



Boosting European Citizens' Knowledge and Awareness
of Bio-Economy Research and Innovation

D 3.3

Guidebook on engagement and co- creation methodologies

Report



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Executive Summary

In a world of continuous technological advancement, intensified global competition and various other challenges, outreach to communities to identify needs as well as barriers is becoming increasingly important (Ray 1999). It is at the core of the BLOOM project (Boosting European Citizen's Knowledge and Awareness about Bio-Economy Research and Innovation) to establish open and informed dialogues between EU citizens, the civil society, bioeconomy innovation networks, local research centres, business and industry stakeholders and various levels of government including the EU commission.

This guidebook starts with an introduction on the concept of outreach and engagement methodologies and activities. Besides, giving this general overview it presents three exemplary engagement models, outlines how BLOOM's engagement activities can be aligned to the Grand Societal Challenge of Food security, sustainable agriculture and forestry, or marine and maritime and inland water research, and highlights activities that are considered to be both engaging and relevant to BLOOM's approach of empowering citizens and raising awareness for bioeconomy.

Co-creation processes will be at the heart of BLOOM's five regional hub activities because co-creation follows an approach of involving different perspectives and collaboratively designing tools, materials, processes, activities or strategies. A variety of targeted creative methods and creative tools feed into this guideline support the hub leaders designing the most appropriate suitable workshops and to choose most fitting methodologies to reach their goals. Therefore, besides background information on co-creation, its potential and general information about organising such workshops, this section provides also as practical support a selection of co-creation methods and an example of a co-creation workshop moderation sheet, to be adapted and used by the BLOOM hubs.

All in all this guidebook is set up to encourage the BLOOM partners and hubs to structure, plan, and implement an engagement model tailored to the specific needs, drivers and barriers of each hub and thus should serve as a pool of engagement methods, activities and background information and offers assistance with planning the BLOOM co-creation workshops.

1. Introduction

The bioeconomy encompasses the sustainable production of renewable biological resources and their conversion and that of waste streams into food, feed, bio-based products such as bioplastics, biofuels and bioenergy. The EC's Bioeconomy Strategy is based on three key pillars: Investing in research, innovation and skills, market development and enhanced competitiveness of bioeconomy sectors and a stronger policy coordination and engagement with stakeholders with the aim to foster participation of researchers, end-users, policymakers and civil society in an open and informed dialogue throughout the research and innovation process of the bioeconomy (MEMO 2012).

The project BLOOM draws on this concept and aims at boosting European citizen's knowledge and awareness of bioeconomy research and innovation and is dedicated to setting up five national hubs that will serve as platforms where bioeconomy stakeholders can be engaged to help increase public awareness and seek out opportunities for the bioeconomy.

Public involvement in the discussion of issues, problem solving approaches and policymaking activities is often seen as a medium to enhance the quality of decision making, as it provides for lay knowledge and locally adjusted solutions (Münster et al). In the case of BLOOM, the concept of bioeconomy provides for a context and purposes in order to ensure a successful participative process.

This guidebook gives guidance to the hubs for two main processes within the BLOOM project. On one hand, it introduces outreach activities and how to make an engagement process feasible. On the other hand, this deliverable provides a pool of co-creation methodologies and gives guidance for co-creation workshops, which will be applied within each hub to develop ideas for new outreach activities and materials that will further be implemented by the hubs.

This deliverable will first provide background information about engagement methodologies and outreach activities. It will support the hubs in developing further activities and materials. In the next step this deliverable will provide for guidance on how to plan and run co-creation workshops successfully by detailed explanations for common co-creation methodologies and by providing all templates and supporting materials the hubs need to conduct their own workshops.

2. BLOOM goals

BLOOM's main goal is to establish open and informed dialogues between EU citizens, the civil society, bioeconomy innovation networks, local research centres, business and industry stakeholders and various levels of government including the EU commission.

BLOOM is dedicated to five central objectives:

1. Raise awareness and enhance knowledge on bioeconomy
2. Demonstrate the potential economic, environmental and social impact of bioeconomy
3. Build and strengthen regional bioeconomy communities of practice
4. Create space for debate and exchange of information, knowledge and aspirations
5. Make bioeconomy knowledge and research available for education from school trainings to vocational programs and more

The work package 3 “Dialogue and outreach activities – Co-creation and stakeholder involvement” focuses on empowering bioeconomy stakeholders in getting engaged in the bioeconomy. Anchor points are five BLOOM hubs across Europe that form communities of practice. They consist of consortium and network partners of the project and regional triple helix partners and other bioeconomy stakeholders. Together, they build working teams

according to living lab examples. In mutual learning and awareness activities (co-creation) and network extensions, partners and stakeholders will work towards an increased public engagement in raising awareness for bioeconomy.

WP3 will make use of supportive documents and media files, training materials on innovative open dialog formats as well as insights on the science-media-stakeholder relationship on bioeconomy issues provided by WP6 and stakeholders themselves. These materials will be used by BLOOM hubs outreach and awareness activities and will be made available publicly on the BLOOM platform.

Through the direct contact with CSOs' societal questions, requests and possible concerns about bioeconomy products, processes and research and innovation topics can be raised and addressed. This allows to directly shape the future research and innovation processes towards a societal responsible product improvement, and support media coverage of a societal robust innovation.

This practical guidebook on engagement and co-creation methodologies will help the hubs choose the most appropriate engagement methodologies and activity formats for their national focus on raising awareness for bioeconomy.

The main objectives for engagement and co-creation formats and methodologies in BLOOM will be to:

- Initiate multi-stakeholder two-way open dialogues
- Commonly reflect on bio-economy ideas strengths and weaknesses (co-creation)
- Identify barriers and opportunities on the uptake of bio-economy ideas
- Deploy co-creation workshops, collaboratively creating multi-format exhibits and showpieces and materials for use in outreach and education activities
- Develop open outreach activities and dialogues with selected groups by fostering innovative formats and communication methods

3. Engagement methodologies for outreach activities

This chapter aims to introduce to the concept of outreach and engagement methodologies and activities and to give a general overview based on the findings of Ray (1999), Herfordshire Council (2015), Varner (2014), the Engage2020 (2014) project and Seattle's Race & Social Justice Initiative (2009). Besides introducing the main ideas behind these concepts, it will also present three exemplary models as well as examples for such engaging and outreaching activities. These models can serve as guidelines and road maps and offer support while planning and implementing the BLOOM co-creation workshops and other activities. They are also intended to support the hubs in developing further activities and materials.

3.1. Introduction to Outreach and engagement

In a world of continuous technological advancement, intensified global competition and various other challenges, outreach to communities to identify needs as well as barriers is becoming increasingly important (Ray 1999).

To start with, **outreach** is all scientific communication ranging from minimum to large scale effort, for example from online communication to citizen science (Varner 2018). According to Ray (1999) “**engagement** goes well beyond extension, conventional outreach and even most conceptions of public service”. It is “a range of interactions which are suitable for all parties involved” as the Herfordshire Council further argues (2015). Engagement always involves action. It is a two-way process of respecting what different stakeholders bring to the table (Ray, 1999), and an exchange of information rather than a presentation or collection of it. Engagement activities offer incentive for engaging conversations and collaborations as well as a feeling of responsibility of the outcome (Race & Social Justice Initiative, 2009). Increasing the use of engagement practices has positive influence on each side of the two-way dialogue between researchers and the public (Engage2020, 2014).

Engage 2020 (2014) divided the **motivation** for the use of engagement methodologies into two reasons:

1. Democratic reasons – public engagement improves the democratic governance of science as citizens have a say on research agendas and policy frameworks in the field of R&I
2. Instrumental reasons – engagement improves the research results and the relevance of policies by including societal knowledge, ideas and capacities in research and increasing the knowledge base for policy making.

Furthermore, outreach and public engagement share some fundamental **goals** (Race & Social Justice Initiative, 2009), which complement the BLOOM goals for engagement well:

- They aim to empower relevant stakeholders
- They aim to release the potential and capacity of all stakeholders
- They aim to change the relationships between different stakeholders, e.g. the society and researchers or the society and policy makers.

Outreach and engagement activities bring along a number of **benefits** (Herfordshire Council, 2015) to both sides of the dialogue. BLOOM goals are defined in a way that future activities profit from:

- A feeling of trust between the different stakeholders
- The opportunity to influence processes and end results for stakeholders that would otherwise have been left out
- The transfer of local knowledge which would otherwise had been left unheard to decision making or to research authorities
- Removed barriers of cooperation between stakeholders

- The provision of community understanding, which helps with expectation management of the participating stakeholders and which leads to increased satisfaction with outcomes by all sides
- A feeling of responsibility and a sense of ownership to the participants

The Herfordshire Council (2015) talks about ten **principles** considering the effectiveness of engagement taken up in BLOOM's engagement approach (see also deliverables D1.2 "Communication Framework" and D6.1 "Dissemination Strategy"):

1. The activity is effectively designed so that the output will be relevant to future bioeconomy activities
2. Encourage and enable relevant stakeholders to get involved
3. Plan the delivery of results in a timely and appropriate manner
4. Work with relevant partner institutions (for help see stakeholder mapping report)
5. Information should be jargon free, appropriate and easily understandable
6. Make sure it is easy for people to take part
7. Enable relevant stakeholders to take part effectively
8. Engagement activities are given the right resources and support to be effective
9. People are told the impact of their contributions
10. Reflect on past experiences to improve your next round of outreach and engagement

Referring to them will improve the performance and outcomes of BLOOM activities.

3.2. Models of scientific outreach and outreach activities

According to Varner (2014) there exist various different models illustrating scientific outreach and its application as well as the effects of engaging outreach activities. Figure 1 shows Varner's concrete, evidence-based, iterative model for scientific outreach. This model can serve as a road map when designing outreach activities as described in detail in BLOOM's deliverable D6.1. It can be used for both, co-creation workshop planning by the hubs and for the design of outreach activities in the co-creation workshops.

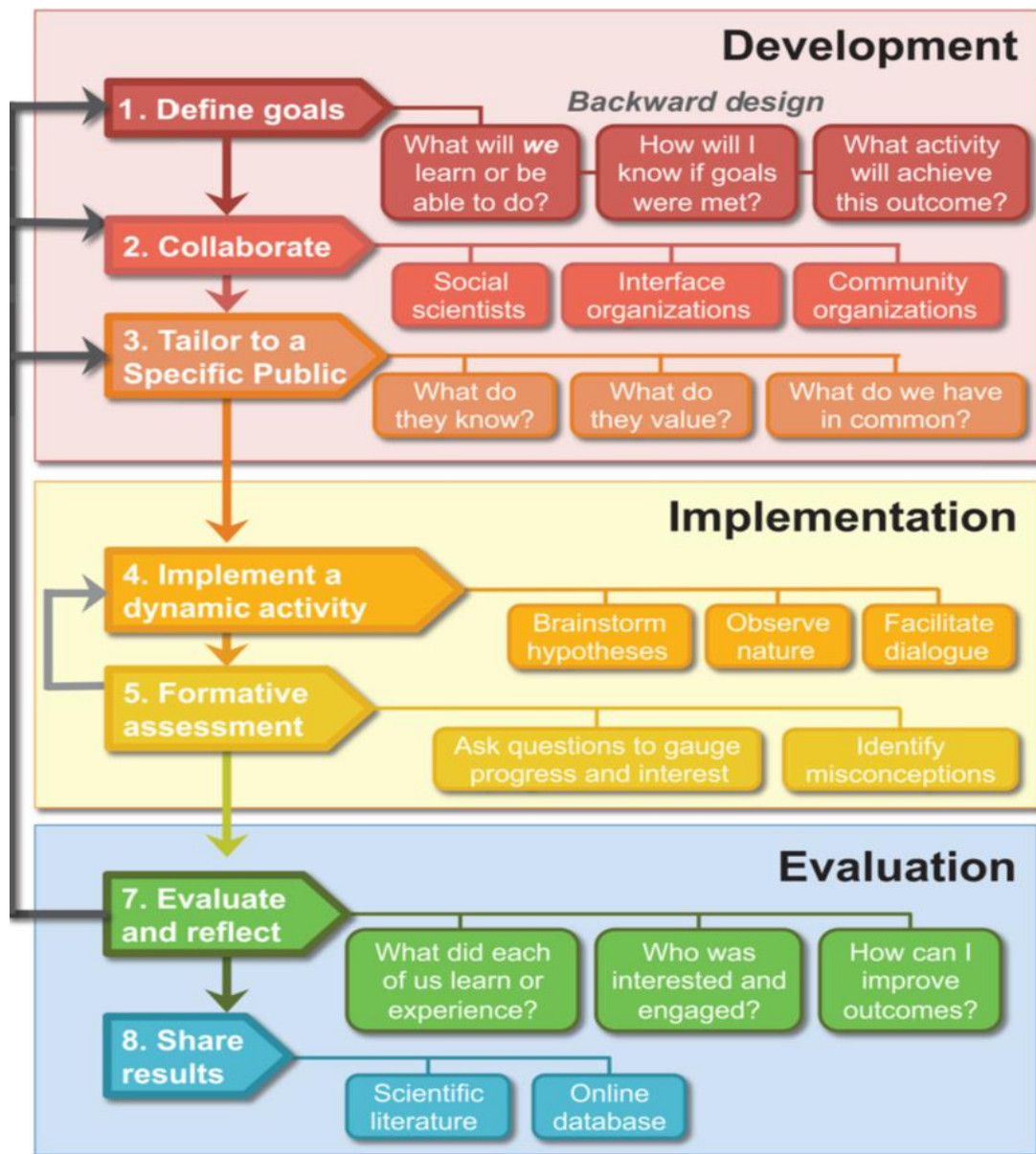


Figure 1 Varner's (2018) concrete, evidence-based, iterative model for scientific outreach.

Herfordshire Council (2015) introduces five levels of Engagement in their handbook for best practice community engagement techniques (table 1)¹. This table visualizes how engagement increases with each level, what each level intends to achieve and gives some exemplary activities that are useful in each level of engagement that fit into BLOOM's context. The BLOOM hubs can make use of this table to plan and structure their outreach, depending on their defined goal as well as it serves as background information that can be easily accessed.

As one of BLOOM's goals is to create space for debate and exchange of information, knowledge and aspirations, all these levels of engagement are very important to each hub.

¹ This table is based on the five levels of engagement by the council, but includes a few adaptations according to BLOOM needs, for example substitution of topic specific termini.

The highest level of engagement will be implemented in the co-creation workshops when designing the outreach activities.

Table 1: Herfordshire Council's (2015) Five Levels of Engagement

The Five Levels of Engagement				
Increasing level of engagement > >				
Informing	Consulting	Involving	Collaborating	Empowering
Providing information to the relevant stakeholders to enable them to understand problems, alternatives, opportunities and solutions.	Obtaining stakeholder feedback to inform decision making. Obtaining feedback on formal proposals.	Working directly with the stakeholders to ensure that issues, concerns and aspirations are understood and considered.	Working in partnership with stakeholders on all aspects of decision making including development of options and identifying preferred solutions.	Placing final decision making in the hands of the stakeholders.
The intention is to...				
Keep the stakeholders informed.	Keep the stakeholders informed, to their views and provide feedback on how their input influenced decision making.	Engage with the stakeholders to ensure that concerns and aspirations are reflected in decisions and service delivery. Provide feedback on how their input influenced decision making.	Look to the other stakeholders for advice and innovation to find solutions.	Facilitate stakeholders to take responsibility for designing and delivering services themselves.
Techniques...				
Brochures, websites, news releases and newsletters to raise awareness. For example: leaflets, Facebook or Twitter.	Public meetings, network meetings, focus groups, interviews, using social media, e-mail, website, Twitter or Facebook.	Public meetings	Round tables, Forums, Workshops	(Co-Creation) Workshops

Engage2020 (2014) adds onto the model of “Five Levels of Engagement” by the Herfordshire Council. They introduce a model with six levels: Levels of engagement (that go beyond traditional one-way communication of scientific findings):

- **Dialogue** aims to improve the “two-way” communication between scientists, policy makers and citizens to ensure a regular exchange of views.
- **Consulting** aims to obtain public feedback for decision-makers on analysis, alternatives and/or decisions.
- **Involving** aims to work directly with the public throughout the engagement process to ensure that public concerns and aspirations are consistently understood and considered in decision making processes.
- **Collaborating** implies partnering with the public in each aspect of the decision including the development of alternatives and the identification of the preferred solution.
- **Empowering** happens when the involved participants acquire certain skills/knowledge in the process of engagement.
- **Direct decision** takes place when final decision making is in the hands of the public.

Despite the slightly different wording and an additional level, resulting from a different division of levels, the models stem from the same basis. Both models can be used to identify and develop outreach activities and dialogues in the co-creation workshops.

The engagement matrix by the Race & Social Justice Initiative (2009) serves well for BLOOM needs along which a BLOOM engagement and co-creation process could be developed (table 2). One important finding of this model is that all types of engagement require some sort of information tools and activities.

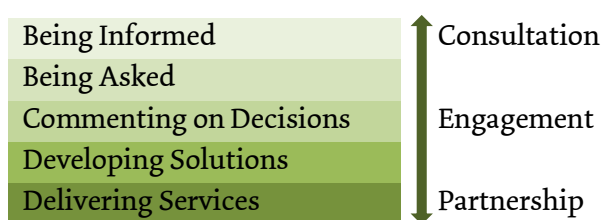
This table is a useful tool to structure the hubs engagement activities, and developing individual plans for engagement. Apart from that, the table itself serves as a useful tool for co-creation workshop participants to plan and design the outreach activities tailored to the needs, drivers and barriers of the hubs. It helps with assigning tools and activities to already defined goals.

Table 2: Engagement Matrix

Type of Engagement	Goal of Participation	Tools/Activities
INFORM (required for all types of engagement)	Educate the stakeholders about the rationale for the project or decision; how it fits with local goals and policies; issues being considered, areas of choice or where input is needed. Message: To keep everyone informed.	<ul style="list-style-type: none"> - Fact Sheets - Brochures - Websites - Open Houses - Exhibits/displays (in public areas) - Newsletters (mailed/online) - Newspaper articles
CONSULT	Gather information and ask for advice from stakeholders. Message: Will keep everyone informed, listen to and acknowledge concerns and provide feedback on how public input influenced the decision.	<ul style="list-style-type: none"> - Focus groups - Surveys, interviews, and questionnaires - Public Meetings - Workshops and working sessions - Internet (interactive techniques)
COLLABORATE	Create a partnership with the stakeholders (key stakeholder groups) to work along in identifying problems, generating solutions, getting reactions to recommendations and proposed direction. Message: Will work with the stakeholders to ensure that their concerns and issues are directly reflected in the alternatives developed and show how their input influenced the decision	<ul style="list-style-type: none"> - Consensus building - Participatory decision-making - Co-creation workshops

A third concept taken up in this deliverable is by the Sunderland Community Development Plan (2008) (Table 3) which identifies another way of thinking about different levels of involvement. This is taken up, as it helps to understand the difference between consulting the stakeholders, engaging them and building partnerships.

Table 3: Levels of Involvement



Each hub should clearly define its goals on how they want to interact with the stakeholders and what they aim to achieve with their outreach activities they will design. This graph may help to establish an overall aim to the outreach activities.

The presented models can help the hubs and stakeholders in the co-creation workshops to identify, design and develop open outreach activities and dialogues by helping with the identification of the intended level of engagement. They aim to visualize concepts to help with a better understanding. Lastly, they can be used to structure planned activities helping with the expectation management of intended involvement and engagement by stakeholders and the outcomes of implemented activities.

3.3. Outreach activities and techniques – Examples

Like already illustrated in the models, outreach and engagement activities can happen on various engagement levels. This section will highlight activities that are considered to be engaging and that are relevant to BLOOM's approach of empowering citizens and raising awareness of bioeconomy.

Engage2020 (2014) developed a Matrix which covers the following criteria of activities and tools:

- **the levels of application of the method/tool** (i.e. policy formulation, program development, project definition, research activity)
- **the societal groups involved in the application of the method/tool** (i.e. CSOs, policy-makers, researchers, citizens, affected citizens, consumers, employees, users, industry)
- **the level of public involvement of the societal groups listed above** (i.e. dialogue, consulting, involving, collaborating, empowering, direct decision)
- **Grand Societal Challenge addressed** (i.e. Health, demographic change and wellbeing; Food security, sustainable agriculture and forestry, marine and maritime and inland water research, and the bioeconomy; Climate action, environment, resource efficiency and raw materials; Inclusive, innovative and reflective societies; Secure, clean and efficient energy; Secure Increasing the use of engagement practices has positive influence on each side of the two-way dialogue between researchers and the public .

In consideration of this Matrix, the BLOOM project can be aligned to the Grand Societal Challenge of Food security, sustainable agriculture and forestry, marine and maritime and inland water research, and the bioeconomy.

The following tables have been taken out of the overall matrix:

Table 4: Grand societal challenges and models of engagement for the societal groups involved in the application of the method/tool.

	Food security, sustainable agriculture, marine and maritime research and the bio-economy
CSOs	Action research; Challenge prizes; Civic dialogue; Consensus conference; Delphi method; Focus groups; Group Delphi; Interviews; Knowledge atelier; Open space technology; Reflexive interactive design; Scenario workshop; Science shop; From Question of a CSO to a Research question; Integration of civil society driven research in university curricula; Needs survey among CSOs; User committee; World café; World wide views.
Policy-makers	Civic dialogue; Consensus conference; Interviews; Knowledge atelier; Open space technology; Reflexive interactive design; Scenario workshop; World café; World wide Views
Researchers	Challenge prizes; Civic dialogue; Consensus conference; Science week; Delphi method; Distributed dialogue; Group Delphi; Interviews; Knowledge atelier; Multi criteria decision analysis (MCDA); Open space technology; Participatory sensing, volunteer sensing, citizen observatory; Reflexive interactive design; Scenario workshop; Science shop; Integration of civil society driven research in university curricula; Needs survey among CSOs; Science café; User committee; World café;.
Citizens	Action research; Challenge prizes; Citizen science; Citizens' summit; Civic dialogue; Consensus conference; Science week; Deliberative (minipublics) workshops; Deliberative poll (Deliberative polling); Democs card game; Distributed dialogue; Focus groups; Interviews; Knowledge atelier; Mass experiment; Multi criteria decision analysis; Participatory sensing, volunteer sensing, citizen observatory; Resource flow map; Scenario workshop; Science café; Science Theatre; World café; World wide views.
Affected	Action research; Citizens' summit; Consensus conference; Distributed dialogue; Focus groups; Interviews; Knowledge atelier; Multi criteria decision analysis; Participatory sensing, volunteer sensing; citizen observatory; Resource flow map; Scenario workshop; World café; World wide views.
Consumers	Citizens' summit; Consensus conference; Focus groups; Interviews; Open space technology; Reflexive interaction design; Sc. workshop; Science theatre; World Café.
Employees	Action research; Challenge prizes; Citizens' summit; Consensus conference; Focus groups; Interviews; Scenario workshop; World café.
Users	Citizens' summit; Consensus conference; Focus groups; Interviews; Knowledge atelier; Scenario workshop; User committee; World café.
Industry	Challenge prizes; Civic dialogue; Consensus conference; Delphi method; Group Delphi; Interviews; Knowledge atelier; Multi criteria decision analysis; Open space technology; Reflexive interactive design; Scenario workshop; User committee; World café

Table 5: Grand societal challenges and models of engagement for levels of involvement

	Food security, sustainable agriculture, marine and maritime research and the bio-economy
Dialogue	Civic dialogue; Consensus conference; Democs card game; Distributed dialogue; Focus groups; Open space technology; Scenario workshop; Science café; Science theatre; World café; World wide views.
Consulting	Citizens' summit; Consensus conference; Deliberative poll (Deliberative polling); Delphi method; Group Delphi; Interviews; Open space technology; Needs survey among CSOs; World café; World wide views.
Involving	Challenge prizes; Citizen science; Civic dialogue; Consensus conference; Science week; Deliberative (Minipublics) workshops; Deliberative poll (Deliberative polling); Distributed dialogue; Knowledge atelier; Mass experiment; Open space technology; Participatory sensing, volunteer sensing, citizen observatory; Reflexive interactive design; Scenario workshop; Integration of civil society driven research in university curricula; User committee; World café; World wide views.
Collaborating	Action research; Challenge prizes; Citizen science; Civic dialogue; Consensus conference; Science week; Deliberative (Mini-publics) workshops; Democs card game; Distributed dialogue; Knowledge atelier; Mass experiment; Open space technology; Participatory sensing, volunteer sensing, citizen observatory; Reflexive interactive design; Resource flow map; Science shop; "From Question of a CSO to a Research Question"; Integration of civil society driven research in university curricula; User committee; World café.
Empowering	Action research; Challenge prizes; Consensus conference; Democs card game; Distributed dialogue; Open space technology; World café; World wide views.
Direct decision	Deliberative poll (Deliberative polling); Delphi method; Multi criteria decision analysis (MCDA); World café

Table 6: Grand societal challenges and models of engagement for the levels of application of the method/tool.

	Food security, sustainable agriculture, marine and maritime research and the bio-economy
Policy formulation	Citizens' summit; Civic dialogue; Consensus conference; Deliberative (Minipublics) workshops; Deliberative poll (Deliberative polling); Delphi method; Distributed dialogue; Group Delphi; Interviews; Multi criteria decision analysis (MCDA); Open space technology; Scenario workshop; Needs survey among CSOs; World café; World wide views.
Programme development	Civic dialogue; Consensus conference; Deliberative (Minipublics) workshops; Delphi method; Focus groups; Group Delphi; Interviews; Knowledge atelier; Multi criteria decision analysis (MCDA); Open space technology; Reflexive interactive design; Needs survey among CSOs; Science café; World café; World wide views.
Project definition	Action research; Challenge prizes; Civic dialogue; Delphi method; Democs card game; Focus groups; Group Delphi; Interviews; Knowledge atelier; Open space technology; Participatory sensing, volunteer sensing, citizen observatory; Reflexive interactive design; Resource flow map; Science shop; "From Question of a CSO to a Research Question"; Needs survey among CSOs; Science café; User committee; World café; World wide views.
Research activity	Action research; Challenge prizes; Citizen science; Civic dialogue; Consensus conference; Science week; Delphi method; Democs card game; Focus groups; Group Delphi; Interviews; Knowledge atelier; Mass experiment; Open space technology; Participatory sensing, volunteer sensing, citizen observatory; Reflexive interactive design; Resource flow map; Science shop; Integration of civil society driven research in university curricula; Science café; User committee; World café; World wide views.

The next two chapters list and explain examples that have been taken from the matrix and the engagement models. They serve as an information pool and can be taken up as examples by the hubs and in the co-creation workshops on the development of outreach activities.

Detailed information and step by step instructions for the mentioned methods and tools the are given in the Engage2020 toolkit <http://engage2020.eu/media/D3-2-Public-Engagement-Methods-and-Tools-3.pdf> and the SPARKS toolkit:

<http://sparksproject.eu/sites/default/files/SPARKS%20TOOLKIT.pdf>. To choose a convenient tool the The Action Catalogue - an online decision support tool developed by the Engage 2020 project - can help to find the method best suited for their specific hub needs (<http://actioncatalogue.eu/>).

The BigPicnic project (<https://www.bigpicnic.net/>) is working with co-creation tools as well. To learn from their experiences it is suggested to follow on their dissemination activities. A partner in this project, Wippoo and van Dijk (2016) from the WAAG Society from Amsterdam, the Netherlands, which is signed responsible for developing and mentoring the BigPicnic co-creation activities and developed a blueprint of a toolkit for co-creation. The

WAAG Society also develops an online Co-creation Navigator b, a co-creation toolkit guiding through the different stages of co-creation, from preparation to execution (beta version <https://ccn.waag.org/>).

3.3.1. Low level of engagement

Citizen Summits

This method is good for finding out about the citizen's political priorities and possible courses of action. Citizen summits aim to provide advice and inspiration for the political decision-making process. Politicians are not obliged to abide by the voting results; yet, the summit provides a clear indication about citizens' attitudes, which implies some degree of commitment by the policymakers (Engage 2020, 2014).

Delphi Method

The Delphi method is a multiple iteration survey method that enables anonymous, systematic refinement of expert opinion with the aim of arriving at a combined or consensual position. Its purpose is to generate discussion and enable a judgement on a specified topic.

The Delphi Method is characterized by four features (Engage 2020, 2014):

1. Anonymity
2. Iteration with controlled feedback
3. Statistical group response
4. Expert input

Interviews

Interviews are a good way to get individual information and feedback. They help to uncover issues and ideas that potentially feed large scale consultations and outreach activities (Herfordshire Council, 2015).

Leaflets and Posters

The design and distribution of leaflets and posters is an effective method to bring across simple messages. They can very well and easily be combined with other methods (Herfordshire Council, 2015).

Newsletters

Newsletters are one of the cheapest and most effective methods to keep people informed about upcoming meetings, events outcomes of workshops, etc. In isolation from other activities, newsletter cannot be seen as an engagement method, but can be seen as an outreach activity (Herfordshire Council, 2015).

Public exhibitions

Rely on the saying of ‘a picture is worth a thousand words’. They can be combined with other events which reduces the need to attract people. They can also be useful to gather immediate reactions (Herfordshire Council, 2015).

Science Theatres

Science Theatres are a presentation of Science in combination with arts. Theatre based participation methods have become more widespread. These methods allow creative ways to bring complex topics to life; often to audiences who would not take part in a more traditional process (Engage 2020, 2014).

Web-based processes

Web-based processes are the running of websites, twitter accounts, Facebook accounts, webinars etc. This method is good to achieve participation without travel expenses, saves paper, enables to focus on an issue, and works well with people who feel intimidated by speaking in public (Herfordshire Council, 2015).

3.3.2. High level of engagement

Challenge Prizes

Challenge prizes offer a reward to whoever can first or most effectively meet a defined challenge. They act as an incentive for addressing a specific problem, rather than being a reward for past achievements. A challenge prize can incentivise innovation, focus attention on a particular issue and unlock financing and other resources (Engage2020, 2014).

Civic Dialogues

Civic dialogues are public conversations on a particular topic of societal relevance. The aim is to encourage individuals to try to better understand each other’s positions on a particular topic and, thus, creating mutual understanding. The overall goal of civic dialogues is to encourage innovation, trust and confidence between the individual citizens and to facilitate the creation of a legitimate roadmap for moving forward in a particular direction (Engage2020, 2014).

Deliberative Workshops

Deliberative Workshops refer to dialogue events which focus on having in-depth informed discussions on a complex or controversial issue to gather social intelligence and to inform policy, anticipate regulation, exchange opinion or raise awareness. They can be used to develop research agendas and objectives that closely reflect public needs and drivers (Engage2020, 2014).

Democs Card Games

Democs is a conversation game developed by the New Economics Foundation (NEF) that helps small groups discuss public policy issues. No speakers or experts are needed, as prepared cards contain all the necessary facts. It works best for six people over two hours, but it is flexible. It is a low intensity process which allows people with no pre-existing knowledge to take part in a relatively short period of time. Usually Democs processes are open to anyone, but sometimes specific groups are sought on particular issues. Individual sessions take 1 to 4 hours (Engage 2020, 2014).

Distributed Dialogues

This method aims to develop ongoing discussions on a certain topic, where part of the engagement is self-organized by groups of participants. It engages a wide range of research communities, stakeholders and members of the public to inform strategy and policy development. It often involves a number of dialogue events organized by researchers and other interested parties, held across different geographic areas and through a range of mediums. This method offers citizens and other stakeholders multiple entry points into the discussions as it is based on the idea that complex issues need to involve a range of conversations that happen in different spaces (Engage 2020, 2014).

Focus Groups

Focus groups are designed to specifically concentrate on a single issue or a programme of topics. They encourage discussion and are good for deepening the understanding of how people think and feel about issues. The main interest group can be targeted. More precisely, stakeholders can be carefully selected to represent a designated part of the population (Herfordshire Council, 2015 & Community Places, 2014).

Forums

Forums are regular meetings of people who represent locally relevant civil, political, professional, economic and/or social groups. They are a useful way to involve groups who are traditionally excluded from decision-making processes (Community Places, 2014).

Knowledge Ateliers

A Knowledge Atelier is a network of regional authorities, business, civil society organisations and education institutes aiming to strengthen a region's competitiveness through innovation by collaboration. Research on particular questions related to the specific region's development is done as part of regional development plans, by students in their curriculum. This method provides an infrastructure for doing participatory action research and learning to contribute to regional development (Engage2020, 2014).

Multi Criteria Decision Analysis (MCDA)

MCDA is a tool that can be applied to complex decision making processes. MCDA techniques can be used to identify a single most preferred option, to rank options, to short-

list a limited number of options for subsequent detailed appraisal, or simply to distinguish acceptable from unacceptable possibilities.

Process:

1. Establish the decision context.
2. Identify the options to be appraised.
3. Identify objectives and criteria
4. 'Scoring'- Assess the expected performance of each option against the criteria. Then assess the value associated with the consequences of each option for each criterion.
5. 'Weighting'- Assign weights for each of the criterion to reflect their relative importance to the decision.
6. Combine the weights and scores for each option to derive an overall value.
7. Examine the results
8. Sensitivity analysis

Open Space Technology

The Open Space Technology is based on the assumption that the most productive way to achieve great outcomes, is to work on topics that are of special importance to the participants. This method is great for events that are addressed at a medium scale participation.

According to Engage 2020 (2014) an Open Space event can be hosted in one day and is divided into three parts on the agenda:

1. An introduction to the whole plenum, explaining the method and what is expected of the participants in order to have a successful event. It is followed by the agenda setting, where workshop sessions are announced and scheduled and where the participants register for the workshops of their choice
2. The sessions themselves, where multiple sessions are conducted simultaneously.
3. A final round with the whole plenum in which the facilitator summarizes the sessions during the day and gives participants the opportunity to comment on their experiences and lessons learned.

Public Meetings

Public meetings give the opportunity to consult large numbers of people. They are usually open to all, and offer opportunities to people to raise issues, to influence the agenda, to ask questions and to get answers. A good experience can encourage people to become involved in an engagement process; however, some participants may feel unable to involve due to dominant speakers (Hertfordshire Council, 2015 & Community Places, 2014).

Participatory Action Research

Action research is the practice of embedding research in society by democratising knowledge making and grounding it in real community needs

In contrast to citizen science, it comprises not only the practical engagement of laypeople in research, but also aims at transformative action by involving people in the scientific exploration of their own living conditions and everyday problems, and those related to the environment, in order to induce a change in these conditions initiated by people themselves. It is a communicative process that is based on the acknowledgment of different equitable forms of knowledge (i.e. scientific knowledge as well as that of citizens) (Engage 2020, 2014).

Reflexive Interactive Design

In this method, stakeholders, consumers, NGO's and citizens define what the crucial characteristics of a preferred outcome are and then together design a production system, conduct research or define programmes or activities that meets all these demands.

The reflexive interactive design process consists of different stages, which could be seen as separate methods; the combination makes it unique and effective (Engage 2020, 2014):

1. Interviews
2. Collective System Analysis (= workshop identifying barriers and solution finding)
3. Design Ateliers (= workshop on identifying needs and developing solutions)

Resource Flow Maps

The creation of a so-called Resource Flow Map allows researchers and others to gain insight in to systems of, for example, farming, production, concepts, etc. It is good for creating a common understanding and sense of coherences (Engage 2020, 2014).

Round Tables

Round tables ensure multi-stakeholder involvement and are good to generate co-operation and consensus. All stakeholders on the round table are considered equal and engage in an open discussion (Community Places, 2014).

Science Cafés

A science café usually has experts giving a talk and answering questions from the public. We reversed this format by having experts ask questions to the public to get inputs on issues relevant to their work. Experts and citizens work together in small groups to formulate solutions to the challenge of making research and innovation more diverse, inclusive and open (SPARKS, 2016).

Science Espressos

A short talk (of about 10 minutes) followed by informal discussions directed to the general public; One expert briefly presents a current research or innovation topic and invites the

audience to discuss; An informal event designed for small groups to keep a high degree of interaction. It is meant to be inclusive and open for the general public. The total length should not exceed 30-45 minutes (SPARKS, 2016).

Workshops

Workshops allow for the targeting of the main interest group and allow people to discuss their ideas in an open and relaxed atmosphere. They enable people to work actively and collaboratively on an issue or task, as well as they encourage for problem solving. They can begin with presentations or background briefings, but are not about providing information and asking questions, but rather about joint working and problem solving. Workshops can have a variety of formats, like for example the BLOOM co-creation workshops and are normally run for at least half a day (Herfordshire Council, 2015 & Community Places, 2014).

Scenario Workshops

The Scenario Workshop is based on a presentation of possible future developments for a topic or problem, which are developed before the workshop. The Scenarios then get critically discussed by participants from various backgrounds based upon their own experience. This criticism forms the basis for visions and action plans (SPARKS, 2016).

A Scenario Workshop can be divided into three phases (Engage 2020, 2014):

1. Critical Analysis
2. Vision making
3. Implementation

World Cafés

World Cafés are founded on the assumption that people have the capacity to work together, no matter who they are. The setting should create an environment, which is most often modelled like a café (including round tables with 4 or 5 chairs). The host should begin with a welcome and an introduction in the process and the “Café Etiquette”. A World Café process begins with the first of three or more twenty minute rounds of conversation for the small group seated around a table. After the first round each member of the small groups moves to another table. One person will stay at the table and is a table host for the next round and briefly fills them in on what happened in the previous round. Each round of a World Café is prefaced with a question designed for the specific context and desired purpose of the session. After the small groups, the participants are invited to share results from their conversations with the rest of the whole group. These results are reflected visually in a variety of ways, most often using graphic recorders in the front of the room (Engage 2020, 2014).

World Wide Views (WWV)

The purpose of the WWV method is to engage citizens in debates about important, but often complex, issues with the aim of giving advice to politicians. The method is designed to minimize the democratic gap between citizens and policy makers as more and more policy

making becomes global in scale. Various groups of citizens meet at the same day in various geographical areas. Before and during the meetings, the citizens receive detailed and accessible information to prepare them for discussion and voting. All meetings have the same format. The day is divided in 4-5 thematic sessions. Each session starts with an information video and groups of 5-7 citizens deliberate on questions assisted by a trained table facilitator with 5-7 citizens at table. After each session the participants vote on 3-5 questions. The votes are collected and immediately reported online. It is possible to compare the votes across countries, continents, gender, age and other criteria. All partners can choose a fifth and regional theme or let the citizens produce their own recommendations to the decision makers (Engage2020, 2014).

4. Co-creation workshops for creating further engagement methodologies/activities/materials

The methodology of co-creation emerges from transformative processes in the entrepreneurial world and aims at generating new products and services. For example big companies and brands carried out effective collaborative creation actions involving users to develop new products and services but also to face structural changes as well as helping to solve new challenges in the internal management (Senabre 2015). This approach has been taken up by other fields, such as education, arts or the publishing sector.

This section provides a guideline for BLOOM co-creation workshops. Even though the co-creation workshops will be designed individually, this guideline will help the hub leaders to design the most appropriate suitable workshops and to choose most fitting methodologies to reach their goals. Therefore, besides background information on co-creation, its potential and general information about organising such workshops, this section provides also as practical support a selection of co-creation methods and an example of a co-creation workshop moderation sheet, to be adapted and used by the BLOOM hubs.

4.1. Co-creation concept and goals

Co-creation is usually complemented by other concepts such as user centred design, design thinking or participative design (Senabre 2015). Hence, co-creation follows an approach to involve different perspectives and collaboratively design tools, materials, processes, activities or strategies. In BLOOM, the co-creation workshops in the five regional hubs are supposed to produce and design outreach activities and materials on the topic of bioeconomy. Senabre (2015) points out that in co-creation processes “rather than involving experts, participation is centred in relevant viewpoints informed by necessity or daily activity”. Accordingly, BLOOM co-creation workshops involve regional stakeholders and individuals affected or interested in bioeconomy from the fields of research, education, policy, industry and business as well as civil society. So, this approach gives voice to local communities. A variety of targeted creative methods and creative materials will support these groups in co-creating their ideas and finally providing the BLOOM team with new outreach materials and activities targeting the topic of bioeconomy.

4.2. Recruitment

The recruitment of stakeholders is a collaborative process of research, debate and discussion that draws from multiple perspectives to determine a key list of stakeholders across the entire stakeholder spectrum. There is no magic list of stakeholders but it will depend on the engagement objectives the hubs.

In order to make the complex stakeholder recruiting process easier, the hubs can follow a set of three steps.

Step 1: Identify stakeholders

It is necessary to consider all people, or groups, that are affected by the aims of the project, who can influence those or who or may have an interest in the research.

Step 2: Prioritisation of Stakeholders

It is important to analyse the identified stakeholders in order to prioritise them in terms of necessity of or for engagement. The most commonly used approach is to categorise stakeholders in relation to their relative level of interest and influence.

Step 3: Understand your stakeholders

Understanding relationships between stakeholders can be extremely useful in the process of engagement. Whilst there is rarely time available to do so in depth, there are a range of methods which include those to analyse social networks, map stakeholder perceptions and values, and methods to assess and analyse conflicts between stakeholders.

For more detailed instructions on how to map and recruit stakeholders, see deliverable D3.1 “Stakeholder Mapping Report”.

4.3. How to structure the workshop

An eye-level communication in the co-creation workshops between all participants is the first precondition to provide room for creative ideas and visions. Thus, after having defined a clear goal, the structure of the workshop will be set up to foster team building within the workshop period and to get successful results. The structure of a workshop can roughly be divided in an introduction, a core phase and the closing and evaluation.

Before starting designing things participants get introduced to the project and gain a basic idea about the concept of bioeconomy and outreach activities as they are approached within BLOOM. B. W. Tuckman (1965) talks about a team development model, based on 5 different stages – the forming, storming, norming, performing and adjourning. Every team experiences this process and moderators are recommended to take this up. For instance, Baumann (2015) says, when in the beginning of a workshop people tend to behave very polite and superficial, they pursue the goal to find secure structures for interaction and to position

themselves in the group. This is part of Tuckman's phase one 'the forming', and will crucially influence the further group processes throughout the workshop. In the forming phase, the workshop goals and methods applied get clear to everybody and the participant have room to introduce themselves, get to know each other and to express their expectations and insecurities but also to find common grounds among them. A good start in this team building phase is important to fast reach a good performing, where group tasks are collectively solved by bringing in all the different talents individual participants have.

In the core phase of the co-creation workshop, participants will gather ideas, rank them and co-design prototypes in form of mock-ups, visual strategies, tangible objects, sketches and drawings. Here they have already built up a team spirit and try to collectively solve a problem. To do so, BLOOM will use creative methods which are outlined in detail in chapter 4.5. After an intense creative work process, the closing is important. By visualisation, participants see what they have reached in this workshop and they are given the possibility to reflect and give feedback on what they have experienced.

All BLOOM workshops will be evaluated. Therefore, participants will have the possibility to give qualitative feedback supported by qualitative feedback methods and quantitative feedback by filling in a short questionnaire. This evaluation is crucial for the following co-creation workshops.

4.4. Location/ Setting – Space and beauty

To successfully work with a group of people who might not even know each other, it is very important that participants feel comfortable at the workshop. Therefore, the setting and room plays an important role. As many of the following characteristics should be met when organising the workshops:

- Choose a bright room (daylight)
- Take care of flexible furniture
- The room needs to be big enough for the methods you choose and that people can move around
- Use plants to make the room more welcoming
- Take care that participants keep their jackets outside the room
- Give space to move around or have the option to go out in fresh air

For creating a good atmosphere it might be nice to turn on some music when the participants arrive at the workshop. They need sufficient time to arrive, some coffee, cake or fruits should be provided and through first conversations over coffee they naturally start to get to know each other a bit. Useful can also be to provide and set up different kinds of objects in the workshop rooms. This can be juggling tools, balls, or other things, which do not only make the room cosier, but also can be used in different methods.

4.5. (Co-creation) Workshop methodologies

There exists a broad range of different co-creation methodologies. This chapter gives an outline of selected methodologies which are tested and further developed in the BLOOM co-creation training.

4.5.1. Opener

As aforementioned openers and ice breaking activities are very important for the team building in the workshop. As we want our participants to develop prototypes or detailed strategies, this stage of the workshop needs sufficient time and is crucial for the further process in the workshop.

It is important to always choose an appropriate method for starting a workshop and warming up the participants. The focus of the methodology differs, depending on whether participants already know each other. If participants do not know each other, there is the need for a methodology addressing introduction and getting to know each other, like “Sociometry” or “Joint poster”. If participants do already know each other methods to gather expectations and fears can be applied, like “Dreams and Nightmares”.

Based on Birgit Baumann’s “Blossoming Workshops and Seminars Guarantee to Succeed” (2015) this section provides a list of methodologies which we see fit as openers for the BLOOM co-creation workshops.

Sociometry/Constellations

- Goals: Getting to know each other, find commonalities, supports communication, supports getting background information about the group.
- Group size: No limitation.
- Room requirements: The room needs to be large enough for constellations in a row, or for clustering the participants.
- Timing: 10-20 min
- Summary: You ask questions which can e.g. be connected to the content of the workshop, which are answered by constellations of the participants. This can be in a row or also in clusters.

Sociometry or Constellations are perfectly suitable for starting an event and as ice-breaker. Team building is supported and communication between the participants stimulated.

To successfully implement this method it is important to carefully choose the questions. Each question or topic should follow a specific aim. Personal questions help to break the ice and can be followed by questions targeting the content of the workshop – in our case bioeconomy, but also outreach or science communication.

Examples for questions can be the following:

- Origin of participants. Geographically cluster them.
- Male and female participants
- Size of shoes

- Highest education
- Theoretical knowhow about bioeconomy/outreach and science communication
- Practical experience with bioeconomy/outreach and science communication
- Etc.

Joint poster

- Goals: getting to know each other, finding commonalities; document results and summarise
- Group size: maximum 20 participants
- Equipment: pin walls or flip charts (one per break out group)
- Room requirements: sufficient room for break out groups to work on their own flip chart/ pin wall.
- Timing: 15-20 min (10 minutes to create the poster and 10 minutes for presenting all posters)
- Summary: Collaboratively creating a poster, which highlights the commonalities, but also individualities of each small break out group.

This method helps to identify first common grounds within the group, but also to identify individualities. Small groups of 4 to 5 people find together and create a poster highlighting the commonalities and individualities on private and professional level. At the end of the session the groups give a short presentation of their posters (1 – 2 min each). All posters should be placed clearly visible in the room.

Dreams and Nightmares

- Goals: identify expectations and fears and make them addressable
- Group size: up to 40 (From 10 people on it is suggested to work in small groups)
- Equipment: pin walls, pins, moderation cards (2-4 different colours), pens
- Timing: about 20 minutes
- Summary: collecting dreams and nightmares and addressing them appropriately

This method is easy to apply and works well to gather possible concerns and doubts to further targeted address and clarify them.

Depending on whether you want individual results or group results, the moderation cards are handed out to individuals or small break out groups. For collecting only dreams and nightmares regarding the BLOOM co-creation workshop two colours are needed. Make visible which colour stands for dreams and which for nightmares. Also the question must be placed clearly visible. The question could be: “Which dreams and which nightmares do you have for this co-creation workshop?” According to Baumann (2015) it is highly important to address and answer the raised topics as good as possible during the workshop.

Fast networking

- Goals: break the ice and bring quick interaction and activation, activates existing knowledge, provides a good overview, provides focus on the topic

- Group size: up to 80
- Equipment: cards with questions, writing pad for each participant, flip charts
- Room requirements: sufficient space for walking around and interviewing each other. This can also be done outside.
- Timing: 30 min
- Summary: Participants have one question for interviewing the others. It is not the aim to interview in detail, it is much more the goal to interview as many people as possible within a few minutes.

Depending on the group size and on how many breakout groups can be formed, the number of questions is allocated. All participants get a writing pad with one question on it. Then they have around 5 minutes to swarm out and interview as many participants as possible. In the next step participants form groups with those having the same question on their writing pad, and collect the most important aspects and answers on a flip chart, which they present at the end.

Lego

- Goals: to experience the concept of co-creation and what it really means to work together as well as to exercise collaboration, action, change, leadership and performance
- Group size: max. 12; but number of groups not restricted
- Room requirements: the room should offer enough space to have (multiple) roundtables
- Timing: 45-60 minutes max for part 1&2
- Summary: Participants will build a Lego structure together and will then elaborate guidelines for successful team work

In step 1, participants are given secret assignments. They will then have to build a structure with the Legos together. The personal task is to be kept secret from the other participants and there must be absolute silence. In step 2, the team elaborates the performance and develops guidelines for successful team/group work based on the experiences they just made. See Annex for detailed instructions and assignments.

4.5.2. Diving into the topic

This chapter provides methodologies for diving into the main subject of the workshop. It shows the process of how to collect, prioritise, process and plan the workshop topics.

List of topics

This methodology aims at identifying topics and generating a list of them. It aims at finding out about knowledge and ideas within the group and at collecting possible explanations, problem solutions and creative ideas. Generally, moderation cards are used and work well in this regard.

The topic list method works well to give every participant a voice. Depending on the size of the group participants write either in small breakout groups or individually their thoughts on the moderation cards. The question to be answered is central for this method and again needs to be clearly visible to everybody.

Questions could be the following:

- Which challenges are there when it comes to reaching out to the public?
Which opportunities are there?
- Which topics will be important for us in future?
- Etc.

All ideas will be collected on moderation cards (same colour per question!). Per card only one thought should be noted. Afterward the cards will be pinned on the pin wall and clustered by the participants.

If there are too many cards written or the group size is bigger than 15 people, it is recommended to ask participants to finally write the 2-3 most important thought on the cards which will be collected on the wall.

Prioritisation of topics

The prioritisation of topics is important to collaboratively choose on which topics the group wants to continue working on. There is the possibility to either rank the clusters or to prioritise single ideas and thoughts collected. To do so, the participants get sticky dots for ranking. To avoid too much spreading it is recommended to give only some dots and minimize the maximum per idea to 2 dots.

Again, most important is to ask a clear question and position it clearly visible in the room. A question could be “Which topics do we want to continue working today?” or “Which of the topics are most important for you?”

Afterwards continue working on the proposed topics or take them up for the next steps.

World Café



The world café is another method to enter a topic and works well in larger groups. It aims at gathering the collective knowledge. This method can be applied for different goals, such as getting to know each other and networking (this would be as an opener), but also to exchange views, ideas and expectations, or to collect solution approaches or to reflect on something. The world café setting needs space. Tables for small groups of 4 – 6 persons are prepared. All tables work on the same question. The tables are covered with paper and provide sufficient pens for the participants to write with. There can also be snacks or drinks provided to make a good atmosphere.

There are 3 rounds for exchange, lasting 15 minutes per round. Participants exchange and note their ideas and thoughts on the paper. After the first round all participants but one change the table to discuss the same question with other participants. The one person staying at the table has the role of the host and takes care of reminding the others to note their ideas and thoughts and always repeats to the new group what before was discussed at this particular table. This process is repeated a second time. Ensure that the question is clearly formulated and that people who know each other are sitting on different tables.

4.5.3. Ideation

In the ideation phase we are already starting to work on identified topics. Here we suggest applying brainstorming methodologies, or future scenarios and visioning methods. This section provides insight in the future scenario method, the problem reversal technique and how to do the ideation in small break out groups.

Future scenarios

The future scenario technique works well to pick up specific challenges or topics to address and to work on first suggestions for solutions and on concrete measures. The questions are based on the specific content of the workshop. To get to the bottom of challenges, Baumann (2015) suggests the following structure:

<p>1. How do you perceive the current state of the art?</p> <p>(This needs to be outlined as detailed and specific as possible.)</p>	<p>2. What are the reasons for that?</p> <p>(Here we have a look what caused this)</p>
<p>3. Which suggestions for solutions are there to improve the situation?</p> <p>(In this section we do a brainstorming. This can also be creative.)</p>	<p>4. Which concrete measures can be quickly implemented?</p> <p>(This point addresses quick wins)</p>

The questions can be adapted to different needs. E.g. Scenarios could also address future goals and the process how to reach them and which obstacle might be faced:

<p>1. Current State</p> <p>(this needs to be outlined as detailed and specific as possible.)</p>	<p>2. What do I want to reach?</p> <p>(In this section we need a clear outline about the goals or the future we would like to reach)</p>
<p>3. What could be the measures to reach that?</p> <p>(In this section we do a brainstorming about first ideas for measures. This can also be creative.)</p>	<p>4. What obstacles could arise?</p> <p>(This point addresses the obstacles which need to be addressed)</p>

This method can also be used to work on already developed ideas. Baumann (2015) provides the following example:

<p>1. What supports the implementation of idea xy?</p> <p>(Describe as detailed and specific as possible.)</p>	<p>2. What impedes the implementation of idea xy?</p> <p>(Describe as detailed and specific as possible)</p>
<p>3. What possibilities are there to implement idea xy?</p> <p>(In this section we do a brainstorming. This can also be creative.)</p>	<p>4. Which concrete implementation steps are necessary?</p> <p>(In this section the generated possibilities are captures as concrete steps)</p>

This method can be done with all kind of different questions as long as they always go from “problem talking” to “solution talking” (Baumann 2015).

Future scenario technique works well in small groups. Flip charts that clearly show the questions and the process should be prepared before the session starts.

Ideation in small break out groups

When working with rather big groups (more than 10) we can recommend dividing the participants in small break out groups for the ideation process. In small groups participants can do the brainstorming, by either writing their ideas by their own on coloured cards or post-its or by right away starting to discuss about the topic and collecting the ideas on a flip chart. The approach to first give 3 minutes to all participants to think and write down ideas by their own allows for giving everybody a voice.

Problem reversal technique

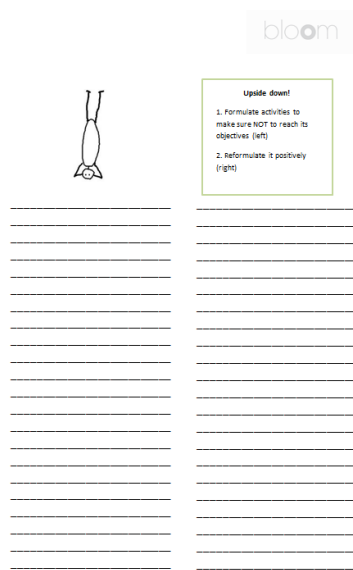


Figure 2: Template for problem reversal technique task

The problem reversal technique works well to find ideas for problem solutions. The idea behind it is to think about negative aspects, meaning to think about strategies how to avoid somethings. Experience proved that this method is very popular by the participants and almost unexceptional works well.

First participants take a challenge or a future scenario and make up their minds how to best avoid a solution or the ideal future. This need to be very concrete and detailed ideas. In the following step the workshop participants turn these ideas around and formulate them positive. The result of this session is a first list of action steps towards a solution. This method supports out of the box thinking and is usually fun.

Disney Method

The Disney Method is developed by Robert Dilts in 1994. It is a creativity strategy with the aim to collect ideas, further check their implementation and subsequently reflect them critically. It is important to follow this process structure and start with the dreaming phase, and at the end start critically reflection, because otherwise ideas are already at the beginning blighted. Dilts explains the process as going through three rooms. The first, when collecting the ideas, is the room of the dreamer. Here is space to gather everything which comes to the participants minds, without any restrictions. Further they go to the room of the realist, where they discuss the implementation. In the next step the group enters the room of the critic and critically reflects the ideas. This process is repeated till the group comes to a result, or rather concrete ideas to further work on.

This method takes at least 40 minutes and is conducted in small groups of 4 to 5 people. The moderation team needs pin walls with paper and pens for each break out group. This method works well to inspire the participants for brilliant ideas. It is not as strictly structured as the scenario technique and therefore leaves more room for creative ideas.

4.5.4. Designing concrete ideas

This section introduces methodologies on designing concrete ideas. The Avatar method helps addressing aspects for specific target groups and the prototyping method is supporting a visualisation of concrete actions or ideas. These methods are the core piece of the co-creation workshop and need a proper introduction and moderation. Participants not being used to creative methods might show a negative attitude at first which needs to be addressed, intercepted and solved. Usually participants start to open up and successfully participate through these methods, particularly when they are given sufficient time to get adjusted and when they are well guided by the moderators.

Brainstorming Matrix – Target groups

Here the participants are provided a matrix with predefined rough target groups (table 7). Participants define them more closely. So there can be addressed women, but they can be well educated, marginalized, interested, hard to reach etc. The matrix helps the group further to decide which target group they further want to address with their outreach activity or material they are about to design.

Table 7: Brainstorming Matrix for Target groups identification

	Interested	Educated	Visitors	Bypassers	Migrant	Etc...		
Young people								
Families								
Elderly people								
Women								
Men								
Kids								

Avatar

As an inspiration in ideation persona development is a method to enter the phase of understanding. Personas are the descriptions of archetypal users, users or stakeholders. Each persona description is based on a fictitious character whose profile represents the characteristics of an existing social group. It describes social and demographic characteristics, needs, desires, habits and cultural backgrounds (Graz READER 2016). The goals of persona development include: Giving space to other perspectives and maintaining

the distance to one's own perspective through empathy-understanding and enabling perspectives in the process. In a workshop session with persona development, the group discusses which persona should be dealt – e. g. representatives from ministry, promoter science, business or university - the participants agree on basis of the existing expertise on a representative of a particular stakeholder group (Köppen et al 2017).

Defining personas helps the team have a shared understanding of the real users in terms of their goals, capabilities, and contexts. Personas also help prevent "self-referential design" when the designer or developer may unconsciously project their own mental models on the product design which may be very different from that of the target user population. Personas also provide a reality check by helping designers keep the focus of the design on cases that are most likely to be encountered for the target users and not on edge cases which usually won't happen for the target population.

Characteristics of a good persona (Ilama 2015)

A quick checklist of what makes a good persona. As a group, we agreed on the following criteria:

The persona

- reflects patterns observed in research
- focuses on the current state, not the future
- is realistic, not idealized
- help you understand your target group


Moreover you think about the context, behaviour, attitude, needs, challenges, motivation and goals of our chosen persona.

Create your own persona:

- Choose a persona of a stakeholder group where you see certain barriers to approach them.
- Give a realistic name to create a real relationship between your group and the persona
- Draw a picture of your persona
- Demographic information such as age, origin, marital status, ..
- Occupation and tasks of his/her profession
- Goals, expectations, wishes and / or needs (with regard to the question)
- Likes and dislikes that can influence a decision
- Recreational activities of the Persona
- A quote to better express the character or desirable aspect of the persona

It is quite common to see a page or two of documentation written for each persona. The goal is to bring your users to life by developing personas with real names, personalities, motivations, and often even a photo. In other words, a good persona is highly personalized.

The following BLOOM co-creation persona template can be used and adapted by the hubs.



Developed by the European Union for the purpose of the Horizon Europe project
 of the European Research Council and the European Union

Persona

Name: _____

Age: _____

Gender: _____

Education: _____

Other relevant characteristics: _____

Sociability: _____

Analogic vs. digital: _____

Interest in science/
bioeconomy/hub topic: _____

not much ☐ ☐ ☐ ☐ ☐ very much

not much ☐ ☐ ☐ ☐ ☐ very much

not much ☐ ☐ ☐ ☐ ☐ very much

Interested in: _____

Not interested in: _____

I want to _____

But I don't want to _____

Experience: _____

Figure 3: Wanted letter template for persona task

Prototyping

This technique comes from Design Thinking Processes (Plattner, Meinel, and Weinberg 2011) and is meant for generating ideas for very concrete tools, materials and activities which (in our case) the project partners from BLOOM but also other stakeholders can use to raise knowledge on bioeconomy.

The aforementioned brainstorming activities aim for a maximum quantity of ideas, without considering the practicality of the tool in the first instance. In a second step, the most promising idea is built as a prototype. This could either be a model, a theatre scene or even an interactive game or other form of demonstration to make the idea tangible and for others immediately and easy to understand. Characteristics of this prototype have to be carried out in details, so that main questions such as, if the tool is applied at individual or institutional level, voluntary – mandatory, online – offline, multi stakeholder or single stakeholder use etc. are already addressed (Marschalek & Schrammel 2017) .



Figure 4: Example of prototyping a co-creation workshop

To do so, participants are provided with a variety of materials starting from pens and coloured cards, through cords, pins, and placing pieces, to other creative materials such as play dough. These materials support a creative out of the box thinking and support participants in visualising places, activities, stakeholders and also processes. As the methods name already let us assume, the result of this method is a first prototype, which should be tested afterwards.

The prototyping is usually done in small break out groups. It is important to allocate sufficient time for this task, as not all participants might feel comfortable in using these materials from the early beginning on. Experience shows, that as soon as one person starts to model something other join and the process runs its course.

When the first prototyping work is done it is useful when each group gets feedback from the other groups. Therefore a feedback loop is applied, where one person per group stays at the table while the others split up and visit other groups. The person staying at the table

explains each detail to the visitors and gathers their feedback and ideas. After this process, each group has another 15 minutes to adapt or add ideas to their prototype.

4.5.5. Reflection and evaluation

Reflection

The workshop can and mostly should be concluded with a reflection round to share specific learnings and take home messages. Participants reflect on their experiences, discuss what worked and what did not work and why, and discuss further options and ideas for improvement.

The reflection tackles the following questions:

- How was your experience?
- What worked?
- What did not work?

It is also possible to let participants reflect and note their reflection on a prepared table by themselves and later discuss in groups. They can also reflect in pairs or groups of three.

Evaluation

Deliverable 5.2 provides a questionnaire to be filled out by the participants. The questionnaire is anonymous and with that supports a critical reflection of participants. The questionnaire supports the possibility to continuously improve the format and find the best suited for the respective participants in the hubs. Moreover, the hub leaders and co-leaders will get insight in first learnings of participants and their motivation for further activities.

4.5.6. Closers and energizers

In this phase it is important to appreciate the achieving of the participants in the workshop and complete the workshop with so called closers (Baumann 2015). Closers shall guarantee that participants keep the workshop and discussed content in good memory. Some closers can also be used between the workshop phases to end a specific phase but also as energizers in between. They allow a repetition of the content, are creative and are supposed to be funny.

Alphabet

This method serves also as energizer helping at the same time to repeat all insights or most important topics. It can also be used for introducing a specific topic. You divide the group in small groups (3-4 persons) and ask them to write the alphabet letters vertically on a flipchart (probably in two columns, a-m and n-z). After that the small groups shall list all terms, words and associations that were used in the workshop or regarding a specific topic as fast as possible. The group that is fastest wins a small price (chocolate for example).

Drawing the learnings

This method is actually based in trainings and supports neuro-didactic learning. In this method you ask the participants to draw what was most important for them or what was the take away message for them. However, it is also possible to draw feedback to the workshop or use the method to start day two.

Ball of wool

This method is very effective in gathering feedback and stimulating closing thoughts and sharing learnings from every individual participant of the workshop. You will need a big ball of wool for this activity. In turns every participant is asked to share their thoughts and learnings, while holding the ball. Once they're finished they throw the ball to a random other participant, letting it unroll, while it flies through the air. This is to be continued until everyone has had a say, resulting in a huge that has formed in between the participants. This method aims to show that despite the various backgrounds and opinions that got represented in the workshop, together they make for a good and strongly interlinked network.

Fishbowl

This method is good for a workshop in which the participants have worked together in different groups. First of all, each group has to select a representative which is then going to discuss in their sense. Each representative will get a chair in the "fishbowl", a circle of chairs in the middle of the room, to discuss outcomes, learnings, etc. of the various groups. To start the discussion you may want to prepare some initiating questions. There will also be an extra chair in for others to jump into the discussion, offering possibility to get additional input, but leaving it open to the participant on how long he or she wants to be in the discussion. In this method, saying and sharing closing thoughts, learnings or key outcomes is not mandatory for every participant while still providing a good summary and wrap up due to the representatives.

TV news

This is a very fun and limbering up closing method. Divide the group in small groups (editorial teams) and ask them to prepare a news story or a TV-spot. They have 25 minutes to prepare and should include all what normally is included in news. Questions such as: what happened, what did get out of it, what was particularly exciting, what will stay in our memory, what did we develop and what do we expect to reach, etc. There are no creative boundaries there. The elaboration of the news-spot provides already a good reflection on the workshop. After the presentations you can discuss overlaps and where the experiences were different and why. It is advisable to make videos and/or a lot of pictures at the presentations.

30 Seconds of Feedback

This method is a fun and energizing method to close a workshop. Every participant has to give feedback within 30 seconds not more and not less.

Closing words

In this last phase of the workshop it might also be important to decide and talk about the role of the group after the co-creation workshop and the future if another meeting is planned. If everything has gone well workshops result in a feeling of solidarity or team spirit and participants might want to continue with their collaboration.

4.6. Preparing the workshop

This section will provide materials useful for the co-creation workshop. An example moderation sheet is offered, which can be used as it is or also be adapted to the specific hub needs. This sheet also provides a section for materials needed for each session. Moreover, the letter of consent and the information and invitation letter, which are also attached in D8.1 can be accessed this deliverable in Annex I and Annex II.

4.6.1. Moderation sheet

This section provides a moderation sheet for a co-creation workshop shop. This table also shows which materials are needed for the different methods. The hubs can take this example, apply it or adapt it to their specific needs.

Start	End	Duration	Topic	Goal of the subtopic	Details	Method	Who?	Materials needed
09:00	09:15	00:15	Welcome		Host welcomes participants and introduces the goals and not-goals of the workshop and the agenda. Brief introduction of project.	presentation	Host	Projector for presentation, or prepared flip charts.
09:15	09:35	00:20	Getting to know each other	People know each other, and break the ice between them	<p>Participants position in the room according to questions:</p> <ul style="list-style-type: none"> - Where are you from (European map) - Stand in a row according to first letter of first name - Stand in a row according to size/shoe size/ .. - How much pre-knowledge do you have about bioeconomy? (theoretical and practical in two steps)* - How experienced are you in science communication? <p>* Facilitator asks some of the participants, why they stand there, what they do, examples, and who of them undertakes outreach activities.</p>	Sociometry	facilitator	Enough space in the room. Can also be outside. Put tables and chairs on the side.
09:35	10:00	00:25	Finding commons	People know each other, and break the ice between them	<p>3 min: introduction in the process</p> <p>20 min: Visualise commons and individualities</p> <p>3 min: 1 min elevator pitch per group</p> <p>Participants build groups of 4-5 people (if there are people who already know each other, they should split in different groups). Each group has a poster and should visualize what they have in common but also what are their individual skills/characteristics/background</p>	Common poster		3-4 Flip Charts (for each group one), Flip Chart pens in different colours
10:00	10:30	00:30	Introduction round	Each participant know everybody's professional background and reason why to be here	<p>In circle of chairs all participants take place. With the help of talking object which is passed around in the circle, everybody has the room to introduce his/herself. They should introduce:</p> <ul style="list-style-type: none"> - their name - Background and affiliation - Why they are here 	Dialogue in a circle		Sufficient room for a chairs circle. Talking object.

Start	End	Duration	Topic	Goal of the subtopic	Details	Method	Who?	Materials needed
10:30	10:50	00:20	Coffee break					
10:50	11:20	00:30	Defining Bioeconomy	Entering the topic. Open the thoughts.	Groups of 4, maximum stakeholder mix. Each group discusses the following question: <i>What does bioeconomy contain?</i> (Blue cards) <i>What does bioeconomy not contain?</i> (Red cards) and notes the single aspects on the cards accordingly. Only one aspect per card! Note: no definitions, but single elements/activities/aspects (Blue card: e.g. plastic made out of bio-based materials; red card: e.g. vegane nutrition)	Discussion in break out groups		Sufficient blue and red cards for 4 groups. Sufficient pens.
11:20	11:30	00:10	Defining Bioeconomy	Visualisation of bioeconomy aspects	Plenary discussion. Facilitator clusters aspects of each group in one big picture.	Clustering		Pin Wall, pins, Coloured cards in a third colour for clusters, Pens in different colours
11:30	11:50	00:20	Defining Bioeconomy	State of the art of bioeconomy	One BLOOM hub expert on bioeconomy presents the BLOOM understanding of bioeconomy (WP1). Slides from Wageningen!	Presentation		projector
11:50	12:30	00:40	Defining Bioeconomy	Common picture	Moderated plenary discussion. Reorganisation of big picture according to the discussion. Shifting cards according to three circles (definitely part of bioeconomy, partly part of bioeconomy, and definitely not part of bioeconomy)	Panel discussion		Three coloured pens, for three circles.

Start	End	Duration	Topic	Goal of the subtopic	Details	Method	Who?	Materials needed
12:30	13:30	01:00	LUNCH					
13:30	13:35	00:05	Energizer	Overcome the after lunch coma				
13:35	14:35	01:00	Bioecnomny topics	Collecting and discussing challenges and benefits of bioeconomy	Three tables with three different fields: 1. Economic aspects 2. Ecological aspects 3. Social aspects Spread all participants in three equally sized groups. Define one table host, who stays always on one table and summarized the prior discussed aspects, and also presents the results in the plenary afterwards. Make two rounds. 20 min each round, discussing challenges and benefits of bioeconomy. In the third round (20 min) put together a list of main challenges and benefits in two columns on a flip chart.	Topic Coffee		Each table one Flip chart on the table and one on a flip chart holder. Pens in different colour per table.
14:35	14:45	00:10	Bioecnomny topics	Display of results	Presentation of lists in plenary by hosts.	Presentation	Hosts	
14:45	15:00	00:15	Coffee break					

Start	End	Duration	Topic	Goal of the subtopic	Details	Method	Who?	Materials needed
09:00	09:05	00:05	Welcome		Host welcomes groups for day 2 and introduces the agenda of day 2.			
09:05	09:25	00:20	Check in round	Reflection of the first day. Collecting further inputs/ideas	All participants including facilitator sitting in a circle. Talking object goes around. Only the person speaks who hold the talking object.	Dialogue format		Talking object
09:25	10:25	01:00	Define activities/materials	The group has decided on one activity/material to continue working on	<p>Participants stay in same groups and start the Disney method to narrow down their ideas. At the end they should agree on one Idea to further prototype.</p> <p>Process:</p> <p>The group "goes together through three houses":</p> <p>1st: The dreamer: The group dreams about which outreach activities/materials they would like to do. Think out of the box, don't restrict yourself.</p> <p>2nd: Realist: Now the group discusses practicalities. Which ideas can be taken up and how can they be implemented. First ideas will already be discarded.</p> <p>3rd: critique: Checks barriers, difficulties, possible obstacles. Checks feasibility.</p> <p>In the following rounds, the still existing ideas are enhanced, reworked, discussed.</p> <p>This process is repeated till the group comes up with one idea which they regard as doable within the BLOOM hub.</p> <p>The group decides individually how to visualize to be able to work with this method. E.g. on a flip chart, Pin wall, cards, post its, etc.</p> <p>Note: The hub decides what the workshop focuses on. Either activities OR materials.</p>	Disney method		Flip Charts, Post-its, coloured cards, pens

Start	End	Duration	Topic	Goal of the subtopic	Details	Method	Who?	Materials needed
10:25	10:55	00:30	Coffee break		As the participants stay in their own group, they can use the break for exchange.			
10:55	11:55	01:00	Prototyping	First draft of model	Group work according to their interest/target group worked on. The groups will need to build a tangible prototype of the activity/material they have selected to prototype. The prototype can be visualized in various ways: a wall of post-it notes, an assessment grid, a mock-up, a role-playing activity, a space, an object, an interface, or even a storyboard or a model with the provided materials. - it should contain all information necessary for the others to comprehend and implement the idea.	Prototyping		Sufficient materials for creative work. Coloured cards, scissors, a string, playdow, game figures, etc., different papers, lego
11:55	12:40	00:45	Reflection round	Feedback from other groups for each group.	First two groups, group A presents their prototype 10 minutes, group B listens, group C and D observes, group B can ask questions for understanding (5 minutes), group B exchanges thoughts, ideas, feedback, comments and input, group A only listens. Then change of roles: group B presents, group A listens, C and D observe Note: Tandem feedback strengthens the quality of feedback.	Tandem feedback with observers		
12:40	13:25	00:45	Lunch					
13:25	14:10	00:45	Reflection round	Feedback from other groups for each group.	First two groups, group C presents their prototype 10 minutes, group D listens, group A and B observes, group D can ask questions for understanding (5 minutes), group D exchanges thoughts, ideas, feedback, comments and input, group C only listens. Then change of roles: group D presents, group C listens, A and B observe	Tandem feedback with observers		

5. Summary

The above models, activities and guidelines are meant to help with the implementation of the BLOOM co-creation workshops and developing outreach activities tailored to the local needs, drivers and barriers of each hub. This guidebook should serve as a pool of engagement methods, activities and background information and offers assistance with planning the BLOOM co-creation workshops.

It is worth bearing in mind that in the individual countries and hubs the conditions for the implementation of activities will differ. An open approach should be striven for, taking advantage of this huge pool of activities.

6. Resources

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Appendix 1: Informed Consent Form

Informed Consent Form

I/we, the undersigned, confirm [on behalf of the participants of the event] that (please tick box as appropriate):

1.	I / We have read and understood the information about the project, as provided in the information sheet dated _____.	<input type="checkbox"/>
2.	I / We have been given the opportunity to ask questions about the project and my / our participation.	<input type="checkbox"/>
3.	I / We voluntarily agree to participate in the project	<input type="checkbox"/>
4.	I / We understand I / we can withdraw at any time without giving reasons and that I / we will not be penalized for withdrawing nor will I / we be questioned on why I / we have withdrawn.	<input type="checkbox"/>
5.	The procedures regarding confidentiality have been clearly explained (e.g. use of names, pseudonyms, anonymization of data, etc.) to me / us.	<input type="checkbox"/>
6.	If applicable, separate terms of consent for interviews, audio, video or other forms of data collection have been explained and provided to me / us.	<input type="checkbox"/>
7.	The use of data in research, publications, sharing and archiving has been explained to me / us.	<input type="checkbox"/>
8.	I / we understand that other researchers will have access to this data only if they agree to preserve the confidentiality of the data and if they agree to the terms I / we have specified in this form.	<input type="checkbox"/>
9.	Select only one of the following:	<input type="checkbox"/>
	<ul style="list-style-type: none"> I / we would like my name / our names used and understand what I / we have said or written as part of this study will be used in reports, publications and other research outputs so that anything I / we have contributed to this project can be recognized. I / we do not want my name / our names used in this project. 	<input type="checkbox"/>
10.	I / we agree to be audio and / or video recorded and / or photographed. I understand that I can withdraw this agreement at any time without explanation.	<input type="checkbox"/>
11.	I / we, along with the researcher, agree to sign and date this informed consent form.	<input type="checkbox"/>

Participant:

Name Signature Date

Researcher:

Name Signature Date

Appendix 2: Information and Invitation Letter

This section shows the invitation letter to be translated and adapted to individual needs in all hubs. The information and invitation letter can also be found in Deliverable 8.1.

BLOOM

Boosting European Citizens' Knowledge and Awareness of Bio-Economy Research and Innovation

Do you wish to promote sustainable development? Do you want to learn more about [... fill in hub specialisation here]? Do you want to strengthen citizens' awareness of bio-based materials and products?

Join the BLOOM [... fill in hub name here] and share your expectations, experiences and expertise in our workshops! Your thoughts and ideas on how to promote [fill in hub specialisation here e.g. forest-based] products and materials are very valuable. Together, we will raise awareness and understanding about the bioeconomy and [fill in hub specialisation here e.g. forest-based] materials and products among citizens in [fill in hub region or country].

Collaboration with BLOOM offers...

- **NGOs and civil society organisations** – information about bio-based materials and opportunities to promote more sustainable decisions in everyday life.
- **Research and Innovation sector** – opportunities to share the latest knowledge about bioeconomy research and development in [country of hub] and to raise public awareness of new [hub specialisation e.g. forest-based] materials.
- **Education establishments** – knowledge and teaching materials about the bioeconomy, new [hub specialisation e.g. forest-based] materials and innovations as well as information on career opportunities for students.
- **Policy makers** – opportunities for dialogue and knowledge exchange about the possibilities of the bioeconomy and forest-based products between different stakeholders and citizens, thereby strengthening and promoting the image of [country of hub] as forerunners in the [hub specialisation, e.g. forestry] bioeconomy field.
- **Business sector** – support to spread knowledge and raise awareness about cutting-edge research, new [hub specialisation e.g. forest based] materials and products as well as career opportunities within the bioeconomy field.

What is BLOOM?

BLOOM is a European Horizon 2020 funded project which involves 12 partners from 8 European countries and runs from 2017-2020. The project is coordinated by the Centre for Social Innovation, ZSI, in Vienna. Through five regional hubs, each focusing on different fields of bioeconomy, the project will raise awareness and enhance knowledge on the bioeconomy amongst European citizens.

The [Hub name] is coordinated by [hub leader and co-leader e.g. JAMK University of Applied Sciences, Finland in partnership with Vetenskap & Allmänhet, in Sweden] and focuses on [specialisation of hub, e.g. forest-based] materials and products.

Our goals are to:

- raise awareness and enhance knowledge on the bioeconomy and [hub specialisation] materials and products among [hub country] citizens.
- strengthen the [hub country] bioeconomy community, by engaging NGOs, policy makers, business, research and innovation sector and the education sector.

Co-creation workshops

To reach the goals, we will be working with various audiences through co-creation workshops to support knowledge exchange and to design outreach activities and materials on the bioeconomy. In the co-creation workshops, all participants will be given the possibility to exchange ideas, ambitions and concerns. Participants can share their opinions and experiences of the bioeconomy and collaboratively create ideas on how the topic can be communicated to different target groups. The co-creation workshops are designed to support mutual learning, and aim to achieve a common understanding and collaboratively develop ideas and define activities to engage citizens in the *[hub region]*.

Your participation will involve sharing your personal perspectives, views and concerns on the bioeconomy in one workshop. There are no right or wrong answers to any activity we run. We would like to hear which issues are of importance to you and how you think they should be integrated into communication about the bioeconomy.

With your help, we would also like to co-create outreach materials and activities on different aspects around the bioeconomy and build strategies for better involvement of civil society organisations in bio-based networks. Together, we will develop activities and strategies to get more people involved. Building on the results of the co-creation workshops and the ideas and material developed, the *[hub name]* team will subsequently organise outreach activities in publicly accessible and informal places to further involve people in the topic.

Open access to results

The results of the co-creation workshops and the outreach activities and all documents will be made available via the BLOOM platform www.bloom-bioeconomy.eu. Furthermore, a guidebook outlining the co-creation methods used will be openly accessible to help other organisations across the EU to run similar projects.

The BLOOM activities involve the collection of contact information of participants (personal data) and BLOOM partners will adhere to data protection principles in compliance with national and EU regulations as well as to European and national ethical standards and guidelines.

Participation in BLOOM is voluntary. You are free to withdraw at any time during the process, without any obligation to give a reason.

Further information on how to engage

If you have any questions or need further information, please contact the *[hub name]* team:

Organisation (Hub leader), Country

Project Manager [Name], [Phone Number], Email@address.eu

Project member [Name], [Phone Number], Email@address.eu

Organisation (Hub co-leader), Country

Project Manager [Name], [Phone Number], Email@address.eu

Project member [Name], [Phone Number], Email@address.eu

More information about the project can be found on the BLOOM website:

www.bloom-bioeconomy.eu

Keep up-to-date via social media: **Facebook:** @bloomEU **Twitter:** @bloom_EU **Instagram:** @bloom_EU

YouTube: bit.ly/bloomvids

[logos]