



# H2020 Work Programme

## D4.2 Roadmap Report for BBECs Replication

Lead Contractor: CTA (Corporación Tecnológica de Andalucía)

Author(s): Antonio Hurtado, Rafael Dueñas Sánchez and María García Alegre

This document is the BIOBEC project (contract no. 101023381) corresponding to D4.2 (M28) led by CTA. This report provides a report on the Roadmap Report for BBECs Replication based on the results from T4.2.1.

*This project has received funding from the Bio-based Industries Joint Undertaking (JU) under the European Union's Horizon 2020 research and innovation programme under grant agreement No 101023381. The JU receives support from the European Union's Horizon 2020 research and innovation programme and the Bio-based Industries Consortium.*



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Project details			
<b>Project acronym</b>	BIObec	<b>Start / Duration</b>	01/09/2021 – 30 months
<b>Topic</b>	BB1-2020-SO4-S3 – Create and interlink bio-based education centres to meet industry's needs of skills and competences	<b>Call identifier</b>	H2020-BBI-JTI-2020
<b>Type of Action</b>	CSA	<b>Coordinator</b>	Davide Viaggi (UNIBO)
<b>Contact persons</b>	Davide Viaggi, University of Bologna		
<b>Website</b>	https://biobec.eu		

Deliverable details			
<b>Number</b>	D 4.2		
<b>TTitle</b>	Roadmap Report for BBECs replication		
<b>Work Package</b>	4		
<b>Dissemination level</b>	Public	Nature	Report
<b>Due date (M)</b>	28	Submission date (M 28)	X
<b>Deliverable responsible</b>	Fundación Corporación Tecnológica de Andalucía	<b>Contact person</b>	Rafael Duenas Sánchez

Deliverable Contributors				
	Name	Organisation	Role / Title	E-mail
<b>Deliverable leader</b>	Rafael Dueñas Sánchez	<b>Fundación Corporación Tecnológica de Andalucía</b>		rafael.duenas@corporaciontecnologica.com
<b>Contributing Author(s)</b>	Antonio Hurtado	<b>Fundación Corporación Tecnológica de Andalucía</b>		
	María García Alegre		WP4 leader	maria.garcia@corporaciontecnologica.com
<b>Reviewer(s)</b>	Lina Mayorga	<b>Universität Hohenheim</b>		lina.mayorgaduarte@uni-hohenheim.com
	Iris Lewandowski	<b>Universität Hohenheim</b>		iris_lewandowski@uni-hohenheim.com
	Aleix Barrera Corominas	<b>Universitat Autònoma de Barcelona</b>		aleix.barrera@uab.cat
	Knud Tybirk	<b>FBCD</b>	WP3 leader	kt@foodbiocluster.dk
	Fiona Scott-Hayward	<b>MTU</b>		fiona.scotthayward@mtu.ie
	Damian Kuznowicz	<b>PROCIVIS</b>		d.kuznowicz@procivis.org.pl
<b>Final review and quality approval</b>	Davide Viaggi	<b>Università di Bologna</b>	Project coordinator	davide.viaggi@unibo.it

Document History			
Date	Version	Name	Changes
05/06/2023	1	First draft	
10/10/2023	2	Second draft	CTA's additions to the text
17/11/2023	3	Final draft	



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## 1. Executive summary

In summary, the BIObec project is working to prepare the creation of six bio-based education centres (BBECs) within the European Union. These centres will play a pivotal role in developing competencies that not only will bolster European competitiveness but also will drive job creation.

This report is based on the experience garnered during the development of WP1, WP2 and WP3 as well as on the rich exchange of ideas fostered during the workshops organized as part of the project's WP4 activities among the BIObec BBEC leaders, the project work package and task leaders, other consortium members the implementation and replication working group (IRWG) as well as other relevant stakeholders.

During the development of BIObec project and the BBECs design, we had the opportunity to reflect on the adequacy of prior ideas and explore ways for improvement. This report synthesizes these experiences into a roadmap as a key element for the understanding of the methodology created in the development of the BIObec BBCEs and for the replication of our BBEC model in other European regions interested in promoting the development of similar structures in their territories.

Therefore, this document outlines the main results of a complete co-creation and consultation process that was developed in four phases under the project subtask 4.2.1.:

1. Information analysis,
2. First draft development shared with consortium partners,
3. Presentation of the document and feedback gathering in the co-creation workshop held in Vienna on 6<sup>th</sup> of September 2023 with the implementation and replication working group and advisory committee,
4. Final integration of suggestions into the final version.

In a nutshell, the roadmap for BBECs Replication serves as a guideline and capacity building tool for those interested in establishing educational centres to promote the bioeconomy in their respective regions, following the methodology and experience gained from the BIObec partners within the project development. It is intended be used in conjunction with the self-assessment test (Section 10 and available in <http://biobec.eu>), which gauges the maturity level of a potential BBEC and suggests a starting point on the roadmap depending on the situation of each region.

We can divide the work to be developed in the following phases:

1. Preparatory stage:
  - a. Creation of a Working Group
  - b. Establishment of an Advisory Committee
  - c. Identification and mapping of stakeholders
2. Stage one:
  - a. Analysis of needs, expectations and opportunities
  - b. Scoping of best practices and success cases in bioeconomy



- c. Definition of key activities
3. Stage two:
  - a. Competitive analysis
  - b. Co-creation and conceptual designing
  - c. Draft of business model
4. Stage three:
  - a. Designing of a governance plan
  - b. Development of a financial plan
  - c. Development of a sustainability plan
5. Stage four:
  - a. Designing of a communication plan
  - b. Development of a stakeholder engagement and mobilisation plan
  - c. Designing of a risk management plan
  - d. Development of a monitoring and evaluation plan

Therefore, the Roadmap for BBECs Replication is designed to achieve and reinforce the regions' bioeconomy profile, by (1) strengthening its networks in a quadruple helix approach, (2) developing or improving aspects such as governance structure and financial plan, as well as (3) providing outreach activity suggestions and clear definitions. In fact, the roadmap is an experienced pathways that serves to increase the maturity level of a potential new BBEC, fostering the growth of the bioeconomy sector by facilitating the establishment of educational centres deeply integrated with regional needs and the broader bioeconomy strategy of the EU.



## 2. Introduction

This document provides a roadmap for the development of Bio-Based Educational Centres (BBECs). It is based on the knowledge and experience accumulated during the execution of the project “Preparing the creation of Bio-Based Education Centres to meet industry needs and boost the contribution of the bioeconomy to societal challenges (BIObec)” and complemented by an analysis of the potential for replication of these entities, aligning the European Union (EU)’s strategies for the development of the bioeconomy sector and the unique features of each region.

The purpose of this roadmap is to serve both as a guide and as a capacity building tool for those interested in the development of educational centres to support the development of the bioeconomy in their region. With this goal in mind, it provides recommendations for the evaluation of the reasons for their establishment; a description of the steps required to assess the level of educational maturity of the bioeconomy in the region; a method to identify the essential actors that should be involved in the design and implementation of these centres; the steps needed to define their scope, governance structure and potential funding models; and recommendations for outreach activities.

To test the clarity and understandability of the roadmap and its methodology for readers beyond the project partners, a hybrid “BIObec BBECs Roadmap Co-design Experience” seminar was held at the University of Natural Resources and Life Sciences (Vienna, Austria) on 6<sup>th</sup> September 2023 after which, the draft roadmap report was finetuned and sent to the participants. The seminar was designed to take advantage of the organization and audience attraction of European Bioeconomy Scientific Forum 2023, which took place at the same venue, to gather feedback and input from a wider range of stakeholders.

Overall, the workshop was a very enriching action with more than 50 participants. Attendees showed interest mainly in the range of users for which the BBECs were designed, the importance of a regional sustainability plan for the BBECs and reduction of the extension of the document to attract attention from the private sector in a first instance. Therefore, the final version of the Roadmap BBECs Replication includes all these relevant comments and appreciations.

### 2.1. European Perspective on Bioeconomy Education

It is generally accepted that the bioeconomy will underpin the transition from a linear economic model based on non-renewable to a circular, low-carbon economy that relies heavily on the production and consumption of renewable, organic-based resources (Paris *et al.*, 2023). As a result, the EU has been a pioneer in initiatives to promote the transition to a sustainable bioeconomy. Since 1982, the European Commission has overseen the EU Framework Programmes (FPs) in the fields of biotechnology and life sciences, which have led to the creation of solid foundations for European transnational participation in research projects, an increase in industrial participation, a reinforcement of excellence in science, and the promotion of knowledge transfer, among others (Pattermann and Aguilar, 2018).



Currently, the bioeconomy is a central topic in EU policy making, especially in the context of the Green Deal, which was approved by the European Commission in 2020 and includes a set of policy-related initiatives supporting the transition to carbon neutrality by 2050. Among them, the EU's Bioeconomy Strategy adopted in 2012 and updated in 2018 pursues five objectives: (I) ensure food and nutrition security, (II) manage natural resources sustainably, (III) reduce dependence on non-renewable resources, (IV) mitigate and adapt to climate change and (V) strengthen European competitiveness and create jobs (Papadopoulou *et al.*, 2022). Consequently, the bioeconomy is expected to become an important element for the EU in the next years and a motor of socioeconomical transformation.

There is a broad consensus that the continuing evolution towards a more capital- and technology-intensive competitive environment, including the growing role of digital technologies in the economy, will have increasingly important repercussions on the labour markets. This trend is likely to have a high impact also on the bio-based industries, leading to the gradual disappearance of most of the low-skilled jobs and increasing skills mismatches that already exist in the sector. Therefore, unlocking the full potential of the bioeconomy to contribute to the resolution of global challenges such as resource depletion, malnutrition, climate change, and our dependency on fossil energy will require collaborative efforts and the application of a systemic approach to define the new skills and educational approaches required to build up the workforce for the sector.

The switch to a sustainable bioeconomy requires both a change of mentality among the population and a practical transformation of the skills required for the creation of new types of employment. This revolution will imply the creation of new jobs that require high-skilled workers in a relatively short period of time. Therefore, it is essential to support this transition with a comprehensive bioeconomy education and training system that is based on an interdisciplinary approach and designed to face the new challenges faced by the companies that operate in the bio-based industries.

In line with these expectations, bioeconomy education was acknowledged in the European Commission's updated Bioeconomy Strategy of 2018, and more explicitly in Action 2.4 ("Promote education, training and skills across the bioeconomy"), which seeks to support networking of education and training providers and labour market actors in the bioeconomy, for the development of content that responds to the diverse needs of stakeholders and sectors, and of the bioeconomy (European Commission, 2022). Likewise, the importance of the acquisition of the required skills to accompany the green transition in jobs and beyond was highlighted by the European Skills Agenda of 2020 as well as by the European Pact for Skills initiative, launched by the European Commission in the same year (European Commission, 2020a, 2020b).

## 2.2. The BIObec Project

The vast differences observed in the level of development of the bio-based sector in the EU member countries and their regions presents an important challenge for the implementation of one-size-fits-all solutions for education and training services that adequately address gaps in skills and competences. At the same time, this turns the EU into an ideal "laboratory" to design, compare and share new approaches for the development of educational centres for the bioeconomy.

In this scenario, the BIObec project had the goal of developing a holistic framework for multi-level Bio-Based Education Centres (BBECs) flexible enough to address the present and future needs of the





industry and of the surrounding ecosystem at local, regional, national and/or international levels. Among its objectives, the project sought to develop a method to gain a comprehensive understanding of the needs of the bio-based sector in each region as well as to define criteria and conditions for an active role of the BBECs in the creation of dynamic ecosystems.

Therefore, in the vision of the BIObec project consortium, the BBECs are intended as centres providing education and training services for a wide range of users, with a focus on the present and future bioeconomy workforce, deeply rooted in the regional context and aligned at the outset with the capabilities and skills demanded by the local bio-based industries. Given the complex nature of the bioeconomy, BBECs can be seen as knowledge hubs that build bridges between the workforce, academic institutions, research and innovation organizations, the bio-based industry, the public sector, and policy makers. They achieve this while focusing on the needs of the local firms, being flexible to adapt to a fast-changing environment and having a multi-level structure to ensure adequate training of the workforce.

### 2.3. What is a Bio-based Education Centre (BBEC)?

A Bio-based Education Centre is a regionally delimited construct designed to build and coordinate a community of actors who offer education and training in the bioeconomy and promote knowledge and innovation in the field.

These bio-based education hubs:

- integrate various stakeholders.
- promote cooperation between those stakeholders.
- include bioeconomy or bio-based economy as an essential part of their mission.
- have a leading role in the bioeconomy at regional, national or international level.
- develop education, training, research and innovation strategies, actions and activities for any educational level.
- are established or emerging hubs with a long-lasting vision and strategy.

### 2.4. Motivation for establishment of a BBEC

The establishment of BBECs is motivated by the need to meet the demands of the bioeconomy sector, characterized by a strong focus on research, development, and innovation. This motivation also underscores the need for a holistic approach to workforce education, one that accommodates individuals with varying levels of expertise, from highly specialized professionals to those in the early stages of their careers. In addition, there is currently a significant skill gap between demand of bio-based industries and the qualification of available workforce, a gap that could be even wider in the near future due to the rapid growth phase in which the sector is developing its activities. BBECs could address this challenge by acting as dynamic platforms that offer specialized educational and training programs, tailored to regional needs and grounded in a robust multidisciplinary perspective.



In addition, bioeconomy involves several stakeholders who often operate within distinct structures, requiring coordination and collaborative platforms for the advancement of bioeconomy within their regions. The engagement and involvement of the stakeholders in the educational programs as speakers or experts in bioeconomy topics, could serve as catalysts for such cooperation, knowledge exchange as well as direct networking. Therefore, BBECs would be structures in which needs, opportunities and expectations can be shared between those actors in specific spaces dedicated for such diverse activities and knowledge exchange.

In summary, BBECs would represent an innovative response to the multifaceted challenges and opportunities presented by the bioeconomy sector. They stand as proactive agents filling the existing skill gaps and creating an ecosystem that brings together the stakeholders.

### 3. Methodology

The process to develop this roadmap included the following steps:

- **Project Review:** The first step consisted of conducting a thorough review of the BIObec project, examining the project documentation, including the project proposal, schedules, and deliverables, identifying both successful elements and areas for improvement.
- **Analysis of Lessons Learned:** A comprehensive review and evaluation of the project's successes, challenges, and opportunities for improvement was conducted, examining various aspects such as project objectives, scope, stakeholder engagement, team dynamics, communication, risk management, and other relevant factors. For the consecution of this analysis was essential the involvement of Task and Work Package leaders, who shared their ideas in different forums such as the cross-fertilization workshop and monthly meetings.
- **Identification of Best Practices:** The best practices that contributed to the success of the project were identified, paying attention to the specific actions or decisions that led to positive outcomes and considering how they can be replicated or adapted in future projects. Specifically, it was important to this respect the inputs obtained during the cross-fertilization seminar among the BBECs partner held on Vienna and described in the deliverable D4.1. of the project.
- **Identification of Areas for Improvement:** The areas where improvements could have been made or where challenges were encountered during the project were identified. In this process, issues such as scope management, resource allocation, risk mitigation, stakeholder engagement, communication, and any other areas that need attention were considered for their relevance to similar future projects.
- **Extraction of Key Principles:** The key principles or guiding principles from the lessons learned and best practices were extracted, capturing the essence of what worked well and providing a basis for future decision-making and actions in similar projects.
- **Definition of Methodological Framework:** Based on the key principles identified, a methodological framework was developed that outlines the steps, processes, and tools to be followed in future projects. This framework incorporates the best practices, addresses the improvement areas, and aligns with the objectives and requirements of a future BBEC.
- **Documentation and Standardization:** The methodology was documented in a clear and concise manner, providing detailed guidelines, templates, and examples to facilitate its implementation.



## 4. Overview of How to Develop a Bio-Based Education Centre

Developing an education and training centre for the bioeconomy sector requires careful planning and consideration. While the “build it and they will come” approach (which implies that creating something desirable will automatically attract interest and users) may have worked in fictional narratives, it is not a reliable strategy in the real world. The success of a future BBEC relies on understanding market demand, developing high quality products and services with a clear value proposition, clear differentiation in a crowded marketplace, effective marketing and promotion, and continuous adaptation. Similarly, the type, size, and complexity of a BBEC might vary depending on the goals and objectives, location, learning activities, and funding available. By considering these and other factors, as well as taking a proactive approach to attracting and engaging partners and users, a BBEC can increase its chances of achieving sustained success.

The experience obtained during the design of six pilot cases as part of the execution of the BIObec project recommends the application of five iterative and superposing stages as illustrated in Figure 1 below and described in sections 4 to 8 of this document. This represents the complete path, considering a ground-up development of a bioeconomy education and training centre. However, this could not be the case and therefore, we have developed a self-assessment test with the purpose to evaluate its readiness. This test makes possible to determine whether the initiative is ready to start or whether there are specific areas that need further development before starting the process. Therefore, it could be used as a shortcut tool, given a more specific information on where to find the information needed.

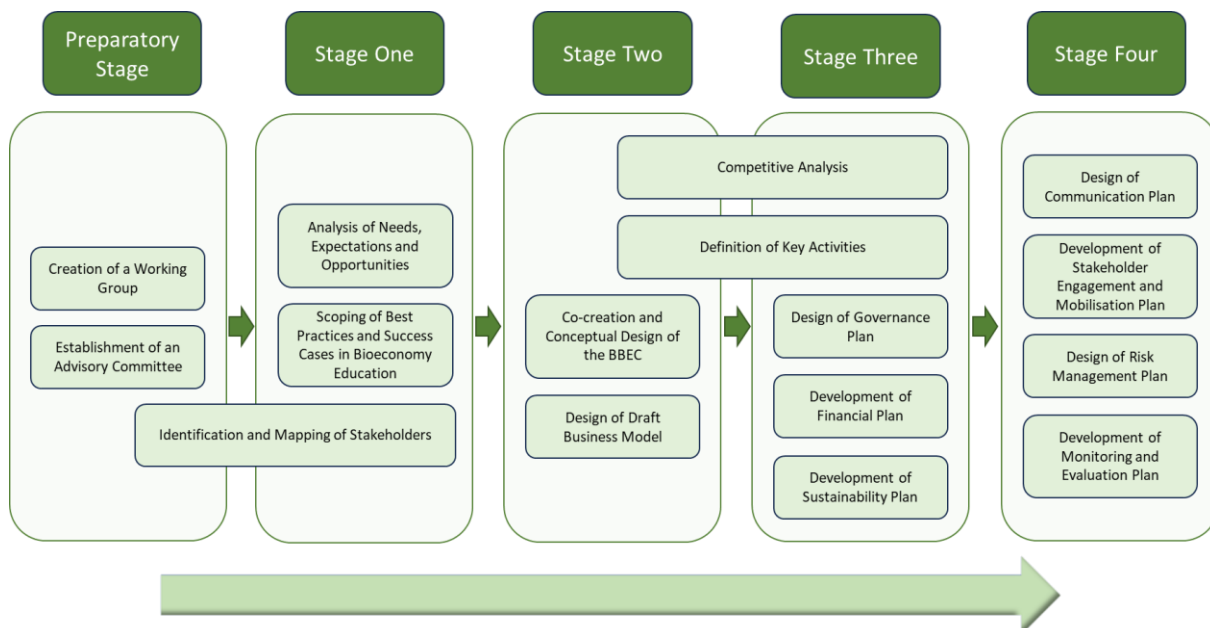


Figure 1. Stages involved in the design of a Bio-Based Education Centre



In summary, following these steps will lay a strong foundation for a bioeconomy education and training centre that equips students and professionals with the knowledge and skills needed to thrive in the rapidly growing bio-based industries and contribute to the sustainable development of the sector.



## 5. Preparatory Stage

### 5.1. Creation of a Working Group

The first step in the development of a BBEC is the formation of a collaborative and temporary team tasked with leading the process. This working group may be composed of experts from different departments or organizations, stakeholders with vested interests, subject matter specialists, technical professionals, or individuals with relevant experience. Once the task is completed, it may be dissolved or transitioned into a different form depending on the needs of the project.

The creation of a working group typically involves the following steps to ensure its effectiveness and success:

- **Definition of the Purpose and Objectives:** Clear articulation of the purpose, goals, and desired outcomes of the working group. Identification of the specific task that it will address and establish measurable objectives to guide its efforts.
- **Identification of Key Members:** Definition of the relevant people who should be involved based on their expertise, knowledge, or vested interests.
- **Formulation of a Charter:** Development of a written charter or terms of reference, outlining its purpose, objectives, scope, expected outcomes, membership, roles and responsibilities, decision-making processes, meeting frequency, and any resources or support available to the group.
- **Appointment of Members:** Invitation to individuals who possess the necessary expertise, knowledge, and skills to contribute effectively to the working group, ensuring a diverse representation of perspectives, roles, and experiences among the members to foster creativity and collaboration.
- **Communication and Collaboration:** Establishment of internal and external channels of communication and collaboration for the working group. This can include regular meetings, email communication, shared documents or platforms, and any necessary tools or technologies to facilitate effective information exchange and collaboration both within the working group and with external stakeholders.
- **Provision of Resources and Support:** Definition and provision of the necessary resources, such as funding, staff support, access to data or information, and any other requirements that it may need to accomplish its objectives effectively.
- **Setting of Clear Roles and Responsibilities:** Clarification of the roles and responsibilities of each working group member, defining who will lead it, facilitate meetings, coordinate activities, document progress, and communicate with stakeholders.
- **Establishment of a Work Plan and Timeline:** Development of a work plan that outlines the specific tasks, milestones, and deadlines, establishing a realistic timeline that considers the complexity of the task and the availability of resources and members.
- **Progress Monitoring and Evaluation:** Regular monitoring of the working group's progress against the established objectives and timeline. Conduction of periodic evaluations to assess



the effectiveness of the group's activities, identify any challenges or areas for improvement, and make necessary adjustments to ensure that the group remains on track.

## 5.2. Establishment of an Advisory Committee

The broad scope and multidisciplinary nature of the bioeconomy sector presents some complex issues that require the active involvement of representatives from relevant stakeholder groups in the design of a BBEC from a very early stage. Accordingly, the formation of an advisory committee is strongly recommended to assist in making informed decisions on specific topics through the provision of guidance, advice and recommendations based on their collective knowledge and experience.

The general steps that should be followed when establishing an advisory committee are:

- **Definition of the Objectives and Roles:** Clear articulation of the objectives and expected outcomes of the advisory committee. Definition of the roles, responsibilities, and desired qualifications of its members, considering the expertise, knowledge, and experience required to fulfil the committee's purpose effectively.
- **Development of a Charter:** Creation of a written charter or terms of reference that outlines the purpose, objectives, scope, membership, roles, and responsibilities of the advisory committee, including details about its reporting structure, decision-making processes, meeting frequency, and any other relevant guidelines or protocols.
- **Selection and Recruitment of Committee Members:** Invitation to individuals who possess the necessary expertise, knowledge, and experience to serve on the advisory committee, considering diversity in terms of backgrounds, perspectives, and expertise to ensure comprehensive and balanced advice.
- **Establishment of Communication Channels:** Setting up of effective communication channels to facilitate ongoing communication with the working group and among committee members. This may include email, conference calls, online collaboration platforms, or other tools that enable information sharing and coordination.
- **Progress Monitoring and Evaluation:** Regular assessment of the effectiveness and impact of the advisory committee's work, monitoring progress toward objectives, evaluating the committee's contributions, and considering feedback from stakeholders. Application of this feedback to adjust, improve processes, and ensure that the committee remains relevant and aligned with its intended purpose.



## 6. Stage One: Stakeholder Analysis and Identification of Needs, Opportunities and Expectations

Once a working group and advisory committee are established, the next step in the development of a BBEC is the execution of a thorough analysis of the stakeholders as well as of the needs, expectations, and opportunities for the future establishment of one of these hubs in the regional bioeconomy ecosystem. This phase of the process includes:

- Identification and mapping of stakeholders.
- An analysis of the needs and expectations of the local bio-based industry, using a combination of desk research and stakeholder consultations.
- A review of the results of relevant projects and initiatives linked to bioeconomy education as well as of the policy and strategy framework for the sector.
- Identification of best practices and success cases in bioeconomy-related education in the region, along with an exploration of their mechanisms of collaboration, their governance, and their business models.

The preliminary results of these analyses are subsequently refined and validated with the assistance of stakeholders to produce a catalogue of needs, expectations, and opportunities for the establishment of a BBEC in the region, highlighting the educational needs and expectations from a multiple-stakeholder perspective.

### 6.1. Identification and Mapping of Stakeholders

The development of the bioeconomy involves multiple stakeholder groups that contribute to and are affected by the advancement of the sector in a particular region. Therefore, identifying who the key actors are and how they are interconnected is an important element for the definition of a suitable BBEC model as it allows for the consideration of multiple perspectives and helps address potential social, environmental, and economic challenges. For this purpose, it is recommended that a database is developed containing a list of relevant stakeholders at the local, regional, national, and European level, including:

- **Government Agencies and Policymakers:** Government bodies at local, regional, and national levels play a crucial role in shaping the bioeconomy through policy development, regulation, and funding. They establish frameworks and provide incentives to promote sustainable bio-based industries and research.
- **Industry and Businesses:** Industry players involved in the production, processing, and distribution of bio-based products and services are key stakeholders as they drive innovation, invest in infrastructure, and create markets for bio-based products. These actors operate in a broad variety of sectors such as agriculture, forestry, bioenergy, biotechnology, biofuels, biochemicals, and sustainable materials.
- **Farmers, Foresters, and Producers:** Primary producers, such as farmers and foresters, also play a critical role in the bioeconomy by supplying biomass feedstocks for various bio-based





industries. Their engagement, practices, and access to markets are important for sustainable resource management and supply chain development.

- **Educational Institutions:** Universities, educational institutions, academic and education experts at all levels are essential stakeholders as they are directly involved in the provision of formal education and training programs that equip students and professionals with the knowledge and skills needed to engage in the bio-based economy.
- **Research and Technology Organisations:** RTOs are key stakeholders as they produce, combine and bridge various types of knowledge, skills, and infrastructures to deliver a range of research and development activities in collaboration with public and industrial partners of all sizes.
- **Financial Institutions and Investors:** Stakeholders from the financial sector, including banks, venture capitalists, and impact investors, play a critical role in providing funding, loans, and investments for bio-based projects and startups. Their involvement helps drive innovation and the commercialization of bio-based technologies.
- **Non-Governmental Organizations:** NGOs often play a role in promoting sustainable development, social responsibility, and ethical considerations within the bioeconomy. They work towards ensuring equitable benefits, community engagement, and adherence to environmental and ethical standards.
- **Consumers and Consumer Groups:** Consumers have an impact on the bioeconomy through their choices and demands for bio-based products. Consumer groups and organizations advocating for consumer rights and interests can influence market trends and support sustainable consumption practices.
- **International Organizations and Trade Associations:** Global and multilateral organizations such as the United Nations, the World Bank, and trade associations relevant to the bioeconomy provide platforms for international collaboration, policy coordination, and knowledge sharing among countries and regions.

### **Stakeholder mapping**

Once a database of key stakeholders for the implementation of a BBEC has been built, the next step consists of developing a map to visualize and understand the relationships between them. This exercise helps identify strengths and weaknesses that exist in the system, gaps that should be addressed, and networks that can be used in the design of a BBEC.

A recommended stakeholder mapping process contains the following steps:

- **Identification of Key Stakeholders:** Within each stakeholder category, definition of the specific individuals or organizations that have a vested interest in or influence over the project.
- **Assessment of Stakeholder Influence and Impact:** Evaluation of each key stakeholder's level of influence and impact on the design and implementation of a BBEC, considering factors such as decision-making authority, expertise, resources, position, and potential to affect the project positively or negatively.



- **Identification of Stakeholder Interests and Needs:** Understanding of the interests, needs, and concerns of each key stakeholder, considering their perspectives, motivations, expectations, and potential benefits or risks associated with the project.
- **Determination of Relationships and Design of a Stakeholder Map:** Analysis of the relationships and interactions between different stakeholders, identifying areas of collaboration, conflict, dependency, or shared interests, taking special note of any alliances or coalitions that may exist among them. Creation of a visual representation of the relationships between stakeholders and their relative strength.
- **Analysis and Strategy Development:** Analysis of the stakeholder map to identify potential opportunities, risks, or challenges. Prioritization of stakeholders based on their level of influence, impact, and importance to the implementation of a BBEC, identifying those who are critical for the project's success and those who may require specific attention or engagement. Based on the insights gained, development of strategies for engaging key stakeholders effectively, addressing concerns, and managing relationships throughout the project lifecycle.

Throughout this exercise, it is important to keep in mind that stakeholder mapping is an iterative process, and that the map may need to be refined as the project evolves or more information is gathered. Regular revisits and updating of the stakeholder map is recommended to ensure that it remains accurate and useful for the project's management and engagement efforts.

## 6.2. Analysis of Needs, Expectations, and Opportunities

Once all the key players have been identified and mapped, the next step consists of finding out what the stakeholders need, what their expectations are, and what kind of opportunities exist for the implementation of a BBEC in the local ecosystem.

The needs and expectations may vary significantly across different regions and, for this reason, the design of a BBEC should be conducted looking for solutions that are both practical and have industry at the centre. For example, in some regions a stronger connection between different actors or stakeholder groups might be required, while in others a certification system suitable for the bio-based industry might be of greater interest. Likewise, in some regions BBECs might be expected to deliver postgraduate degrees for the local workforce whereas in others their role might be seen mostly as a connector between industry and providers of educational services. On the other hand, regarding opportunities for the implementation of BBECs, the analysis carried out during the BIObec project revealed that the existing educational and training networks in the bioeconomy sector constitute a strong foundation for the design of these hubs. These opportunities are further strengthened when there is willingness to further collaborate and jointly create new offerings for education and training.

Therefore, the development of a strong and effective BBEC relies on an accurate analysis of the needs and expectations of the local industry, including a careful assessment of existing bioeconomy-related education offerings and gaps in the region and the identification of best practices and success cases to support the development of education models that could be effectively replicated in the region.



### 6.3. Do You Need a Bio-Based Education Centre?

This is a basic and fundamental first question that must be asked in all instances. Determining the unequivocal need for a BBEC will set the foundation for a well-informed and purposeful approach to its design and implementation, helping ensure that it is established in response to genuine educational and training requirements, is aligned with the local context, and has a higher likelihood of achieving its intended objectives.

Stakeholder consultations via surveys, interviews, and workshops are essential tools in this phase of the process for gathering information, insights, and feedback from individuals or groups. Each of these tools serves a specific purpose in collecting data and engaging with participants.

**Surveys** involve structured questionnaires that are administered to a sample of individuals to collect quantitative and qualitative data. They are useful for gathering information from a large number of people and obtaining standardized responses. Surveys can provide statistical data, identify trends, and help quantify opinions, preferences, or behaviours.

**Interviews** consist of one-on-one or small-group discussions with individuals to gather in-depth qualitative information. They provide an opportunity for participants to express their thoughts, experiences, and perspectives in more detail, allowing for probing questions, clarifications, and follow-ups, enabling a deeper understanding of participants' opinions, motivations, and attitudes. Interviews are particularly useful for exploring complex topics, gathering rich narratives, or when more nuanced information is required.

**Workshops** involve collaborative and interactive sessions that bring together a group of individuals to generate ideas, solve problems, or explore specific topics. They provide a structured environment for participants to engage in discussions, brainstorming, and hands-on activities, promoting active participation, knowledge sharing, and collective decision-making.

BIObec used surveys and interviews, along with desk research, in the early stages of identification of needs, opportunities and expectations for the implementation of BBECs. Workshops, in turn, were applied at all stages of the project to gather information, for co-creation activities, and to receive feedback and input during the design of these centres.

Some of the key questions that must be asked in this initial stage are:

- ***Is it difficult for the bio-based industry in your region to find people with the skills and competences that it needs?*** This information should be provided primarily by the bio-based companies, identifying clearly which kind of skills are readily available in the region and which are more difficult to find.
- ***Are the professional skills in short supply in the region highly specialized or is there also a shortage of more basic ones?*** Distinguishing between highly specialized and more basic skill shortages will provide valuable insights for workforce development and education planning. It will help determine if the gaps can be addressed simply with targeted interventions or if a more structured approach, such as the establishment of a BBEC, is required.



- **Are educational and training institutions in your region flexible and fast enough to adapt to the changing needs of the bio-based industry?** Industries today face a dynamic and ever-evolving landscape, requiring them to be agile, adaptable, and forward-thinking. To keep pace with these rapid changes, companies need to invest in workforce development, encourage upskilling and reskilling initiatives, and embrace new technologies and business models. Collaboration between industry and educational institutions is crucial to ensure that education and training programs align with the evolving needs of the job market.
- **What is the current condition of the educational and training centres in the region?** Assessing the physical infrastructure, facilities, and overall state of the centres will help determine whether the current offerings fit with the changing demands from industry.
- **Are citizens in your region aware of the importance of the bioeconomy?** The transition to a circular bio-based model of the economy poses important challenges for the whole society so it is key that citizens are informed about the potential presented by the bioeconomy. Citizens who are more aware of the importance of the bioeconomy are more likely to pursue a career related to the sector and increase the demand for educational and training services that foster the development of skills and competences needed for the transition.

The surveys used by the BIObec project to identify the needs, expectations, and opportunities for the establishment of BBECs are shown in Annex 2.

#### 6.4. Can You Build on What Already Exists?

Once the need for a BBEC has been established, there are still many factors that need to be considered to increase the chances of success. For example, the costs of infrastructure, maintenance, staffing, generation of didactic material, operation of the centres, among other issues, should be considered. It is therefore crucial to identify whether it is possible to simply readjust what is already available in the region and adapt it to the new realities.

The surveys, interviews, and workshops used to assess the need for a BBEC can be used also for this purpose, including questions such as:

- **Is there any academic or educational institution in your region that is already working closely with industry and could easily fill the gaps identified?** Instead of creating a new educational centre from scratch, building on what existing institutions offer can leverage their expertise, infrastructure, and industry connections. It can help avoid duplication of efforts and maximize the efficient use of resources.
- **Is the existing infrastructure flexible and adaptable?** The current layout and design of educational centres that could be part or play the role of a BBEC should be assessed to determine their flexibility and adaptability to meet evolving educational needs and if its redevelopment would enhance its ability to accommodate different teaching methods, technology integration, or changing enrolment numbers.
- **What are the costs and benefits of redeveloping an existing centre?** The implications of redeveloping or leveraging on existing assets and programmes should be evaluated,



considering potential costs of construction, renovation, equipment, and ongoing maintenance, and weighing them against the potential benefits, such as improved functionality, enhanced learning outcomes, and increased enrolment or community engagement.

- **What is the timeline, logistics, and administrative process to build on what already exists?** Practical aspects, such as the timeline, potential disruptions to ongoing educational activities, and the availability of resources and expertise to carry out the project, should be considered, evaluating at the same time if the logistics and timeframe are feasible and acceptable for the hub and its stakeholders.
- **What are the potential risks and challenges?** Any potential risks or challenges should be identified, including budget constraints, regulatory requirements, community impact, or unforeseen complications, assessing whether these risks can be managed effectively or if they pose significant obstacles to a redevelopment of an existing centre.
- **Which are the main stakeholders that would be impacted?** Identifying the stakeholders that would be most impacted by the use of existing assets and programmes allows for inclusive decision-making, conflict mitigation, understanding of diverse impacts, garnering support, building partnerships, aligning with community needs, enhancing transparency, and addressing potential risks.

### 6.5. Scoping of Best Practices and Success Cases in Bioeconomy Education

As the needs, opportunities, and expectations for the implementation of a BBEC are being established, it is strongly recommended that a study be conducted in parallel to identify best practices and success stories of existing educational and training organizations that prepare skilled professionals for the bio-based industry. The information thus collected will provide valuable inputs for the design of the operational model of the new BBEC.

Best practices and success cases provide valuable lessons and insights from others who have achieved positive outcomes. Studying and understanding these examples generates knowledge about effective strategies, approaches, and methodologies that have been proven to work, and it helps to build upon existing knowledge and leverage proven methods to increase the chances of success. Likewise, the identification of best practices involves understanding the challenges and failures that others have faced, which helps to recognize common pitfalls and mistakes, mitigate risks, make informed decisions, and navigate potential obstacles more effectively. Furthermore, identifying and adopting these examples helps find ways to streamline processes, optimize resource allocation, and improve overall efficiency and effectiveness, at the same time that it provides a foundation for innovative approaches through knowledge and ideas that can be built upon and adapted to the unique context of a region.

Lastly, identifying best practices and success stories provide benchmarks and reference points for the establishment of realistic goals and objectives, define success, find areas for improvement, and measure progress over time.



The form used by BIObec to record the features of each best practice or success case example is shown in Annex 3, and the following guidelines are recommended as a result of the analysis conducted by the project:

- **Apply a long-term perspective:** For developing the biobased education hubs or centers with a long-term perspective, models for saving the supply of required resources to run the future BBEC need to be considered from the beginning of the design process.
- **Involve a university:** Universities have the experience and governance and administrative structure to manage education programs in the long term. Therefore, it is recommended to involve regional Universities in the design of BBEC.
- **Involve stakeholders early:** The design of BBEC should involve all partners from the beginning, ideally already at the stage of developing a joint vision for the development of a BBEC.
- **Develop effective cooperation models and governance structures:** For a harmonious and successful cooperation, from the beginning, a governance structure should be developed and formalized in a way that the interests of all involved stakeholders are adequately considered.
- **Create models and facilities for cooperative research:** Demonstration or pilot plants and/or maker spaces, that allow for cooperative research of industry and academia partners is a strong incentive for the development of a biobased education hub.
- **Co-creation of suitable education programs and formats:** It is recommended that study programs and educational formats offered by BBEC are co-created by involving stakeholders representing the employer and also involve them into education.
- **Seek political support:** Strong models of existing biobased education hubs are those, that receive political support and regional/state funding. Therefore, it is recommended to include regional politicians into the design of BBEC from the beginning.
- **Support networking with dedication:** The provision of a platform for networking and connecting with other stakeholders or biobased hubs has proven to be a crucial element of a biobased education hub. It is recommended that the design of BBEC develops a manageable model for a networking and exchange platform.
- **Keep stakeholders interested:** The management of networks or clusters works well applying rather flat governance, employing an executive committee or general assembly and a management board. More important than the governance structure is the successful relationships management as the networks and clusters depend on the member's commitment. It is recommended to take this into consideration when designing BBEC.
- **Welcome diversity:** It is recommended to involve a diverse group of stakeholders into the development of BBEC as this strengthens the hub from different perspectives and supports the development of results that are meaningful for practice and are usable or transferable outcomes.



## 7. Stage Two: Design of the Operational Model of a BBEC

Once the initial analytical work has been concluded, the next step consists of developing an overarching framework for the BBEC, detailing its main components and pillars of activities (e.g., thematic scope, sectors addressed, education levels targeted, etc.) in response to the needs, opportunities, and expectations identified during the desk research and stakeholder consultations. Given the multidisciplinary nature of the bioeconomy sector, flexibility for adaptation to regional requirements is a key element in the design of the framework, integrating multiple options and models to support the delivery of solutions that are tailored to the requirements of the local bio-based firms.

### 7.1. Co-creation and Conceptual Design of the BBEC

The design of the operational framework starts with the development of a preliminary conceptual model for the BBEC, based on the analysis of best practices (section 6.2 above) and input received through a workshop held with industry and enterprise support agencies (skill needs), knowledge and technology providers (content providers), and the project’s Advisory Committee members. This co-creation workshop is organized with the objective of holding an interactive discussion about the future BBEC’s scope, target sectors, areas of activity, actors involved, potential governance and funding models, cross-country and international opportunities for collaboration, timelines, etc., as well as to engage local actors, inform them about the initiative, and invite them to participate in the implementation of the hub.

The input thus collected is further complemented through the application of the Centre Readiness Level Framework Survey developed by BIObec (Figure 2 and Annex 4) to gather information from key stakeholders about their assets, capabilities, networks, and potential commitments and/or contributions that they could make to the BBEC.

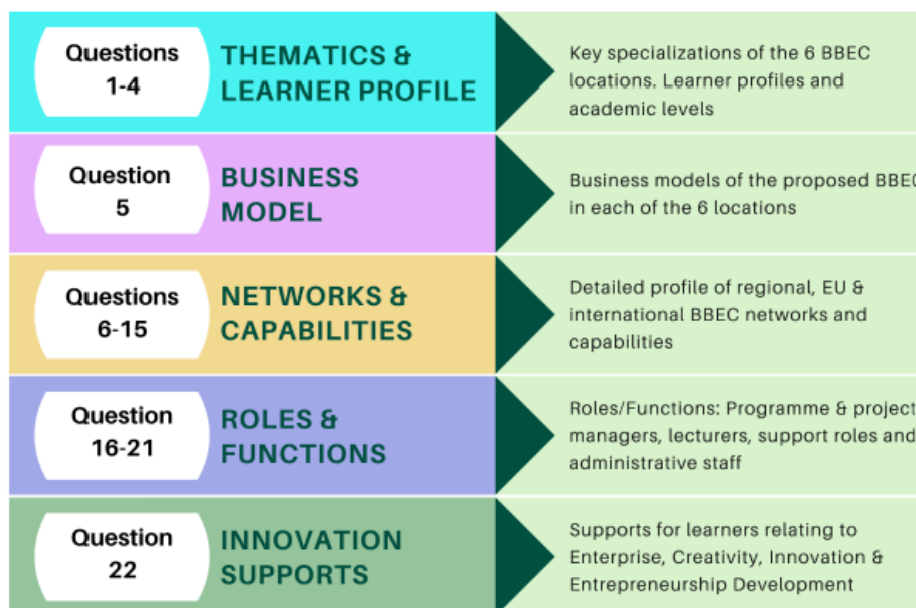


Figure 3. BIObec’s Centre Readiness Level Framework Survey



The Centre Readiness Level Framework Survey is a comprehensive questionnaire whose main objective is to establish a detailed profile of stakeholders. The questions are grouped into themes and should be completed by each stakeholder in order to understand the commitment and/or contributions that this particular institution would bring to the BBECs, and to clarify how each stakeholder could strengthen the framework and constitution of the BBECs.

## 7.2. Design of Draft Business Model

One of the most important elements in the design of a BBEC is its proposed business model due to its key role for understanding, developing, and communicating the fundamental aspects of the future hub, aiding in strategy formulation, resource allocation, risk assessment, and growth planning, ultimately contributing to its success and long-term sustainability. Accordingly, a simplified business model should be prepared at the early stages of the design phase, focusing on the hub's value proposition, core activities, services, and collaboration opportunities within the regional ecosystem.

For this purpose, the Business Model Canvas (BMC) created by Alex Osterwalder of Strategyzer in "Business Model Generation" is a valuable tool that provides a visual representation of how a business creates, delivers, and captures value in its chosen market or industry, helping managers and organizations analyse, develop, and communicate their business models effectively. A typical BMC comprises nine elements that describe different aspects of a business (Annex 5):

- **Value Proposition:** It describes the unique value or benefit that a business offers to its customers. It answers the question, "Why should customers choose my product or service?"
- **Key Partners:** This component represents the external entities or organizations that a business collaborates with to enhance its capabilities, expand its reach, or mitigate risks.
- **Key Activities:** It refers to the crucial activities that a business must perform to deliver its value proposition effectively. This can include production, marketing, distribution, etc.
- **Key Resources:** It defines the assets, infrastructure, or capabilities required to operate a business and deliver its value proposition. It can include physical resources, intellectual property, human resources, etc.
- **Customer Relationships:** This component outlines the types of relationships a business establishes and maintains with its customers. It can include personal assistance, self-service, community building, etc.
- **Channels:** Channels represent the different methods or means through which a business reaches and interacts with its customers to deliver its value proposition.
- **Customer Segments:** This component defines the different groups or segments of customers that a business aims to target and serve.
- **Cost Structure:** It outlines the costs and expenses associated with operating a business. This includes both fixed and variable costs required to deliver the value proposition.





- **Revenue Streams:** This component describes the various sources of revenue or how a business generates income from its customer segments.

The thematic interview methodology is one of the most suitable for data collection during the preparation of the first draft of the future BBEC's BMC because its conversational and informal structure provides an opportunity to discuss the elements of a business model in a structured way while supporting open conversation and idea generation around the topics. Accordingly, the application of this method is recommended in the co-creation workshop described in section 7.1, using the nine BMC elements as discussion topics to guide the dialogue. The discussion can be further enriched if the co-creation workshop participants receive the BMC template and instructions in advance and/or are presented a draft version based on the analysis conducted previously by the project's working group.

Lastly, after the conclusions of the co-creation workshop are integrated into the BMC, the documents can be further enriched with complementary information and feedback collected through one-on-one interviews and/or a validation workshop with stakeholders.

### 7.3. Definition of Key Activities

#### ***Characterization of Education and Training Programmes to be Offered***

Flexibility for adaptation to regional requirements is a key element in the design of a BBEC, integrating multiple options and models to support the delivery of solutions that are tailored to the requirements of the local bio-based firms. Accordingly, the process of defining the key activities that a BBEC will carry out should include considerations for vocational education and training, graduate and postgraduate opportunities, executive and continuing professional education, and all kinds of lifelong learning and training programs for the existing workforce. To effectively define and characterize the education and training programs offered by such a centre, several key aspects come into play.

First and foremost, the BBEC should be open to offer a variety of education and training programs that cater to diverse interests, needs, and skill levels needed by the region's bio-based companies. This could include programs in various disciplines such as sciences, business, technology, personal development, and vocational skills. Flexibility and adaptability are crucial in the design of these programs, and strong consideration should be given to options for both part-time and full-time programs, short-term courses, workshops, and online learning opportunities. This flexibility allows individuals to engage in learning at their own pace and according to their specific schedules, accommodating the needs of busy professionals, parents, or those with other commitments. In this regard, accessibility and inclusivity should also be key considerations. If possible, the future BBEC should strive to make education and training accessible to a diverse range of learners by offering scholarships, financial aid, or alternative learning formats to accommodate individuals with different backgrounds, abilities, or financial constraints.

A key focus of the programs should be on skill development. Special attention should be placed on identifying the skills that are in demand in the job market and design programs to help learners acquire or improve these skills. This could include technical skills relevant to specific industries, soft skills such as communication and teamwork, leadership skills, or entrepreneurship/intrapreneurship training. By



equipping individuals with practical skills, the BBEC will empower them to thrive in their careers and adapt to evolving workplace demands. Furthermore, to ensure effective learning outcomes, the incorporation of engaging and interactive learning methods should be assessed. The programs should consider active and participatory approaches, such as practical exercises, case studies, group discussions, simulations, and hands-on experiences as these methods enhance learner engagement, encourage critical thinking, and facilitate the application of knowledge and skills in real-world contexts.

The establishment of partnerships and participation in networks should also be given strong consideration to enrich the BBEC's offerings. Collaborating with educational institutions at all levels, other BBECs, industry organizations, and community groups can provide access to additional resources, expertise, and networking opportunities for learners. These partnerships can enhance the quality and diversity of programs, expose learners to different perspectives, and create pathways for further educational or career opportunities.

Lastly, as continuous improvement will be vital to the success of the BBEC, regular evaluation and updating of programs will be necessary to align with evolving industry trends, emerging technologies, and changing learner needs. Accordingly, a process should be designed to track progress, seek feedback from learners and industry, and adapt the curriculum and teaching methods rapidly and accordingly to ensure program effectiveness and relevance.

The outcome of this step should include a specification of skills targeted for development, learning objectives, contents (topics) addressed, admission requirements, teaching methods, and learning instruments, among others.

### ***Standard and Certification Schemes***

Evaluating the need to develop and/or adopt standards and certifications is a key element in this stage as they serve multiple purposes and play a crucial role in ensuring the quality, relevance, recognition, and integrity of educational and training programs.

By establishing defined criteria and guidelines, standards and certifications help uphold quality standards, align education with industry needs, recognize individual competence, build consumer trust, facilitate global recognition, encourage continuous improvement, and promote regulatory compliance. They can help ensure that the skills and knowledge imparted to learners are up-to-date and relevant, bridging the gap with real-world industry practices and enhancing the employability of individuals, equipping them with industry-ready skills and increasing their job prospects.

Furthermore, in a world increasingly focused on sustainability and environmental responsibility, standard and certification schemes play a vital role in building consumer confidence and trust in bioeconomy products and services, helping ensure that they meet specific criteria and adhere to sustainable practices. Certification provides consumers with assurance that the products they choose are environmentally friendly and produced in accordance with ethical and responsible standards.

The importance of standard and certification schemes extends beyond national borders. By harmonizing educational standards and practices, these schemes facilitate international recognition of qualifications. This global recognition is especially valuable in a field like the bioeconomy that often



involves cross-border collaboration, trade, and research, allowing individuals trained in bioeconomy-related programs to have their skills acknowledged and valued on an international scale, expanding their opportunities for work and collaboration.

Lastly, certification schemes can also foster a culture of continuous improvement among professionals in the bioeconomy sector. Many schemes require ongoing professional development and periodic recertification, encouraging individuals to stay updated with the latest developments, emerging technologies, and best practices. The pursuit of continuous learning contributes to the advancement of the bioeconomy field as a whole, fostering innovation and driving progress.

Accordingly, important efforts should be made to identify the potential design of a standard and qualification scheme to support collaboration and replication, building on insights from previous and/or ongoing projects to identify potential aims and roles in the certification scheme and connection with existing schemes, to avoid duplications. In particular, the interface with the European Credit Transfer and Accumulation System (ECTS) should be strongly considered.



## 8. Stage Three: Feasibility & Sustainability Planning

Feasibility and sustainability planning hold significant importance in various aspects of project management and organizational decision-making as they provide critical insights and considerations that contribute to the success and longevity of all types of initiatives.

Feasibility planning serves as a fundamental step in determining whether a future BBEC is viable and worth pursuing. It involves a comprehensive assessment of available resources, including financial, human, and technological aspects. By conducting feasibility analysis, it is possible to gain a clear understanding of the BBEC's potential challenges and benefits, allowing for informed decision-making and helping allocate resources effectively to ensure that they are adequately utilized to support the project's objectives. In addition, feasibility planning plays a crucial role in risk mitigation, enabling the development of contingency plans and risk management strategies, thereby minimizing the likelihood of failure or costly setbacks. Furthermore, it provides valuable information to avoid investments in impractical or unlikely-to-succeed models, leading to an efficient use of the resources and minimization of unnecessary expenditures.

Sustainability planning, on the other hand, focuses on the long-term viability of the future BBEC, helping create lasting value for the regional bioeconomy ecosystem. Integrating sustainability considerations at the early stages of planning allows for a proactive approach to risk management, cost reduction, alignment with stakeholder expectations, regulatory compliance, innovation, and overall competitiveness.

Furthermore, feasibility and sustainability planning involve active stakeholder engagement, helping gain diverse perspectives, build support, and foster a sense of ownership. Involving stakeholders throughout the planning process ensures that their needs and expectations are considered, increasing the likelihood of the success of the BBEC.

The feasibility and sustainability planning process for a BBEC includes 4 components:

- Competitive analysis.
- Design of a strong governance structure.
- Development of a sound financial plan.
  - Economic analysis of the feasibility of the centre.
  - Identification of potential funding sources and models.
- Preparation of a sustainability plan.

### 8.1. Competitive Analysis

The first step in the feasibility and sustainability planning process consists of an analysis of the competitive environment in which the future BBEC will operate. There are several tools and frameworks that can be used with this purpose, all which can provide valuable insights into market dynamics, competition, and the new initiative's strategic positioning. Some of the most used are:

- **SWOT (Strengths, Weaknesses, Opportunities, and Threats) Analysis** is a simple and effective tool that can be used for assessing the internal strengths and weaknesses of the future entity,



as well as the external opportunities and threats that it will face. It can help identify areas of competitive advantage, areas for improvement, potential growth opportunities, and risks that it may encounter as it operates.

- **PESTEL (Political, Economic, Sociocultural, Technological, Environmental, and Legal) Analysis** is a tool that can be used to examine the macro-environmental factors that are likely to impact the future BBEC, providing insights into the broader socio-political, economic, technological, and legal landscape in which it will operate. This analysis can help identify trends, opportunities, and potential challenges that may affect the competitive position of the future educational hub.
- **Five Forces** is a framework developed by Michael Porter used to assess the competitive intensity and attractiveness of an industry. It examines five key forces: the bargaining power of suppliers, the bargaining power of buyers (e.g., students, parents, firms, and professionals), the threat of new entrants, the threat of substitute products or services, and the intensity of competitive rivalry. The analysis of these forces can help understand the dynamics of the environment in which the future BBEC will operate, identify competitive threats, and determine its strategic positioning.
- The **Porter Diamond**, also known as the Diamond Model, is a framework developed by Michael Porter to analyse the competitive advantage of nations or industries. It consists of four key elements that form a diamond-shaped framework: factor conditions; demand conditions; related and supporting industries; and firm strategy, structure, and rivalry. While it was initially developed to assess competitiveness in the business context, it can be adapted to evaluate the competitive factors and strategic positioning of the future BBEC.
- **Competitor Analysis** involves evaluating the strengths and weaknesses of educational institutions in the region, helping understand the competitive landscape, identify their strategies, offerings, and target markets, and assess their relative strengths and weaknesses. This analysis can help identify gaps in the current offerings, areas for differentiation, and potential collaboration opportunities for the BBEC.

These tools can be used individually or in combination to gain a holistic understanding of the competitive environment in which the future BBEC will operate. The insights derived from this analysis are used in the subsequent tasks to define how the BBEC will be positioned in the educational marketplace (i.e., what kind of programs and services it will offer, and how they will be promoted in the regional ecosystem), what kind of governance structure will be more adequate, what categories of resources will be needed for the initial operation of the centre (i.e., staffing, equipment, financial, etc.), and what funding options could be available to support its implementation.

## 8.2. Design of a Strong Governance Plan

Having a strong governance plan is essential for the future BBEC as it will serve as a strategic framework outlining the principles, policies, and processes for effective decision-making, accountability, and management within the new entity. In addition, it will help enhance stakeholder confidence by demonstrating that the organization has systems in place to ensure ethical behaviour and responsible



management, as well as processes to identify, assess and mitigate risks effectively, which is particularly important for new entities that face uncertainties and challenges in their early stages of operation.

Accordingly, this stage of the process consists of building a strong governance plan for the future BBEC, using the business model developed in section 7.2 as the starting point. This plan should establish clear roles, responsibilities, and decision-making authority to promote alignment, reduce confusion, minimize conflicts, and ultimately enable the organization to operate cohesively and efficiently. Likewise, it should set clear processes for the efficient management of its resources and internal operations, internal distribution of roles and governing bodies, and forms of participation by external collaborators. It should also include the models and procedures for the integration of stakeholders, such as clients, members, external service providers, or general interested stakeholders as well as the different options for its institutional and legal basis.

During the design of the BBEC's governance structure, special attention should be given to the selection of the legal form that the new entity will adopt (e.g., profit versus non-profit, standalone versus partnership, virtual versus conventional, etc.). This decision will ultimately depend on a careful analysis of factors such as the local conditions and laws, the nature of the programs and services that it will offer, liability considerations, potential funding sources, tax implications, ownership structure, and the organization's mission and goals, among others. Consultations with stakeholders and legal professionals or business advisors are key in this stage to determine the most suitable legal form for the new BBEC.

Lastly, the organisational model that best fits the new BBEC should be identified to support the management structure of the centre based on all the decisions made above, as well as the hub's relevant services, target groups and geographical coverage. The organisational structure of the BBEC should allow flexibility to meet its specific goals during the different phases of implementation, keeping in mind its future scalability and engagement in the region.

In this sense, the BIObec project has developed a governance plan based on 6 main points (D3.2, Annex 6).

- The context of action at socio-cultural and economic level, which justifies its meaning and existence.
- Institutional objectives with a clear mission and vision of the BBEC.
- Operational structures that reflect how existing resources are organised to achieve the institutional purposes. It should take into account human, material and functional resources.
- Management and operation that review the format and actions of the institution's management bodies.
- A relational system that analyses the most important aspects that influence people's behaviour.
- Institutional dynamics, with the most relevant aspects of the institution's daily life.

### 8.3. Development of a Sound Financial Plan

After all the necessary investments for the establishment and operation of the new BBEC have been well defined, the next step in the process consists of developing a sound financial plan that ensures



financial stability, effective budgeting and resource allocation, sustainability and growth, contingency planning, compliance and accountability, strategic decision-making, and stakeholder confidence.

A solid financial plan will allow the BBEC to conduct effective budgeting and resource allocation, thus helping to set clear financial goals, estimate revenues and expenses, and prioritize spending. By having a well-structured financial plan, the centre will be able to allocate its available resources to its various programs, activities, and initiatives based on their importance and impact, ensuring that the funds are utilized optimally, and maximizing the benefits for all stakeholders.

Developing a sound financial plan is also essential for the long-term sustainability and growth of the BBEC, assisting in the identification of potential sources of revenue, such as tuition fees, grants, donations, or partnerships, and devising strategies to diversify income streams. A stable financial position will help sustain the BBEC's operations, expand its educational offerings, and invest in enhancing the quality of education and training provided.

Furthermore, a financial plan will play a vital role in contingency planning and risk management for the new BBEC, enabling the allocation of funds for reserves or create emergency funds to address unexpected events or financial challenges. This preparedness will ensure that the centre can navigate through difficult times, such as economic downturns or unforeseen circumstances, without compromising its educational and training programs or jeopardizing its financial stability.

The development of a sound financial plan includes the following steps:

- **Definition of Goals and Objectives:** The first step consists of clearly defining the financial goals and objectives for the BBEC, considering factors such as revenue targets, expense management, resource allocation, and financial sustainability, as well as the specific outcomes that we wish to achieve through the financial plan.
- **Creation of a Budget:** Development of a comprehensive budget that outlines the BBEC's expected income and expenses for a specific period, usually on an annual basis, identifying all revenue streams (including tuition fees, grants, donations, and other sources) and estimating expenses such as salaries, rent, utilities, supplies, and other operational costs. The budget must be aligned with the BBEC's goals and objectives.
- **Forecast Revenue:** Realistic estimation of the expected revenue for the upcoming period based on enrolment projections and anticipated funding of the BBEC. Different scenarios and assumptions should be considered to assess potential revenue fluctuations and their impact on the financial plan.
- **Projection of Expenses:** Realistic estimation of expenses based on the initiatives planned for the BBEC, considering both fixed and variable costs, such as salaries, benefits, maintenance of facilities, technology investments, curriculum development, and other operational expenses.
- **Cash Flow Management:** Special attention must be paid to cash flow management to ensure the BBEC has sufficient funds to meet its obligations. Cash inflows and outflows must be subsequently monitored, identifying potential cash flow gaps, and implementing strategies to



address them. A cash reserve must be maintained for emergencies and unforeseen circumstances.

- **Risk Assessment and Mitigation:** Financial risks that may impact the BBEC's financial stability should also be identified. Potential risks such as enrolment fluctuations, changes in funding, economic downturns, or regulatory changes should be assessed, developing strategies to mitigate these risks, such as diversifying revenue sources or creating contingency plans.
- **Monitoring and Evaluation:** Once the BBEC is up and running, the financial plan's performance must be monitored and evaluated regularly, comparing actual financial results against projected figures, identifying any discrepancies or deviations, and taking corrective actions as necessary. The financial plan must then be adjusted based on new information, changing circumstances, or emerging opportunities.
- **Seeking Professional Advice:** Consulting with financial advisors or accountants who specialize in the education sector should be considered as they can provide guidance on financial planning, regulatory compliance, tax considerations, and best practices in financial management for educational institutions.

#### **Potential funding sources**

The financial plan should be complemented by a detailed strategy for short-term and long-term funding, with a focus on sources external to the BBEC's regional ecosystem, such as national and European funds.

As part of this exercise, an assessment of investment readiness level of the BBEC should be carried out in this phase, using as a reference quantitative (financials) and qualitative (markets, talent, technology landscape, economic projections) aspects of the performance of real success stories identified in section 6.3. Likewise, a screening of public funding opportunities should be conducted, along with an analysis of potential risks and sustainability challenges that could be faced when approaching potential funders and partnerships. The overall objective is to design innovative business model strategies for access to financial resources and thus foster the financially sustainable implementation of the BBEC.

#### **8.4. Development of a Sustainability Plan**

Developing a business sustainability plan for the BBEC is essential for the long-term resilience of the centre. Incorporating a sustainability plan into its core strategy, will help the BBEC to anticipate and adapt to changing market dynamics, emerging industry and technology trends, and evolving regulatory frameworks. Sustainability planning will help future-proof the centre, enabling them to mitigate risks, identify opportunities for innovation and growth, and achieve long-term success.

The process to develop this plan includes the following steps:

- **Setting of Clear Objectives:** Definition of the BBEC's sustainability goals and objectives, aligning them with its business priorities and ensuring that they are specific, measurable, achievable, relevant, and time-bound (SMART). At this stage, the overall aim of a sustainability plan for the BBEC should be to develop a model for growth from a project-based education centre to its long-term resilience.





- **Gap Analysis:** Identification of potential gaps between the BBEC's business model and its sustainability objectives. This analysis will help understand where improvements are needed and prioritize the areas that require immediate attention, such as resource allocation, funding gaps, cost inefficiencies, and potential risks, among others.
- **Development of Action Plans:** Creation of specific action plans for each priority area, outlining the steps, strategies, and initiatives required to achieve the BBEC's sustainability objectives, assigning responsibilities and setting timelines for implementation. These action plans should be realistic, feasible, and aligned with the centre's business goals.
- **Stakeholder Engagement Planning:** Development of a plan to involve the BBEC's stakeholders in the sustainability efforts, encouraging their active participation, and rewarding their contributions.
- **Engagement, Communication and Promotion Planning:** Development of a plan to communicate the BBEC's sustainability plans, efforts, and achievements to its stakeholders, highlighting the benefits and value created through its activities, and seeking to involve them in these efforts, encouraging their active participation, and rewarding their contributions.
- **Progress Measurement and Tracking:** Establishment of key performance indicators (KPIs) and metrics to measure the progress of the BBEC's initiatives and how they fit with the overall sustainability goals and objectives. Subsequently, the BBEC's performance should be monitored and tracked regularly to evaluate the effectiveness of the actions taken as well as to identify areas of success and areas that require adjustments or additional efforts.

A core component of this stage is the identification of viable financial models. Accordingly, a review of various financing scenarios should be carried out building on the outcome of section 8.4, including membership fees, invoicing processes and independent project acquisition, private funding, public funding, and mixed financing, among others. An agreed and common approach for the overall financial strategy of the BBEC can be achieved through the application of the Delphi method, which is a structured and iterative forecasting technique used to gather and synthesize opinions from a panel of experts or stakeholders, aiming to reach a consensus or convergence among them.

Lastly, while focusing on the business aspect of sustainability, it is important to consider the interconnectedness of economic, environmental, and social factors. Addressing all these aspects of sustainability can help optimize the BBEC's operations and financial performance, mitigate risks, and enhance its market position while contributing to its long-term resilience and growth.



## 9. Stage Four: Communication, Risk Management and Evaluation Planning

### 9.1. Design of a Communication Plan

The importance of a well-designed communication plan for the BBEC cannot be overstated due to its role as the backbone for effective communication both internally and externally, facilitating various crucial aspects of the institution's operations and success.

Internally, a communication plan ensures smooth and efficient communication within the BBEC's diverse ecosystem. By disseminating important information, such as policies, updates, and announcements, to faculty, staff, administrators, collaborators, and other internal stakeholders, it establishes a cohesive and informed community. When all of them are well-informed, they are more engaged, productive, and aligned with the institution's overarching goals and objectives.

Externally, on the other hand, a communication plan allows a BBEC to effectively reach and engage external stakeholders, including industry, educational partners, funders, policy makers and the broader community. It acts as a strategic tool for conveying the entity's mission, values, and educational and training offerings, creating a positive image and reputation. Through transparent and consistent communication, the BBEC can build trust, foster strong relationships, and attract prospective students and partners who resonate with its vision and mission.

A detailed communication plan should be produced at the beginning of the project, outlining the BBEC's audiences, key messages, and communication channels for the dissemination. The plan should answer the five W's of communication (WHO says WHAT, in WHICH channel, to WHOM, and with WHAT effect) and provide an integrated, accurate and efficient strategy, highlight the key messages, potential audiences, roles and responsibilities and methods and tools that will be used to promote the centre's activities and achievements.

The communication planning process involves the following key steps:

- **Setting Communication Objectives:** Clear definition of the objectives that the BBEC wants to achieve through its communication efforts. These objectives should be specific, measurable, achievable, relevant, and time-bound (SMART). For example, the objectives could be to increase enrolment by 15% within six months, improve stakeholder engagement, or enhance the centre's reputation in the community.
- **Identification of the Target Audience:** Definition of the primary and secondary target audiences for the communication plan, considering demographics, interests, needs, and communication preferences of these audiences. This will help tailor the messages and select the appropriate communication channels to effectively reach and engage them.
- **Development of Key Messages:** Creation of key messages that align with the BBEC's communication objectives and resonate with its target audience. These messages should be concise, compelling, and reflect the unique value and offerings of the centre, ensuring consistency in messaging across different communication channels.



- **Selection of Communication Channels:** Identification of the most appropriate communication channels to reach the BBEC's target audience effectively, considering a mix of traditional channels (e.g., newsletters, brochures, direct mail) and digital channels (e.g., website, social media platforms, email marketing). Each channel should be selected based on its ability to reach the desired audience and deliver the key messages efficiently.
- **Creation of a Communication Timeline:** Development of a timeline that outlines the specific activities, milestones, and deadlines for the BBEC's communication plan. This timeline should encompass both short-term and long-term communication initiatives, events, and campaigns to ensure that the communication efforts are well-organized, coordinated, and aligned with other organizational activities.
- **Allocation of Resources:** Definition and allocation of the resources that are required to support the execution of the communication plan and ensure its success, including budget, personnel, technology, and external support if needed.
- **Development of a Communication Tactics Plan:** Creation of a detailed plan that outlines the tactics and activities to be executed for each communication channel, specifying responsibilities, deadlines, and metrics to evaluate their effectiveness. This plan serves as a guide for the implementation of the communication strategy.
- **Implementation and Monitoring:** Execution of the communication plan according to the defined timeline and tactics, regularly monitoring and evaluating the progress and outcomes of the activities executed, and making adjustments based on emerging opportunities or challenges and the feedback received from stakeholders.

Lastly, it is important to keep in mind that communication planning of a BBEC will require continuous adaptation and refinement based on the evolving needs of the centre and its stakeholders. Accordingly, a comprehensive evaluation of the communication plan's effectiveness in achieving the set objectives should be conducted periodically, analysing data, gathering feedback, assessing the impact of the efforts made, identifying areas for improvement, and refining the communication strategy iteratively as needed.

## 9.2. Development of a Stakeholder Engagement and Mobilisation Plan

Engaging and mobilising the BBEC's diverse range of stakeholders is vital for a multitude of reasons, as each of them can contribute in a different way to the centre's growth and success. One of the key benefits of stakeholder engagement is the opportunity to foster collaboration and partnerships. By actively involving stakeholders, the BBEC can establish fruitful relationships and collaborations that lead to valuable opportunities for learning, research, internships, career placements, and community-based initiatives. Through the involvement of stakeholders, the centre can tap into their expertise, resources, and networks, creating a dynamic and enriching ecosystem for education and training.

The engagement and mobilisation of relevant stakeholders should be done from the beginning of the project as it is a key element to raise awareness, enable the timely identification of requirements, bottlenecks and challenges, and to enhance the sense of ownership and acceptance of the solutions proposed by the creation of a BBEC. While the process of stakeholder engagement and mobilization



involves several steps, three key steps can be identified in a plan developed with this purpose: identification and analysis of stakeholders, development of engagement strategies, and implementation and evaluation of engagement activities.

- **Identification and analysis of stakeholders:** The first step in stakeholder engagement and mobilization is the identification and analysis of the relevant stakeholders carried out in section 6.1, which involved identifying individuals, groups, or organizations that will have an interest or influence in the activities and outcomes of the BBEC. Once identified, stakeholders are analysed based on their needs, interests, concerns, influence, and potential impact on the centre. This analysis helps prioritize stakeholders and determine the most effective strategies for engaging and mobilizing them.
- **Development of Engagement Strategies:** The second step is to develop tailored engagement strategies for each stakeholder group. Engagement strategies should be designed to address the specific needs, interests, and concerns of stakeholders while aligning with the institution's goals and objectives. These strategies may include a combination of channels and tools, such as surveys, one-on-one interactions, focus groups, workshops, online platforms, and their involvement in thematic committees and working groups. It is important to ensure that the engagement strategies are inclusive, transparent, and provide opportunities for stakeholders to actively participate and contribute their perspectives. The strategies should also consider the diversity of stakeholders and tailor the approach accordingly.
- **Implementation and Evaluation of Engagement Activities:** The third step involves implementing the planned engagement activities and continuously evaluating their effectiveness. This includes executing the engagement strategies, conducting meetings, workshops, or events, and providing platforms for stakeholders to share their views, feedback, and suggestions. Throughout the process, it is essential to maintain open lines of communication, provide timely and relevant information, and actively listen to stakeholders. Feedback and outcomes from engagement activities should be collected, analysed, and used to refine the engagement strategies and improve future engagement efforts. Regular evaluation ensures that the institution remains responsive to stakeholder needs and can adapt its engagement approaches accordingly.

#### ***Liaison with other sectors, regions, projects, and initiatives***

Stakeholder engagement should also target actors from other sectors, regions, projects, and initiatives to facilitate cross-country and international collaborations and partnerships, promote multidisciplinary approaches, facilitate the debate, enhance mutual learning, and promote the exchange of good practices in bioeconomy-related education and training.

Cross-fertilisation initiatives with other BBECs as well as the activities performed by the European Bioeconomy Network (involving nearly 70 projects and initiatives several of which in bioeconomy education) and the European Bioeconomy University provide some of the best opportunities for collaboration to maximise the impact of the centre's activities and efforts towards the creation of an innovative education and training ecosystem for the bioeconomy.



### 9.3. Design of a Risk Management Plan

Establishing a new BBEC is a complex endeavour, fraught with challenges and uncertainties. Starting from scratch involves numerous uncertainties, such as financial risks, regulatory compliance, student enrolment, partnership development and agreements, faculty recruitment, infrastructure adaptation and/or development, and reputation management, among others. By proactively identifying these risks, assessing their potential impact, and developing strategies to mitigate them, the institution can minimize the likelihood of adverse events and their negative consequences. A risk management plan provides a structured approach to anticipate, assess, and manage risks, ensuring that the institution is well-prepared to handle unforeseen circumstances and protect its stakeholders' interests.

Implementing a risk management plan demonstrates the new BBEC's commitment to safeguarding the interests of its stakeholders. It helps establish a culture of transparency, accountability, and responsibility, enhancing stakeholders' confidence in the institution and its ability to effectively manage potential risks. Furthermore, having a risk management plan is essential for securing external support, such as loans, grants, or partnerships. Lenders, donors, and potential collaborators often require evidence of a comprehensive risk management approach to ensure the entity's viability and sustainability.

The preparation of a risk management plan involves several key steps, including:

- **Identification of Risks:** The first step consists of identifying potential risks that could affect the BBEC, categorizing them into different areas (e.g., financial, operational, regulatory, technological, reputational, etc.), using tools such as brainstorming sessions, consultations with stakeholders, and review of historical data of educational institutions, as well as conducting a thorough analysis of the future BBEC's activities.
- **Assessment of Risks:** This step consists of evaluating the identified risks based on their likelihood of occurrence and potential impact on the BBEC. It involves analysing the probability and severity of each risk, considering the internal and external factors that could contribute to their emergence or mitigation.
- **Prioritization of Risks:** The next step involves prioritizing the identified risks based on their significance and potential consequences, focusing on those that pose the highest level of threat to the BBEC's objectives, stakeholders, and operations. This helps allocate resources and attention effectively.
- **Development of Risk Mitigation Strategies:** Once the risks have been identified and prioritized, strategies should be developed for their mitigation or management, ensuring that they are aligned with the BBEC's goals, values, and available resources. These strategies should aim to reduce the likelihood or impact of the risks, transfer them to external parties through insurance or contracts, or create contingency plans to minimize the consequences if they materialize.
- **Implementation of Risk Controls:** The next step involves putting into action the strategies and measures designed to mitigate or manage the identified risks, assigning responsibilities to individuals or teams, establishing processes and protocols, and integrating risk management



practices into the BBEC's day-to-day operations. This requires effective communication across all the involved parties as well as resources to enhance the understanding of risk management practices and encourage active participation in risk mitigation efforts.

- **Monitoring and Review:** Lastly, the effectiveness of the risk management plan should be monitored and reviewed regularly, conducting periodic risk assessments and revising the plan as necessary to adapt to changing circumstances or new risks that may arise. This includes tracking the progress of implemented risk controls, assessing emerging risks, and evaluating the overall performance of the plan.

Furthermore, it is important to keep in mind that risk management is a continuous process because the landscape is constantly evolving, new risks emerge, and the probability and potential severity of the existing risks may change over time. By engaging in ongoing risk assessment, mitigation, and monitoring, the BBEC will be able to adapt to changing circumstances, improve its risk management practices, and enhance its resilience in the rapidly evolving environment in which it will operate.

#### 9.4. Development of a Monitoring and Evaluation Plan

A monitoring and evaluation plan is an indispensable tool for a BBEC's overall success and long-term sustainability due to its role in supporting evidence-based decision-making, fostering continuous improvement, and facilitating the demonstration of impact and value, as well as in the promotion of accountability and transparency to stakeholders. By developing and implementing a monitoring and evaluation plan, the future BBEC will be able to ensure that it is delivering high-quality education and training, responding to the needs of the bio-based industry ecosystem, and continuously enhancing its practices to meet the challenges and opportunities of the competitive landscape.

Monitoring and evaluation also promote stakeholder engagement. Involving stakeholders in the process fosters collaboration, enhances communication, and allows for the collection of diverse perspectives. By including stakeholders in monitoring and evaluation activities, the BBEC can gain valuable input and feedback, ensuring that its efforts remain responsive to the needs, priorities, and expectations of its stakeholders. This engagement helps build strong relationships with them and creates a sense of ownership and shared responsibility for the achievement of the desired outcomes.

Moreover, a monitoring and evaluation plan supports continuous improvement within the future BBEC. By regularly assessing performance and tracking progress towards established goals, the plan helps identify areas where the centre should enhance its practices, optimize resource allocation, and refine its strategies. The plan's iterative nature encourages the BBEC to learn from its experiences, adopt best practices, and adapt to changing circumstances. This commitment to continuous improvement is essential for staying relevant and ensuring the centre's long-term success.

Developing a monitoring and evaluation plan requires careful consideration and a systematic approach that includes the following steps:

- **Definition of the Purpose and Scope:** The first step consists of clearly articulating the purpose and scope of the BBEC's monitoring and evaluation plan, determining the specific goals and objectives that must be achieved according to all the relevant elements described in sections 4 to 8, and integrating the monitoring, review and evaluation activities outlined.



- **Identification of Key Indicators:** Once the purpose and scope of the monitoring and evaluation plan have been defined, the next step consists of identifying the key performance indicators (KPIs) that will be used to measure progress and success. These indicators should align with the BBEC's goals and objectives and be measurable, relevant, and specific.
- **Definition of Data Collection and Analysis Methods:** The methods and procedures applied may involve a combination of quantitative and qualitative data collection techniques, such as surveys, interviews, focus groups, observations, document reviews, or existing data sources. Likewise, various tools and procedures are available for data processing, cleaning, analysis, and interpretation. The advantages, disadvantages, feasibility, and resources required for each method should be evaluated and the most appropriate ones selected according to the BBEC's needs.
- **Establishment of Evaluation Timeframes:** The frequency and timing of data collection and evaluation activities should be set according to the BBEC's goals and objectives, establishing adequate timelines for data collection, analysis, and reporting. One of the key considerations in this stage is whether monitoring should be conducted continuously or at specific intervals (such as quarterly, annually, or at the completion of a program or project) to ensure that timely and relevant information is collected.
- **Definition of Roles and Responsibilities:** This element consists of identifying the individuals or teams responsible for carrying out the monitoring and evaluation activities. Clear roles and responsibilities should be assigned to ensure accountability and coordination throughout the process. This may include designating a monitoring and evaluation team, involving relevant staff, and engaging external experts if necessary.
- **Development of Reporting and Communication Channels:** This step consists of determining how the findings and results will be communicated to the BBEC's stakeholders, with strong consideration being given to the development of clear and concise reports, dashboards, or visualizations that effectively convey the data and insights. This element of the monitoring and evaluation plan should be fully integrated with the communication plan developed in section 9.1 above.
- **Implementation of the Plan:** Once all the steps above have been completed, the monitoring and evaluation plan is out into action, ensuring that data collection processes are carried out as planned, monitoring progress according to the established timelines, and using the insights gained to inform decision-making and drive continuous improvement within the BBEC.

Lastly, as with other elements of this roadmap, developing a monitoring and evaluation plan is an iterative process. A review and revision should be done periodically to ensure its effectiveness and relevance, seeking feedback from stakeholders, and making adjustments based on lessons learned and changing priorities. A dynamic and flexible plan will better support the BBEC's evolving needs and ensure continuous improvement.



## 10. BIObec Roadmap support tool: Self-assessment test.

As previously stated, the roadmap for BBEC Replication serves as a general guideline and capacity building tool for those territories (regions, countries and/or other geographical areas) interested in establishing biobased education centres following the methodology and experience gained in the project.

The main objective of the self-assessment tool developed by BIObec is to support the regions interested in following BIObec methodology by building their tailor-made roadmap based on their particular “BBEC maturity level”, guiding the region on the BIObec BBEC Replication Roadmap depending on the information and steps already taken or not by the region.

As a result of the self-assessment test, the region will be labelled as “Low BBEC Matured” and “High BBEC Matured”, and guided within the methodology accordingly:

- L-BEM level indicates that the preparatory stage, stage one and stage two from the methodology have not been fully completed yet in the territory,
- H-BEM indicates a comprehensive coverage of these previously commented stages.

This division is merely based on a transition from analytic stages (preliminary and stage one) and drafting of operational model (stage two) to a fully operational model (stage three and four). The final categorization of a region or a territory according to this self-assessment tool indicates only the starting situation of the region linked to the work to be developed to create a BBEC, not as a general and strategical biobased economy general evaluation at regional/territorial level.

The self-assessment test is divided into 5 sections, as the BIObec Replication Roadmap, and comprises 18 specific questions:

### **Preparatory Stage**

1. Have you successfully established a transitional working group, comprising experts from various departments or organisations, stakeholders with vested interest, subject matter specialists, technical professionals, or individuals with relevant experience? This group plays a pivotal role in steering the initial phases of your BBEC project, ensuring comprehensive expertise and collaboration, as the core group of the future BBEC.

- YES: Congratulations
- NO: Please, check Deliverable 4.1 section 5.1 for creation of your working group. For a shorter, interactive description, go to Preparatory Stage – Creation of a working group on the Story Map.

2. Have you formed an Advisory Committee composed of external experts in the field of bioeconomy? This committee offers invaluable external perspectives and specialized guidance to ensure the growth and success of your planned institution. Additionally, it provides a broader strategic outlook,





facilitating anticipation of trends, resolution of challenges, pursuit of emerging opportunities, and network strengthening, particularly for forging vital partnerships.

- YES: Congratulations
- NO: Please, check Deliverable 4.1 section 5.2 for establishing of an advisory committee. For a shorter, interactive description go to Preparatory Stage – Establishment of an advisory committee on the Story Map.

3. Have you initiated the process of identifying and engaging key stakeholders at local, regional, national, and/or European level? This identification is crucial for assessing strengths and weaknesses within the system, pinpointing gaps demanding attention and recognizing potential networks that can be leveraged in the design of a BBEC. This group should include components of the quintuple helix, including representatives from the industrial/production sector, educational institutions, research and development organisations, government agencies and policymakers and civil society, to consider the perspectives of all relevant parties, align their interests, and minimize potential conflicts.

- YES: Congratulations
- NO: Please, check Deliverable 4.1 section 6.1 for identification of your relevant stakeholders. For a shorter, interactive description go to Stage One – Identification and mapping of the stakeholders on the Story Map.

### **Stage one. Stakeholder analysis and identification of needs, opportunities, and expectations**

4. Have you understood the relationships between these identified stakeholders on a canvas to understand the strengths and weaknesses of your existing system in your region? Additionally, consider mapping the gaps that need attention and the network connections that could be utilized in BBEC design. In general, this visualization and conducting gap analysis will help for developing your BBEC based on a well-informed, strategic, and holistic approaches.

- YES: Congratulations
- NO: Please, check Deliverable 4.1 section 6.1 for mapping your relevant stakeholders. For a shorter, interactive description go to Stage One – Identification and mapping of the stakeholders on the Story Map.

5. Do you have relevant inputs from your stakeholders regarding their specific needs and expectations? Keep in mind that these needs and expectations may vary significantly based on local industry, potentially including workforce training, postgraduate degree offerings and more. Opportunities may also arise from existing educational or training networks in the bioeconomy sector that can be adapted.

- YES: Congratulations
- NO: Please, check Deliverable 4.1 section 6.2 for an analysis of needs expectation and opportunities. In annex 2, you can find a survey for that purpose developed in the BIObec



project. For a shorter, interactive description go to Stage One – Analysis of needs, expectations and opportunities on the Story Map.

6-. Have you scoped the best practices and success cases in bioeconomy education in your region? The information collected in this exercise provides valuable inputs for the design of the operational model of your new BBEC. Studying and understanding those examples generates knowledge about effective strategies, approaches and methodologies that have been proven in the real world, it helps to build upon existing knowledge and leverage proven methods to increase the chances of success.

- YES: Congratulations
- NO: Please, check Deliverable 4.1 section 6.3 for scoping Best Practices and Success cases in Bioeconomy. Keep in mind that BIObec has developed a guideline with recommendations of best practices that it is also available. If you are in one of the regions in which BIObec was developed, please have a look in our specific research settled in D2.1. For a shorter, interactive description go to Stage One – Scoping of best practices and success cases on the Story Map

### **Stage two. Design of the operational model for a BBEC**

7. Is the conceptual design of your BBEC ready? After compiling input from stakeholders on needs, opportunities, and expectation, integrate various options and models to develop solutions tailored to the requirements of local bio-based firms. Ensure clarity regarding the scope, target sectors, areas of activity, actors involved, potential governance and funding possibilities that align with the interests of local stakeholders.

- YES: Congratulations
- NO: Please, check Deliverable 4.1 section 7.1 and deliverable D3.6 for the co-creation and conceptual design of a BBEC. The definition of more detailed profile of your stakeholders (annex 4, the Centre Readiness Level Framework Survey) will clarify how can strengthen the framework and constitution of your BBEC. For a shorter, interactive description go to Stage Two – Co-creation and conceptual design on the Story Map.

8. Have you created an initial Business Model? Generate a Business Model Canvas that defines your value proposition, key partners, key activities, key resources, customer relationships, channels, customer segments, cost structure and revenue streams.

- YES: Congratulations
- NO: Please, check Deliverable 4.1 section 7.2 and annex 5 for the creation of business model. For a shorter, interactive description go to Stage Two – Design of Draft Business Model on the Story Map.



### **Stage three. Feasibility and Sustainability Planning**

9. Have you carried out a competitive analysis? Conduct a comprehensive competitive analysis using tools such as SWOT analysis, PESTEL analysis, Porter’s diagrams, or competitor analysis to gain valuable insights into market dynamics, competition, and your new initiative’s strategic positioning.

- YES: Congratulations
- NO: Please, check Deliverable 4.1 section 8.1 for competitive analysis definitions and initial information. For a shorter, interactive description go to Stage Three – Competitive Analysis on the Story Map.

10-. Have you defined the education and training programs that your centre will offer? It is crucial to establish precise learning objectives, determine the tools and methodologies to be employed and ensure that the content aligns with the specific requirements of your local stakeholders.

- YES: Congratulations
- NO: Please, check Deliverable 4.1 section 8.2 for characterization of education and training programmes to be offered. The learning programmes for the existing workforce were developed in D3.4. For a shorter, interactive description go to Stage Three – Definition of key activities on the Story Map.

11-. Have you established a certification scheme? It is essential for guaranteeing the quality, relevance, recognition and integrity of educational and training programs.

- YES: Congratulations
- NO: Please, check Deliverable 4.1 section 8.2 and Deliverable 4.5 for standard and certification schemes. For a shorter, interactive description go to Stage Three – Definition of key activities on the Story Map.

12. Have you crafted a comprehensive governance plan for your BBEC? This plan should encompass various critical elements, including the context of action, institutional objectives, operating structures, management and operation procedures, communication systems and the dynamics within your institution. It will establish well-defined roles, responsibilities, and decision-making authority fostering cohesive and efficient organizational functioning. Additionally, it should outline procedures for stakeholder integration, along with considerations for the institutional and legal framework, requiring a thorough understanding of regional legal conditions.

- YES: Congratulations
- NO: Please, check Deliverable 4.1 section 8.3 and annex 6 for recommendations in the design of a sound governance plan. The governance plans of the BBECs of the BIObec project were developed in Deliverable 3.2. For a shorter, interactive description go to Stage Three – Design of a strong governance plan on the Story Map.

13. Does your BBEC have a robust financial plan? The financial plan is indispensable for ensuring the long-term sustainability and growth of your BBEC. It serves as the cornerstone for effective budgeting,



resource allocation, contingency planning, risk management, and strategic decision-making. The presence of a sound financial plan builds trust among stakeholders.

- YES: Congratulations
- NO: Please, check Deliverable 4.1 section 8.4 for the design of a strong financial plan. The financial plans of the BBECs of the BIObec project were developed in Deliverable 3.3. For a shorter, interactive description go to Stage Three – Development of a Sound Financial Plan on the Story Map.

14. Have you formulated a business sustainability plan for your BBEC? This plan plays a crucial role in proactively anticipating and adapting to shifts in market dynamics, emerging industrial and technology trends, as well as evolving regulatory frameworks, guaranteeing the sustainability of the model in the medium and long term.

- YES: Congratulations
- NO: Please, check Deliverable 4.1 section 8.5 for the design of a business sustainability plan. The business sustainability plans of the BBECs of the BIObec project were developed in Deliverable 3.5 For a shorter, interactive description go to Stage Three – Development of a Sound Financial Plan on the Story Map.

#### **Stage four. Communication, risk management and evaluation planning**

15. Has your communication plan been thoroughly developed and aligned with your objectives? Given the diversity of actors within your ecosystem, communication should be geared towards their active involvement. The communication plan serves as a strategic tool conveying the organisation`s mission, values, and educational and training offers, thus creating a positive image and reputation.

- YES: Congratulations
- NO: Please, check Deliverable 4.2 section 9.1 for recommendations on the design of a communication plan. For a shorter, interactive description go to Stage Four – Design of a communication plan on the Story Map.

16. Have you prepared a suitable stakeholder engagement and mobilization plan? These plans should be designed to address the specific needs, interests, and concerns of your main identified stakeholders in your regional context for developing an engagement strategy. Followed by the implementation and the continuous evaluation of activities.

- YES: Congratulations
- NO: Please, check Deliverable 4.2 section 9.2 for recommendations on the development of a stakeholder engagement and mobilisation plan. For a shorter, interactive description go to Stage Four – Development of a stakeholder engagement and mobilisation plan on the Story Map.



17. Have you designed a risk management plan for your BBEC? It should encompass various areas, including but not limited to financial stability, regulatory compliance, student enrolment, partnership development and agreements, faculty recruitment or adaptation. In general, the risk management plan should identify each risk by category, and assess their probability and potential impact integrated in a probability-impact matrix. Moreover, the risk plan should preventive and corrective actions. A well-structured risk management plan ensures that your BBEC can anticipate, mitigate, and respond to challenges with resilience and strategic foresight.

- YES: Congratulations
- NO: Please, check Deliverable 4.2 section 9.3 for recommendations on the development of a risk management plan. For a shorter, interactive description go to Stage Four – Design of a risk management plan on the Story Map.

18. Have you developed a monitoring and evaluation plan for your BBEC? This tool ensures the overall success and long-term sustainability of your institution. It serves for evidence-based decision-making, fostering continuous improvement and demonstrating the significant impact and value your BBEC brings to the bio-based industry ecosystem. Therefore, this plan is pivotal in assuring the consistent delivery of high-quality education and training, tailored to meet the needs of the industry.

- YES: Congratulations
- NO: Please, check Deliverable 4.2 section 9.4 for the development of a Monitoring and Evaluation Plan. For a shorter, interactive description go to Stage Four – on the Story Map development of a monitoring and evaluation plan.



## 11. Conclusions

In a nutshell, the roadmap for BBECs replication acts as a guide and tool for building capacity for those interested in establishing educational centres to promote the bioeconomy in their local areas, using the methodology and knowledge acquired from the BIObec partners during the project development. It is meant to be used in conjunction with the self-assessment test (available at <http://biobec.eu>), which determines the level of maturity of a possible BBEC and offers a beginning point on the roadmap based on the circumstances of each region.

We can divide the work to be developed in the following phases:

1. Preparatory stage:
  - a. Creation of a Working Group
  - b. Establishment of an Advisory Committee
  - c. Identification and mapping of stakeholders
2. Stage one:
  - a. Analysis of needs, expectations and opportunities
  - b. Scoping of best practices and success cases in bioeconomy
  - c. Definition of key activities
3. Stage two:
  - a. Competitive analysis
  - b. Co-creation and conceptual designing
  - c. Draft of business model
4. Stage three:
  - a. Designing of a governance plan
  - b. Development of a financial plan
  - c. Development of a sustainability plan
5. Stage four:
  - a. Designing of a communication plan
  - b. Development of a stakeholder engagement and mobilisation plan
  - c. Designing of a risk management plan
  - d. Development of a monitoring and evaluation plan

In order to achieve and strengthen the region's bioeconomy profile, the Roadmap for BBECs Replication (1) strengthens its networks using a quadruple helix approach, (2) develops or improves aspects like governance structure and financial plan, and (3) offers suggestions for outreach activities and clear definitions. In actuality, the roadmap is a proven path that aids in raising a potential new BBEC's maturity level and promotes the expansion of the bioeconomy sector by making it easier to establish educational facilities that are tightly woven into local needs and the EU's larger bioeconomy strategy.



## 12. References

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## Annexes



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## Annex 1: Roadmap co-design experience and Cross-fertilization seminar agenda and list of participants

<h1 style="color: #0056b3;">BIObec</h1> <p style="color: #0056b3;"><i>Preparing the creation of Bio-Based Education Centres to meet industry needs and boost the contribution of the bioeconomy to societal challenges</i></p> <p style="color: #0056b3;"><b>GA nr 101023381</b></p>	
<b>Event</b>	<b>Roadmap Co-design Experience/Cross Fertilization seminar</b>
<b>Venue</b>	University of Natural Resources and Life Sciences, Vienna (BOKU) Peter-Jordan-Strasse 82/II, 1190 Vienna, Austria
	September 6, 2023
<b>Agenda prepared by</b>	<b>Davide Viaggi</b> (UNIBO) Project scientific coordinator <b>Maria Grazia Attianese</b> (UNIBO) Project manager With the contribution of all partners
<b>Attendees to the meeting</b>	BIObec partners Advisory Board members IRWG members

### Scientific Coordination:

**Prof. Davide Viaggi**

Università di Bologna - Dept. Of Agricultural and Food Science

E-mail: [davide.viaggi@unibo.it](mailto:davide.viaggi@unibo.it)

Phone: +39 051 2096114

### Project Management

**Maria Grazia Attianese**

Università di Bologna - Research Division\_ European Programs and Projects Unit

E-mail: [mg.attianese@unibo.it](mailto:mg.attianese@unibo.it)

Phone: +39 334 6718986



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## List of participants (on site and online)

<b>Surname</b>	<b>Name</b>	<b>Organization</b>
Aguilera	Fátima	University of Jaen
Albertini	Susanna	FVA
Alejandro		
Ariño	Pablo	SIE
Attianese	Maria Grazia	UNIBO
Barrera	Aleix	UAB
Burgos	Gisell	CMQ d'Excellence BioecoAcademy
Cabeza	Cristina	Agencia Empresarial para la Transformación y el Desarrollo Económico
Catedra	Mar	Junta de Andalucía
Dimov	Rosen	Trakia University
Dineva	Nikoleta	Executive Forest Agency
Duenas-Sanchez	Rafael	CTA
Gajeck	Anna	EPRD
Ganszky	Daniel	GEO
Garcia	Rocio	SIE
Garcia Alegre	Maria Grazia	CTA
Gelfi	Rino	UNIBO
Slavcheva	Teddy	Sooo AS
Gomez		
Gonzalez	Marta	CTA
Haider	Andreas	Wood K plus
HBLFA		HBLFA Raumber-Gumpenstein Akquisition
Kastner	Bernhard	BOKU
Koch	Bernhard	BOKU
Kuznowicz	Damian	Foundation Pro-Civis
Legay	Myriam	AgroParisTech
Lewandowsky	Iris	University of Hohenheim
Lund	Jan	Food & Bio Cluster Denmark
Malgorzata	Osowska	IBE
Marinelli	Selenia	FVA
Mayorga	Lina	University of Hohenheim
Molina	Beatriz	Grupo empresarial la caña S.L
Ortiz	Esther	TRAGSATEC



Paco		
Paula		
Peczek	Tadeusz	Foundation Pro-Civis
Pedal Consulting		
Rasmussen	Morten D.	Aarhus University
Rinaldi	Giacomo	UNIBO
Rusanen	Katri	University of Eastern Finland
Ryan	Kevin	IBF
Sakellaris	George	ART
Sanchez	Sofia	CTA
Scott-Hayward	Fiona	MTU
Spinnler	H. Eric	AgroParisTech
Targetti	Stefano	UNIBO
Valencia	Angel	University of Malaga
Viaggi	Davide	UNIBO
Wash	Rebecca	Southern Regional Assembly
Zaimova	Darina	Trakia University



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## Annex 2: BBEC Needs and Opportunities Survey

### BioBEC

## Preparing the creation of Bio-Based Education Centres to meet industry needs and boost the contribution of the bioeconomy to societal challenges

This survey is part of the project "BioBEC - Preparing the creation of Bio-Based Education Centres to meet industry needs and boost the contribution of the bioeconomy to societal challenges (Grant Agreement 101023381)", funded by the BBI-JU within the EU Horizon 2020 framework programme.

BIObec aims to build bridges between the bio-based industry and the education system by interlinking universities, innovation labs, and R&D centres with industrial actors and regions. In order to achieve this, the project proposes a holistic framework that merges the traditional perspective of an educational centre with the idea of a knowledge hub.

Before this survey, 19 focus groups have been implemented across Europe, with the participation of 98 stakeholders from the industry, administration, educational organizations and universities that gave us a general framework about what BIObec should be.

The aim of this survey is to know which are the needs, opportunities, and expectations that you, as stakeholders, have regarding what BIObec should be. To do so, we kindly ask you to answer the following questions.

Note that we will analyse the data gathered from all the stakeholders together. This will provide a complete picture of the situation in your sector.

All the information provided will be treated statistically and anonymously. Completing the full survey takes around 10 minutes.

### Previous questions:

I agree to participate in the research study. I understand the purpose and nature of this study and I am participating voluntarily. I understand that I can withdraw from the study at any time, without any penalty or consequences. **(CHECK BOX (Yes / No))**

I agree to receive the project newsletter and information about the events and results. **(CHECK BOX (Yes / No))**



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## SURVEY QUESTIONS

### General Information:

Age: (Open question)

- < 20
- 21 – 30
- 31 – 40
- 41 – 50
- 51 – 60
- > 60

Gender: (Multiple Choice)

- Male
- Female
- Non-binary
- I rather not answer

Your highest level of Studies: (Multiple Choice)

- VET - Vocational Education and Training<sup>1</sup>
- Bachelor/engineer (Undergraduate)
- Master
- PhD

You are participating as a

- Academic/researcher
- Company business organisation
- Educational Organisation
- Non-governmental organization
- Policy maker
- Public Administration
- Trade union
- Others

Your current country of residence: (Multiple Choice)

- Austria
- Belgium
- Bulgaria
- Croatia
- Cyprus

---

<sup>1</sup> <https://www.cedefop.europa.eu/en/publications-and-resources/publications?search=Short+description>



- Czech Republic
- Denmark
- Estonia
- Finland
- France
- Germany
- Greece
- Hungary
- Ireland
- Italy
- Latvia
- Lithuania
- Luxembourg
- Malta
- Netherlands
- Norway
- Poland
- Portugal
- Romania
- Slovakia
- Slovenia
- Spain
- Sweden
- United Kingdom

BIObec questions

In my region, the main educational levels where bioeconomy education should be improved are... (Multiple Choice)

- Secondary Education
- VET Education
- Bachelor Education
- Master's Education
- PhD Education

In my region there are enough entities providing training activities in the field of bioeconomy.

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree



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In my region there is a need to improve bioeconomy and circular economy education giving the students more opportunities to know industry reality

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

In my region there is a need to change the methodologies used to teach bioeconomy and circular economy in order to promote the acquisition of soft skills (communication skills, team work, entrepreneurship, innovation mindset, etc..)

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

In my region, it's necessary to certify the competences that professionals working in bio industries are acquiring through the experience in their workplace

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

In my region, it's still necessary to identify which are going to be the main professional roles in the field of bioeconomy and circular economy

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

In my region, there is a need to raise awareness about the bioeconomy and circular economy

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree



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BIObec should provide educational and vocational counselling services.

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

BIObec should work to facilitate the exchange of good practices between different regions

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

BIObec should strength the collaboration of companies and educational institutions through innovation projects

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

BIObec should promote collaborative innovation to improve bioeconomy and circular economy

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

BIObec should stablish bridges between different levels of education and collaboration among training providers

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree



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BIObec should provide resources and training materials to educational institutions

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

BIObec should monitor the dynamics of bioeconomy and circular economy in order to identify the current and future competences needed in the sector

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

BIObec should certify providers of bioeconomy and circular economy training to ensure they are aligned with real industry needs

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

BIObec should provide train the trainer activities to update the pedagogical competences of teachers and professors in the field of bioeconomy and circular economy

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

BIObec should provide opportunities to teachers and professors to update their knowledge and competence regarding bioeconomy and circular economy

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree



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BIObec should have laboratories and other equipment to facilitate that companies test their innovation

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

Which are the main stakeholders that should be involved in the governance of BIObec? (Multiple Choice)

- Universities
- Research centers
- Companies
- Educational Organisations
- Non-governmental organizations
- Public Administration
- Trade union
- Others

Please, add any other aspect that you would like to highlight before the end of the Survey (Open question)

Please, provide your e-mail if you want subscribe to the project's information updates on results and activities: (Open question)

Thank you for your collaboration!!



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### Annex 3: Best Practices and Success Cases in Bioeconomy Education

## INVENTORY OF BEST PRACTICE

<b>Name Organization/Title/Programme - web link</b>
<b>Location of the activity/model and the types of partners involved</b>
<b>Purpose and objective of the activity/model</b>
<b>Detail the funding model in operation</b>
<b>Target audience and participants</b>
<b>Description of activities and/or services</b>
<b>What innovations in this example (education model or mode of delivery) can be translated to the BBECs network to enhance learning opportunities and exceed stakeholder/learner expectations?</b>



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<b>What, in your view, are the key impacts/benefits of this model/service offering?</b>
<b>Who are the key personnel involved (e.g., academics, project managers, innovation managers etc.)</b>

*Please upload this template to SharePoint WP2 – T2.1 - Inventory of Best Practice for each example*



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## Annex 4: BBEC Centre Readiness Level Framework Survey

### Background & Aim of the Survey

The BIObec project aims to maximize the opportunities offered by the Bioeconomy by interlinking universities, innovation labs, and R&D centers with industrial actors and regions to avoid skills and competencies gaps.

In order to achieve this, BIObec proposes a concept that merges the traditional idea of an education centre – such as a university or a vocational education and training centre – with that of a knowledge hub: the Bio-Based Education Centres (BBECs), which will act as multi-level knowledge hubs bridging the gaps between academic institutions, students, innovation entities and policymakers.

The present survey aims to gather information to constitute the BBECs in terms of participant institutions, scope, target perimeter, time, frame, and, in general, all the main dimensions that underlie any education and training institution.

Furthermore, the survey is finalized to understand the subjective commitment and/or contribution that each respondents' institution would bring to the BBECs, making clear how each stakeholder can strengthen the BBECs framework and their constitution.



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1) Your organisation name, address and location.\*

Click or tap here to enter text.

2) Outline the bioeconomy thematic pillars that your organisation specializes in? (e.g. food, marine, forestry, biorefining, education & outreach etc) \*

Click or tap here to enter text.

3) Knowledge Areas - Select the academic levels that your organisation targets and delivers services to: \*

1. Secondary
2. Vocational
3. Bachelor
4. Post graduate cert/Diploma
5. Masters
6. Ph.D.
7. CPD - Continuous Professional Development
8. Other

If "Other" please specify briefly: Click or tap here to enter text.

4) Learner Profile: Select the learner groups that your organisation serves: \*

- Primary Schools
- Secondary Schools
- Undergraduates
- Postgraduates
- Life Long Learners
- Industry Professionals
- Civic Society

5) Type of Centre (Business Model): \*

- Public
- Private
- Public Private Partnership
- Network Facilitator
- Charity
- Other

If "Other" please specify briefly: Click or tap here to enter text.



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6) Your Network - Specify the geographical reach of your network. \*

- Local
- National
- Regional
- European Union
- International

7) Your Network - Detail your organisations links to University & Third Level Institutes. \*

Click or tap here to enter text.

8) Your Network - Detail your organisations links with Vocational Education Centres. \*

Click or tap here to enter text.

9) Your Network - Outline your organisations links with Government Departments/Agencies/Bodies. \*

Click or tap here to enter text.

10) Your Network - Detail your networks and collaboration with Research Centres. \*

Click or tap here to enter text.

11) Your Network - Detail your networks and collaboration with Non-Government Organisations. \*

Click or tap here to enter text.

12) Your Network - Detail your networks and collaboration with Enterprise Development & Support Agencies. \*

Click or tap here to enter text.

13) Your Network - Detail your networks and collaboration with Innovation Centres and/or Digital Hubs. \*

Click or tap here to enter text.

14) Your Network - Detail your networks and collaboration with Industry (corporate, international, national, regional, large/SME). \*

Click or tap here to enter text.



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15) Your Network - Detail your networks and collaboration with Industry Associations, Regional Networks and Clusters. \*

Click or tap here to enter text.

16) Outline the existing roles and functions within your organisation that you believe should be included in the BBEC design framework. \*

Click or tap here to enter text.

17) Role: 'Industry Liaison for the Skills & Talent Pipeline' Do you have dedicated staff within your organisation to identify current and future skills and talent needs? Please provide specific examples. \*

Click or tap here to enter text.

Program manager vs project manager		
	Program manager	Project manager
<b>Description</b>	Supervises long-term strategies that consist of multiple smaller projects.	Supervises individual projects that meet program objectives.
<b>Focus</b>	Program strategy	Work coordination
<b>Duration</b>	Long-term	Short-term
<b>Tasks</b>	Implement strategies, oversee collaboration, and define success metrics.	Coordinate work, organize projects, and track progress.
<b>Success</b>	Measured by the success of program strategies, ROI, and company-wide objectives.	Measured by the success of individual projects, timelines, and budget compliance.

Figure 1. Program manager vs Project manager - The main differences

18) Do you have dedicated Programme Managers within your organisation for the delivery & development of education, innovation, enterprise development programmes? (see Fig.1 for further explanations on Programme Manager). Please provide specific examples. \*

Click or tap here to enter text.

19) Do you have dedicated Project Managers within your organisation responsible for the coordination of education, innovation, enterprise



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development programmes? (see Fig.1 for further explanations on Project Manager).

Please provide specific examples. \*

Click or tap here to enter text.

20) If you have Lecturing and/or Training Staff, outline the specific types of learners they engage with e.g. undergraduate, postgraduate, industry, life long learners etc. \*

Click or tap here to enter text.

21) Detail and describe the types of Support roles and Administrative roles within your organization (e.g., academic admission staff, recruitment and applications managers, classes and courses managers, tutors, etc.) \*

Click or tap here to enter text.

22) Enterprise, Creativity, Innovation & Entrepreneurship Development - Indicate which of the following supports and services that your learners have access to: \*

- VR/AR technology integration
- Innovation sprints & Design Thinking
- Networking events
- Enterprise Accelerator Programmes
- Funding & Investment networks
- Research, Development & Innovation supports
- Site visits to bioeconomy industry settings
- Site visits to bioeconomy research centres
- Work based industry placements
- Mentors from industry
- Mentors from academia
- Health & Wellbeing supports
- Diversity & Inclusion supports
- Other

If "Other" please specify briefly: Click or tap here to enter text.

23) BBECs Constitution - Think to all the characteristics of your Institution/Organization (geographical reach, stakeholders involved, thematic area, networks, etc.) and your Vision and Mission. Can you detail the commitment and/or contribution that your Institution/Organization would make to BBECs? \*



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## Annex 5: Business Model Canvas

### Business Model Canvas Co-creation Workshop

<b>1. Key partners</b>
<ol style="list-style-type: none"> <li>1. List the key partners involved in your BBEC and the key activities of these partners.</li> <li>2. Please formulate full sentences, such as “XYZ provides business coaching, entrepreneurship support and funding for businesses.”</li> <li>3. Please use present tense.</li> </ol>
<ul style="list-style-type: none"> <li>•</li> <li>•</li> </ul>
<b>2. Key activities</b>
<ol style="list-style-type: none"> <li>1. Please describe in detail the key activities of your BBEC. Please provide <u>as practical information as possible</u>.</li> <li>2. Please use present tense and full sentences.</li> </ol>
<ul style="list-style-type: none"> <li>•</li> <li>•</li> </ul>
<b>3. Key resources</b>
<ol style="list-style-type: none"> <li>1. Please introduce key resources your BBEC requires to function.</li> <li>2. Please formulate full sentences.</li> </ol>
<ul style="list-style-type: none"> <li>•</li> <li>•</li> </ul>
<b>4. Value propositions</b>
<ol style="list-style-type: none"> <li>1. Please describe in full sentences what kind of value your BBEC provides to your customers. For example, “Students can gain their thesis topics and research data from companies.”</li> </ol>
<ul style="list-style-type: none"> <li>•</li> <li>•</li> </ul>
<b>5. Customer relationships</b>
<ol style="list-style-type: none"> <li>1. Please describe in full sentences what kind of relationships you are aiming at creating in your BBEC?</li> </ol>
<ul style="list-style-type: none"> <li>•</li> <li>•</li> </ul>
<b>6. Channels</b>



- 1. Please explain which channels you are using in your BBEC to reach your customers?**
- 2. Please formulate full sentences.**

- 
- 

## 7. Customer segments

- 1. Please list your customers (customer segments).**
- 2. Explain why you have chosen each customer.**
- 3. Please formulate full sentences.**

- 
- 

## 8. Cost structure

- 1. Please explain what kind of costs are expected from your BBEC.**
- 2. Please use full sentences.**

- 
- 

## 9. Revenue streams

- 1. Please explain what kind of revenue streams you are expecting to gain from your BBEC's services.**
- 2. Please provide justifications for the chosen revenues.**
- 3. Please formulate full sentences.**

- 
- 

## 10. Governance

- 1. Please explain how your BBEC is organized. Who is coordinating it? How can one join or leave from it?**
- 2. Please explain how stakeholders are involved in your BBEC's decision-making?**
- 3. Please explain how your BBEC connects to local, national and international levels (e.g. different strategies, programmes or networks)?**
- 4. Please formulate full sentences.**

- 
- 

## 11. Workshop in general










- 1. Please describe shortly in your own words how the workshop went, how the atmosphere was and what could have been improved in the design.**

Click or tap here to enter text.



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The Mission Model Canvas		Mission/Problem Description:	Designed by:	Date:	Version:
Key Partners 	Key Activities 	Value Propositions 	Buy-in & Support 	Beneficiaries 	
	Key Resources 		Deployment 		
Mission Budget/Cost 		Mission Achievement/Impact Factors 			



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## Annex 6: Governance plan index

# Governance plan index

### A.- The context of action:

**All institutions are situated in a context; sociocultural and economic, to which they must respond and which justifies their meaning and existence.**

#### A.1. The socioeconomic context:

- Socioeconomic reality and future prospects.
- Present and future needs of the training/assessment/counseling/research to which it is intended to respond.
- Existing training bodies and institutions in the field of action where you want to influence or collaborate.

#### A.2. The regulatory context

- Ownership of the institution: public, private, consortium, linked to another body, etc..
- Justification of the institution ownership: economic benefits, incomes, grants, etc..
- Institution size

### B.- Institutional purposes:

**They refer to the purposes and goals pursued by the institution**

- Mission and vision of the BBEC.
- Strategic planning that guides your intervention.
- Training project: values that BBEC want to promote, general professional skills to develop and intervention methodology.
- Plans that it develops and some characteristics of these.
- Singular and innovative projects in which BBEC will work: internships in companies, ICT implementation, entrepreneurship workshops,....

### C.- The operating structures:

**They refer to the way in which existing resources are organized to achieve the established institutional purposes.**

#### C.1. The structure of human resources:

- Governance and participation bodies (organization chart): management bodies and their functions, participation bodies (stakeholders they represent and their functions).
- Organization of the staff participating in the institution: selection, assignment to job positions, training and improvement, and working conditions.
- Organization of users: rights and duties
- Organization of other participants in the institution: sponsoring companies, Public Administrations, professional groups,...

#### C.2 The structure of material resources:



- Infrastructure of the BBEC: spaces, security conditions, health and sustainability of the facilities, .....
- General and laboratory/workshop furniture and materials, with reference to its functionality and level of updating.

### C.3. Functional Resources:

- Calendar and hours of operation.
- Budget: origin of financial funds, items and control and monitoring systems.
- Most prominent aspects of internal regulations.

### D.- Management and operation:

#### **Review the format and actions of the institution's management bodies**

- Management: training, selection, functions and working conditions
- Management teams: composition and functions.
- Intermediate management (coordinators, area managers,...) and their functions.

### E.- The relational system:

#### **Analyze the most important aspects that affect people's behavior**

- The communication processes in the center.
- The motivation of the staff.
- The coordination of people.
- Decision making.
- Institutional culture.

### F.- Institutional dynamics:

#### **It refers to the most relevant aspects of the institutional day-to-day.**

- The annual planning of the center, who, how and when it is carried out.
- Monitoring of plans and programs. Evaluation and accountability.
- Quality indicators and internal quality assurance systems.
- The link with the environment and its institutions and companies.
- The elaboration and development of improvement and innovation plans.
- Institutional marketing.
- Networking with other institutions.



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