order to be considered for the prize, applicants had to demonstrate particular attention to the entire lifecycle of the product from the use of raw materials of biological origin (including waste products) through sustainable production to reuse and disposal with a focus on the circular bio-based economy model.

The winners were invited to showcase their ideas to the public at events during 2019, including Researcher’s Night in Frascati, Maker Faire in Rome, and the Science is Wonderful exhibition and event in Brussels.



Startupper School Academy award in Rome (May 2020)

Involve volunteers in Practical Citizen Science projects such as investigating viability of biodegradable and compostable packaging

The Big Compost Experiment is being run by University College London (UCL) Plastic Waste Innovation Hub. A nationwide citizen science research experiment to help UCL investigate the viability of biodegradable and compostable packaging. Information is being provided by members of the public to help understand how biodegradable plastics work in home composting environments to determine if their disposal at home is a viable alternative to other waste processes such as recycling or landfill.

The practical part of the experiment asks citizens to place a few biodegradable plastic items in a compost bin under controlled conditions, and then report back about whether they compost or not. An easy-to-use app has been designed to download onto a mobile phone. Participants explain what type of composting facility they use then photograph the items they have selected before placing them in the compost bin. UCL get in touch when the items have been in the compost for the required time. They are then dug up, photographed and their condition reported via the app.

An artist in residence has been appointed by the Waste Innovation Hub to communicate the ongoing scientific research to new audiences in an appealing and visual way. This example of a practical Citizen Science project is jointly funded by UK Research and Innovation (UKRI) and the Engineering and Physical Sciences Research Council (EPSRC).

<https://www.bigcompostexperiment.org.uk>

Provide hands on opportunities that can be easily transported, displayed and accessed to demonstrate the relevance of bio-based products to adults and children, their everyday life and the products' availability

(1) BIOVOICES BIOECONOMY VILLAGE

A stunning collection of more than 300 samples of bio-based products has been meticulously selected by the BIOVOICES project for their uniqueness and surprising feedstock provenance. From paper notepads created from elephant dung to cosmetics made of insects, from apple-peel to toys made from corn starch. The collection has created a travelling exhibition where participants are able to handle the objects to discover that it is feasible to replace fossil-based products with their bio-based counterparts.

The collection has been exhibited at several events throughout Europe including the 2018 launch of the revised EC Bioeconomy Strategy in Brussels, Science is Wonderful exhibition 2019 and the European Bioeconomy Scene 2019.

A set of 60 stunning images was created to showcase commonly known foodstuffs linked to their, often surprising bio-based product applications. This is an innovative approach to citizen engagement, raising awareness of bio-based products.



Bio-based products on display at Science Is Wonderful! 2019

(2) BIOVOICES 'BioArt Gallery'

The images were commissioned as part of the BIOVOICES project to visually showcase the multiple but as yet unknown applications from everyday biological sources such as tomatoes, oranges, apples and coffee.

The initial 60 images formed the basis for the creation of a wider range of visual materials created for use in public outreach situations. A virtual version of the BioArt Gallery available on the BIOVOICES website in the form of an interactive slideshow presents the most promising feedstocks and examples of bio-based products and applications currently available on the market. These include cosmetics, nutraceuticals, tissues, toys, sport items, disposable tableware, cleaning products, gadgets, and much more. Other visual aids created based on the Bioart Gallery include A4 booklets and display banners.

The BioArt Gallery in its various formats of has been used successfully at many events to engage the wider public and other specialist audiences (for example at the Scottish Waste & Resources Conference, Perth, Scotland 2019) in the discussion about bio-based products. It was discovered that the "surprise factor" is helpful when explaining what a bio-based product is and what feedstock has been used to develop it. - "Did you know that this textile is formed from apple peelings?"

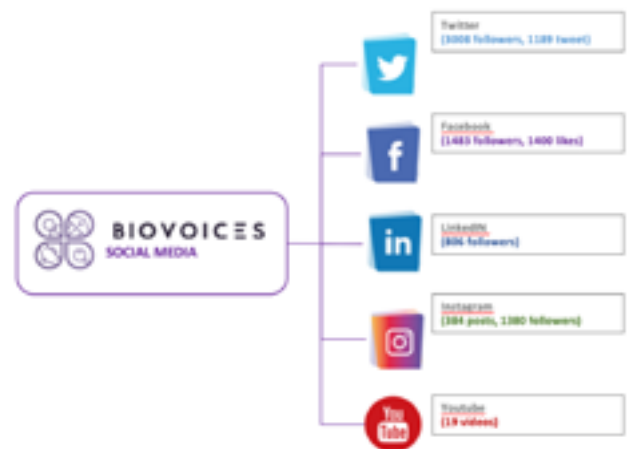


Bioart panels exhibited at FestivalFuturo by Altroconsumo, Milan (2018)

<https://www.biovoices.eu/gallery/>

(3) Social Media

For BIOVOICES Social media has been a powerful tool to inform and reach consumers to inform, raise awareness and educate about bio-based products and the circular bio-based economy. The strength of BIOVOICES is the proactive collaboration with similar projects and initiatives, but also with SMEs, researchers and influencers, enhanced by the use of social media. The most successful channels that are being used are, Twitter, Facebook, Instagram and LinkedIn.



Social media channels - overview data 2020

Early on in the COVID-19 pandemic we adapted our social media strategy to make it more responsive. Every day of the week new thematic proposals were uploaded to the various channels. New formats, ways of communication and content were constantly experimented with. An example was the launch of the #bioeconomyatHOME (March-May 2020) initiative with a more intensive social media campaign, to promote active engagement, open dialogue, interaction and collaboration. The campaign offered the regular BIOVOICES content but also novel presentations including educational graphic cards, circular bioeconomy stories and DIY tutorials, to bring the bioeconomy into the citizens' home and reducing isolation.

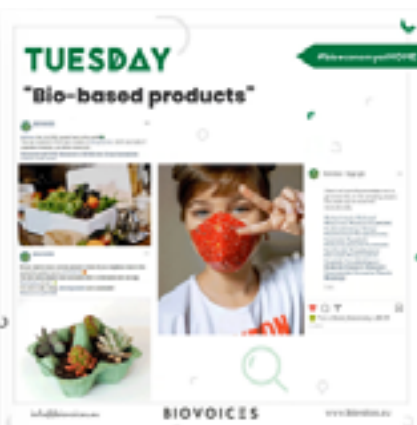
The various activities were focused on particular social media channels and adapted according to the target audience of the project. For example, the news and the circular bioeconomy stories were not published on

Instagram, in the same way the DIY tutorials and the “beauty action” were not published on Twitter and LinkedIn.

These choices were made taking into account; (a) the user profile that each social media has, for example on Twitter and LinkedIn we have not found many people interested in tutorials as the content is generally more serious; (b) the format of the channel. On Instagram for example, it is not possible to share news from other sites or videos from Youtube; (c) days of the week programming is scheduled.

BIOVOICES programming took place over all 7 days. LinkedIn is less used at weekends as it is a platform more dedicated to workers, so content on LinkedIn was focused on weekdays to maximise exposure.

A key success of the BIOVOICES social media campaign is the carefully branded, high-quality, visual content that has been developed. These eye-catching visuals encourage people to ‘follow’, ‘like’, and comment. An example of this strategy is the BIOVOICES Instagram channel where category cards to classify the various types of bio-based products are continually posted.



#bioeconomyatHOME initiative programme (March-May 2020)



BIOVOICES Category cards uploaded to Instagram

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