

H2020 Work Programme

D4.6 – BIObec exploitation plan

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This document is the BIOBEC project exploitation plan (contract no. 101023381) corresponding to D4.6 (M30) led by FVA. This document contains the strategy for the exploitation of BIObec results, tools, frameworks and certifications that can be applied to different context (both in thematic and geographical scope).

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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Acronyms and abbreviations

EA	Exploitable Asset
EC	European Commission
EUBIONET	European Bioeconomy Network
BBEC	Bio-Based Education Center
BG	Background
FG	Foreground
IPR	Intellectual Property Rights
IRL	Investment Readiness Level
IRWG	Implementation and Replication Working Group
WP	Work Package



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1.Executive summary

BIObec aims to represent the starting point for the deployment of feasible Bio-based Education Centres (BBECs) across Europe.

The exploitation plan will enable the full rollout of these centres and it is developed based on all the actions performed to boost the continuation and replicability of them. Specifically, this document outlines the main exploitable results of BIObec and incorporates them into a document listing potential target groups and avenues for their exploitation, including methodologies and tools in order to have the BBECs developed as a lighthouse at international level, promoting European research and education.



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2.Introduction

This deliverable is part of the Work Package 4 “European EU bio-based education Centres coordination plan for rollout and replication” and describes the work carried out under Subtask 4.2.1 - BIObec exploitation plan.

The main objective of this document is to draw out the exploitability of the project's assets, in order to achieve a long-lasting impact.

For this aim, partners identified **18 exploitable assets** (presented in form of actionable knowledge factsheets) to exploit after the end of the project.

After a brief introduction on the objectives of the exploitation plan, this deliverable describes the methodology implemented (**section 3**), highlighting the criteria for the selection of BIObec exploitable assets, the setup of the IPR matrix and the activities carried out for the creation of the final exploitation strategy. **Section 4** provides analysis and strategy of the project's assets following seven key points: Challenges, Asset description, Stakeholders targeted and expected benefits, Unique selling point, Use, exploitation and valorisation during the project, Exploitation and valorisation proposal after the project, Deliverables connected to the exploitable asset.

This deliverable also analyses the possible intellectual property rights issues emerging from the exploitation of the assets (**section 5**) and partners' individual exploitation plan (**section 6**) to ensure replicability and exploitation beyond the lifespan of the project and potentially in other EU funded projects in bioeconomy education that could benefit from BIObec's work. Finally, **section 7** provides conclusions.



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2.1. Objectives of the exploitation plan

The BIObec's exploitation plan has the aim to protect project's assets in order to handle and manage efficiently all the outcomes stemming during the project's life span, as well as to ensure their exploitation and proper dissemination. To this end, the main objectives of the exploitation plan are the following:

- Description the IPR management methodology implemented
- Identification the assets emerging from the activities foreseen within the lifecycle of the project, therefore determining an assets' portfolio
- Development of a common understanding among the BIObec's partners, concerning terms and issues of the background and foreground IPs and respective access rights
- Conceptualisation of a framework of the IP protection that will be employed in each identified exploitable asset of BIObec
- Definition and eventually dissolution of any possible conflicts in IPs within the consortium and beyond
- Establishment of common guiding routes and actions within the consortium to safeguard the smooth operation of the IPR strategies.

The final goal is in fact to:

- identify IP ownership and exploitation claims, as well as pro-actively indicate possible conflicts for each exploitable result; and
- support decisions on issues pertaining to IP protection, in order to timely make the needed steps in this regard, including any potential IP agreements (e.g., for joint ownership, providing access rights or even an NDA for confidentiality).

The following sections clarify the main terms concerning the IPR methodology, the creation of the strategy and the analysis and strategy for the exploitation of the project's assets, which represent key aspects of the IPR management procedures of the project.



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3. Exploitation plan methodology

The design of the final exploitation plan was ensured through a sound methodology that facilitated the involvement of all consortium partners in the definition of the exploitable assets of the project. The methodology builds on specific criteria for the selection of the BIObec exploitable assets, starting from the background and foreground knowledge identification.

Considering the number of partners, their synergy and complementarities, the whole consortium actively contributed to the selection and definition of each asset.

Activities were facilitated by the responsible partner (namely the task leader), that established the framework conditions and shared the work among partners, that provided the requested contributions in terms of background and foreground knowledge, to finally identify the project's exploitable assets.

The following paragraphs describe in detail the activities performed which led to the definition of the final exploitation plan.

3.1. Background

The background knowledge represents the information held by beneficiaries, owned or controlled by project partners and brought to the project. It may come from existing knowledge as well as copyright or other Intellectual Property Rights (IPR).

The background of a project can be identified and agreed (i) within the consortium agreement, after the internal evaluation of pre-existing knowledge, or (ii) in a separate agreement ("agreement on the background"). In this respect, there are two main aspects to consider when dealing with the background of a project:

- Identification of background: assets that each project partner provides to the consortium and which are imperative for successful implementation and exploitation of the project actions.
- Definition of Access Rights: clarification of the rights to use knowledge under the terms and conditions agreed within the consortium and in alignment with the underlying background rules and obligations set by the EC in order to ensure the smooth implementation of the project.

Background information has to be: relevant to the project result, needed to carry out the project or for using the foreground, and somehow embedded in the result.

3.2. Foreground

The foreground knowledge represents the project's results, including information, being protectable or not, which are generated under the project. It belongs to the beneficiary generating it, can be jointly generated (joint ownership) and can be transferred (third parties).

These results comprise any tangible or intangible output of the project's actions which can be protectable or not. In this respect, foreground IP can arise and be obtained from project partners in order to protect and exploit the underlying exploitable assets of the project. It includes intellectual property rights (e.g., copyrights, industrial designs, patents), similar forms of protection (e.g., rights for databases) and unprotected know-

how (e.g., confidential material). It should be noted that results generated outside the project activities cannot be defined as foreground.

3.3. Criteria for the selection of BIObec exploitable assets

Exploitation of project's results means the utilisation of results in further research activities other than those covered by the action concerned, or in developing, creating and marketing a product or process, or in creating and providing a service, or in standardisation activities¹.

Based on the identified foreground knowledge, the respective exploitable assets are defined, trying also to connect the related background knowledge (if present), that was relevant to produce the final knowledge. Exploitable assets can be a combination or part of a foreground result.

Their selection was based on four criteria that also determined the clustering of the different assets, to better promote them according to their nature. With this approach, external stakeholders will easily and quickly be addressed by the most suitable asset according to their needs.

Table 1 - Assets' groups

Asset group	Asset name	Responsible partner
Studies and analysis	Identified European and regional needs, opportunities and expectations to biobased education/training models	UAB
	Identified best practices in bioeconomy education	UHOH
	Public and private additional funding sources	SIE
Assessment tools	Centre Readiness Level Framework Assessment Survey	MTU
	Investment Readiness Level	SIE
Methodologies and frameworks	Conceptual and operational framework for the design of BBECs	IHE
	Methodological approach for co-creation of BBECs with regional stakeholders	UNIBO
	Methodology for the BBECs' governance, financial and sustainability	UNIBO
	Business Model Canvas structure for the BBECs	UEF
	Methodology for the replication of the BBECs	CTA
	Conceptual framework for the design of the BBECs' certification scheme	UNIBO
Network creation and stakeholder engagement	BIObec network of stakeholder	UHOH
	Methodology for stakeholder engagement and mobilization	FVA
	Implementation and Replication Working Group (IRWG)	FVA
	Network of ongoing projects and initiatives in bioeconomy education	FVA

¹ <https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/support/glossary>.

Replicable formats and educational tools	Six European Bio-Based Education Centres (BBECs)	BBECs leaders (UNIBO, UEF, FBCD, MTU, CNR, PRO-CIVIS+ART, UHOH)
	Plans and programs for vocational, academic and life-long learning for the BBECs	UNIBO
	BIObec capacity building package and e-learning material	CTA

3.4. Setup of the IPR matrix

The BIObec exploitation plan is based on the Intellectual Property Rights (IPR) Matrix, which was structured by responsible partner FVA to facilitate the definition of the main IPR issues concerning the BIObec's assets produced, together with the identification of the background and foreground knowledge and exploitable results of the project.

The IPR was consequentially structured as follows (see Annex 1):

Table 2 - Structure of the IPR Matrix

Background (BG)	Foreground (FG)
<ul style="list-style-type: none"> • BG# • Relevant Background • Contributing Partner • BG number • Short description of BG • Type of protection • Conditions to use within BIObec • Conditions to use outside BIObec • Interest in further exploitation through BIObec's results 	<ul style="list-style-type: none"> • WP# • Exploitable asset (EA)# • EA name • Specific exploitable asset description • Main Partner(s) • Contributing partner(s) • Related BG number (if any) • FG number • Type of protection • Use, exploitation and valorisation during the project • Interest in Further Exploitation of Project Results • If yes, describe context of use after the end of project (e.g. within other EU funded projects, for academic purposes etc) • If yes, describe conditions of use after the end of project (e.g. free of use, under usage licence, under commercial licence, etc)

The synergy and contribution of consortium partners were essential to ensure the completion of the IPR Matrix, which was carried out following 4 distinct but interconnected steps:

- Step 1: Identification of the background IP and definition of access rights among partners within the project
- Step 2: Identification of the assets and results, which constitute the foreground IP of the project and are generated under the BIObec activities
- Step 3: Identification of the project's exploitable results/assets and the corresponding interest for their further exploitation along with the contributing partners to each result
- Step 4: Definition of a framework of IPR protection for the identified BIObec assets, to enhance their further exploitation.

3.5. Creation of the exploitation strategy

A sound exploitation strategy is provided per each asset, which is analysed in depth through a dedicated paragraph within section 4, following a common structure based on the following points:

- Challenges
- Asset description
- Stakeholders targeted and expected benefits
- Unique selling point
- Use, exploitation and valorisation during the project
- Exploitation and valorisation proposal after the project
- Deliverables connected to the exploitable asset.

The first two points provide an overview of the asset, explaining in particular the needs addressed, opportunities and gaps addressed and rationale for the creation of the asset (namely why this activity was needed in the project).

The following four categories (Stakeholders targeted and expected benefits; Unique selling point; Use, exploitation and valorisation during the project; Exploitation and valorisation proposal after the project) allow a better comprehension of the exploitation and sustainability potential of each asset, analysing it from different perspectives. First of all, the stakeholders addressed by the asset are clearly identified as well as the value proposition, namely why this asset is valuable for the stakeholders and what is the added value (novelty) for them. Additionally, a description on how this asset has already been exploited during the project (e.g. to provide information to other tasks or in collaboration with other ongoing projects), to finally provide the exploitation and valorisation proposal after the project, with regards to the exploitation pathways and context of use after BIObec and the conditions of use.

Connected public deliverables are also provided in the actionable knowledge factsheets, together with links to access the material and retrieve additional information.

4. BIObec exploitation plan: analysis and strategy of the project's assets

The following sections provide the analysis and strategy for the exploitation of each asset, resumed in reporting tables that will be shared as actionable knowledge factsheets after the conclusion of the project. The presentation order of the exploitable asset follows the WPs structure.

4.1. Identified European and regional needs, opportunities and expectations to biobased education/training models

Challenges
This asset gives an overview about which is the current situation of the current vocational, academic and life-long learning programs, and focus on the activities that should be considered during the design and implementation of the BBECs.
Asset description
The identified European and regional needs, opportunities and expectations to biobased education/training model aim to provide information about the needs and expectations of the main stakeholders that should be involved in BBECs, as well as to identify which should be these stakeholders and how they can be involved in the creation of this centres. Asset category: Studies and analysis
Stakeholders targeted and expected benefits
The main target stakeholders of this asset are the members of the project and the main stakeholders that were invited to participate in the co-creation workshops implemented in each territory and region. However, the methodology implemented as starting point for the design and implementation of BBEC.
Unique selling point
This asset is useful to know which was the starting point of the project BIObec when the partners decided to design and implement the BBECs. The asset can be useful to analyse if the current design of the BBECs answer to the needs and expectations of the stakeholders. Furthermore, the methodology used can be implemented by other stakeholders that are wondering to create a BBEC in their region.
Use, exploitation and valorisation during the project
Within the project, these results were the starting point for the discussion in the co-creation workshops where stakeholders from the different European regions were

invited to participate in order to define the main characteristics and structures of the BBECs.

Exploitation and valorisation proposal after the project

This asset can be used freely according to the needs of the user with proper attribution to the authors. It could be used for inspiration for the analysis of the needs and expectations of the main stakeholders that should be involved in a BBEC.

Deliverables connected to the exploitable asset

[D1.1 - Report on European and regional analysis of the needs, opportunities and expectations to bio-based education training models](#)

4.2. Identified best practices in bioeconomy education

Challenges
<p>This asset intended to define a Bio-based education hub, identify examples in Europe and categorize them. Doing so, there is a baseline for the further development and design of the BBECs.</p>
Asset description
<p>This identified best practices in bioeconomy education aim to identify the most relevant best practice cases for existing or evolving bio-based education hubs at different geographical and educational levels to obtain insights about education and infrastructure models, their core principles, characteristics, phases, learning outcomes, impacts and potential success as well as failure factors.</p> <p>Asset category: Studies and analysis</p>
Stakeholders targeted and expected benefits
<p>This asset is expected to serve as model inspiration for the design of the BBECs. Therefore, the target audience were the partners of the project BIObec and institutions that aim to create their own BBEC in the future.</p>
Unique selling point
<p>This asset offers an overview of the categories and types of bio-based education hubs in Europe and examples for each category. This could serve as inspiration and a first contact point for the design of the BBESs. Besides, the report suggests best practice guidelines to be followed by designers of future Bio-based education centres in different regions.</p>
Use, exploitation and valorisation during the project
<p>This asset was used during the regional focus groups conducted in the first stage of the project. Stakeholders of the six BBECs from the project were presented a summary of this report. Additionally, this has served for the roadmap in the WP4.</p>
Exploitation and valorisation proposal after the project
<p>This asset is open to be used freely according to the needs of the user with proper attribution to the authors. It could be used for inspiration for the design of the BBECs and for information and further development regarding Bio-based education hubs.</p>
Deliverables connected to the exploitable asset
<p>D1.2 - Report on best practices of bio-based education Centres</p>

4.3. BIObec network of stakeholders

Challenges
<p>The stakeholder network was created to monitor stakeholder engagement during the project and improve decision making during the different phases. It was developed to improve communication among the partners about the stakeholders approached for the diverse activities and create a platform for transparent and timely communication.</p>
Asset description
<p>The BIObec stakeholders' network is a group of organizations that have an interest in the project BIObec and in its results. It consists of the Replication Working Group (IRWG) and other stakeholders that are involved during the project duration. This stakeholders' network includes educational bodies, industry associations and institutions, businesses, public administration or governmental organisations, NGOs, research centres at local, regional, national and at European level.</p> <p>Asset category: Network creation and stakeholder engagement</p>
Stakeholders targeted and expected benefits
<p>The BIObec network of stakeholders was developed for the 19 partners of the project to maintain and monitor the stakeholders and their involvement during the different phases of the project.</p>
Unique selling point
<p>This asset allows to monitor the exchange and engagement of the different stakeholders as well as understand the types of stakeholders involved in the different stages of the project to assure a broad connection and a complete spectrum of perspectives for the different deliverables and outcomes. By having a balanced and comprehensive network of stakeholders, the outcomes could have a bigger impact and relevance.</p>
Use, exploitation and valorisation during the project
<p>This asset was developed and used during the project to monitor the stakeholder engagement.</p>
Exploitation and valorisation proposal after the project
<p>The further use of this asset is not possible due to data protection issues. In the different deliverables, when necessary, the types of stakeholders were named following data protection procedures.</p>
Deliverables connected to the exploitable asset
<ul style="list-style-type: none">• NA

4.4. Six European Bio-Based Education Centres (BBECs)

Challenges						
The asset addresses the main gaps and challenges of the project, i.e the need to meet regional needs by bioeconomy industry and societal challenges through education centres related to the bioeconomy.						
Asset description						
Six education centres are identified, described and their sustainability is assessed. The summary description of the six BBECs in different regions in Europe is provided in the figure below.						
BBEC	Country	Main target beneficiary	Partners involved	Network	Knowledge area	Main value chains
BIObec Mediterranean Europe Hub	Italy, Spain	UNIBO	SIE, CTA, CNR, FVA	Local to pan EU	Academic-industry	Food and food waste
BIObec North-West Europe Hubs-Finland	Finland	UEF	APT (Nancy branch)	Regional/sector-oriented	Academic-industry	Forestry
BIObec North-West Europe-Denmark	Denmark	FBCD	WU	Within the same country, region in Europe, pan-EU	VET and workforce	Food
BIObec North-West Europe-Ireland	Ireland	MTU	IBF	National (Ireland) plus international students (e.g. UK)	Academic level, Industry	Agr-food, Marine
BIObec Central-East Europe-East	Poland, Czechia	PRO-CIVIS, BIO HUB CZ	IBE, ART	Regional oriented to the BIOEAST region	Academic – Industry, VET and workforce	Fresh Water, Bioeconomy
BIObec Central-East Europe-Germany	Germany	UHOH	BOKU; APT (Paris branch)	Regional (State Baden-Württ.), pan-EU (EBU), international	academic level, VET or workforce	Biorefinery, Agri-Food
Asset category: Replicable formats and educational tools						
Stakeholders targeted and expected benefits						
All stakeholders potentially interested or involved in the setting up of centres, including public bodies, education institutions, citizens, industry, intermediary entities such as clusters or industrial associations.						
Unique selling point						
The asset is a unique example of future bioeconomy education centres design. The novelty is to bring bioeconomy education from needs of skills and competencies to practical organisation solutions, hence laying the basis for future implementation.						
Use, exploitation and valorisation during the project						

The identification of the centres was the pivotal point in the project, providing a basis for their further specification and assessment, as well as for implementation and replication activities.

Exploitation and valorisation proposal after the project

Key use after the project will concern the implementation of centres. This can come through translation of the centre design into operational plans, benefiting of local and EU opportunities (funding). The descriptions are freely available, but the know-how on the choice made and the options evaluated are largely incorporated in the BIOBEC partners involved.

Deliverables connected to the exploitable asset

N/A

4.5. Conceptual and operational framework for the design of BBECs

Challenges
The creation of a BBEC requires a process incorporating in a systematic way design of the main elements. A common framework can help in this direction.
Asset description
The framework identifies 11 main categories to consider in centres design: <ul style="list-style-type: none">• Pedagogies;• University engagement and collaboration with industry;• Lifelong learning and continuous personal development;• Clusters/networks/partnerships;• Research & Development supports;• Funding & Investment networks;• Enterprise Development supports;• Mentoring Programmes (academic or industry);• Digital technologies and integrations;• Diversity and inclusion practices;• Engagement with civic society
Asset category: Methodologies and frameworks
Stakeholders targeted and expected benefits
All stakeholders potentially interested or involved in the setting up of centres, including public bodies, education institutions, citizens, industry, intermediary entities such as clusters or industrial associations.
Unique selling point
The framework provides a logical structure for centres description based on real life case studies. Suitable for non-conventional education initiatives as compared to more traditional higher-level education.
Use, exploitation and valorisation during the project
Already used in the project for the following steps and shared as good practice with other projects.
Exploitation and valorisation proposal after the project
After the project it will remain a simple reference about centre design dimensions if taken individually, or incorporated in WP4 tools for a more consistent application in centres design.
Deliverables connected to the exploitable asset
D2.1 - Report on conceptual and operational framework for design of BBECs

4.6. Centre Readiness Level Framework Assessment Survey

Challenges
WP2 required the development of an over-arching framework for BBEC design and achieving preliminary designs from each centre. The challenge was to move from the extensive research in WP1 and into the creation of actual regional BBECs. The Centre Readiness Level Framework Assessment Survey provided this link, allowing the regions to assess the resources and capabilities in their regions and provide a starting point from which to consider creation of the regional BBECs.
Asset description
<p>The Centre Readiness Level Framework Assessment Survey was a detailed survey consisting of 22 questions around:</p> <ul style="list-style-type: none">• Knowledge areas• Thematic pillars of the organisation in question• Learner profiles• Network links to industry, innovation centres, clusters, NGOs, enterprise development and support agencies, research centres, vocational education centres, government departments and organisations, university and 3rd level• Staffing within the organisation in question in various fields• Structure of future BBEC
Asset category: Assessment tools
Stakeholders targeted and expected benefits
All 19 BIObec partners were targeted with the survey which provided profiling across regions and countries involved.
Unique selling point
The Survey was the key link between the research aspect of the BIObec project and moving into creation of actual regional BBECs. It allowed the BBEC regions to assess the resources and capabilities in their region.
Use, exploitation and valorisation during the project
The Survey was a key tool for the various regions to assess what resources and capabilities were available in their region that could be leveraged/incorporated into a new BBEC. The outcome of the Survey was a profile of each BBEC in terms of learner profiles, network and knowledge capabilities, thematic expertise etc. and gave the regional BBECs a starting point from which to develop a business structure.
Exploitation and valorisation proposal after the project
The Survey is a valuable tool for future potential BBECs to use in identifying their readiness level and potential gaps/requirements prior to developing a BBEC.
Deliverables connected to the exploitable asset
D2.1 - Report on conceptual and operational framework for design of BBECs

4.7. Methodological approach for co-creation of BBECs with regional stakeholders

Challenges
<p>The creation of a BBEC requires a process able to incorporate needs and expectations by potential players involved and by the local community. Ownership and motivations are also important to provide the background for future implementation.</p>
Asset description
<p>The methodological approach developed and in fact embedded in all project workflow follows the main phases of:</p> <ul style="list-style-type: none"> • Identification of regional needs • Centre design • Assessment (that also contributes to revising the design) • Replication and implementation <p>Asset category: Methodologies and frameworks</p>
Stakeholders targeted and expected benefits
<p>All stakeholders potentially interested or involved in the setting up of centres, including public bodies, education institutions, citizens, industry, intermediary entities such as clusters or industrial associations.</p>
Unique selling point
<p>The value for stakeholder is to have a tested methodology that could be taken as a reference for similar exercises.</p>
Use, exploitation and valorisation during the project
<p>Input from the approach have been incorporated in the different steps of the project and the results are part of the design of our centres. Lessons learned about how the methodology could be improved are also part of the outcomes of the project.</p>
Exploitation and valorisation proposal after the project
<p>The results of the lessons learned are now incorporated in WP4 output and can be used by others for co-design; report and documents are freely available.</p>
Deliverables connected to the exploitable asset
<p>D1.1 - Report on European and regional analysis of the needs, opportunities and expectations to bio-based education training models</p> <p>D2.1 - Report on conceptual and operational framework for design of BBECs</p> <p>D3.1 Planning of governance, financial and sustainability assessment</p> <p>D4.3 - Report on results of the Capacity building workshop</p>

4.8. Methodology for the BBECs' governance, financial and economic sustainability

Challenges

The methodological approach of the BIObec project has given a framework to start identifying what is needed to establish a BBEC and each BBEC has its vision of the realization, but still none of the six BBECs have results.

The intention of the project to 'merge' 6 very different approaches into common methodology is difficult, but in trying to do so we have understood more about the differences in the regional education systems and needs.

Asset description

The development and pre-evaluation of the BBECs financial and economic sustainability can only be indicative at this stage of establishment. This is also reflected in the resulting analysis (D 3.3) with a very large variation in what is expected to be established and to run a BBEC in terms of economy and financial sustainability.

None of the BBECs have started yet and this feasibility study shows promising opportunities, but also pinpoints the challenges ahead towards the BBECs.

Asset category: Methodologies and frameworks

Stakeholders targeted and expected benefits

The aim is to follow a strict common methodology, while also taking into account that the educational systems and the traditions for cooperation, financing and governance vary considerably, and therefore, the development of locally adapted BBECs follows six local strategies to pursue the common goals.

All inputs from the six BBECs have been aligned as much as possible, to ensure a competitive business model which also includes external funding opportunities, like local and national opportunities to receive support for an initial phase of BBEC establishment i.e., municipalities, regions and private funds.

Unique selling point

For the stakeholders involved in the formulation of these aspects it has been valuable to consider cross-silo cooperation and cross sectorial education on and overarching theme as Bioeconomy.

Use, exploitation and valorisation during the project

The asset gained more 'external interest' than expected, especially in the context of life-long learning opportunities and courses for professionals in the bioeconomy industry.

Exploitation and valorisation proposal after the project

We expect to be able to establish BBECs in all six regions and to build on that international exchange of students, internships etc.

Deliverables connected to the exploitable asset

D3.2 - Report on plans for a governance structure of the six BBECs

D3.3 - Report on detailed budget for running and maintaining the six BBEC and financial plan

D3.4 - Plans for vocational, academic and lifelong learning programmes for the existing workforce by the 6BBEC

D3.5 - Overall exploitation and Sustainability Plan



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.

4.9. Business Model Canvas structure for the BBECs

Challenges
<p>In WP2, the Centre Readiness Level Framework Assessment Survey generated a profile of each regional BBEC in terms of thematic expertise, knowledge and network capabilities etc. From this the challenge was then to develop a business plan for each regional BBEC. The Business Model Canvas (BMC) tool was used to provide a comprehensive structure for planning and developing the individual BBECs.</p>
Asset description
<p>The BMC consists of nine elements:</p> <ul style="list-style-type: none">• Key partners• Key activities• Key resources• Value Propositions• Customer Relationships• Channels• Customer Segments• Cost Structure• Revenue Streams <p>Each region completed the BMC during stakeholder workshops.</p> <p>Asset category: Methodologies and frameworks</p>
Stakeholders targeted and expected benefits
<p>Each regional BBEC invited relevant stakeholders (across education, innovation, business clusters & associations and public bodies) to take part in workshops. Thematic interview was used as a data collection method in the workshops. This was considered a suitable method as the conversational and informal structure of the interview provided an opportunity to discuss the BMC elements of each BBEC conveniently while supporting open conversation and idea generation around the topics. The BMC elements listed above were the discussed themes and additional support questions were provided for the BBEC leaders.</p> <p>The benefit of developing the BMC in a stakeholder group meant that a wider range of partnerships, resources, activities etc. could be considered and a more realistic final output achieved.</p>
Unique selling point
<p>The Business Model Canvas was the first time that the real value of each BBEC became clear and gave a concise "snapshot" of the structure of each BBEC. It also allowed us to see the differences between the BBECs. It provided a starting point for</p>

further development of each BBEC especially in terms of financial and governance aspects.

Use, exploitation and valorisation during the project

The Business Model Canvas for each BBEC was used as the basis for building out more detailed business models/plans for each BBEC including assessment of governance options and structures, financial models (costs and funding), and more detail on the role of market analysis, the service offering, relevant partnerships and overall sustainability of the BBEC.

Exploitation and valorisation proposal after the project

The Business Model Canvas is a comprehensive tool that other potential BBECs can use to develop their BBEC offering and positioning. The methodology of thematic interviews as part of workshops to complete sections of the BMC is a valuable exercise for development of new BBECs.

The BMC for any BBEC is a point to which you can return and regroup, using the BMC to redirect your development plan if needed.

Deliverables connected to the exploitable asset

[D2.2 - Report on Regional BBEC Business Models and Governance Structures](#)

4.10. Plans and programs for vocational, academic and life-long learning for the BBECs

Challenges
Developing BBEC requires practical understanding of actual activities to be implemented to reach the educational aims. Potential for skills development also depends on methods and tool used and how the connection with industry is managed.
Asset description
<p>The plans and programs document illustrates the practical activities to be carried out in the 6 centres. The document includes:</p> <ul style="list-style-type: none">• General information about the centre functional design: - Educational level; - Main content; - Entrance requirements; - Language; - Period of activity; - Further information.• Specific information about the activities planned, corresponding to the three typologies of activities identified: - Learning activities; - Experiential and workplace learning activities; - Non-learning activities
Asset category: Replicable formats and educational tools
Stakeholders targeted and expected benefits
All stakeholders potentially interested or involved in the setting up of centres, including public bodies, education institutions, citizens, industry, intermediary entities such as clusters or industrial associations.
Unique selling point
It provides a valuable collection of practical hints at how the centres could work.
Use, exploitation and valorisation during the project
The asset was already exploited during the project as a support to centres' sustainability assessment; it also offered reflection and inspiration for participants in relation to parallel initiatives on bioeconomy education.
Exploitation and valorisation proposal after the project
The use after the project will concern the implementation of centres. This can come through translation of the centre design into operational plans, benefiting of local and EU opportunities (funding). Besides the creation of the centres, the documents can be seen as a catalogue for potential actions to be taken by centres, hence used for tailored design of centres in other contexts. The descriptions are freely available, but the know-how on the choice made and the options evaluated are largely incorporated in the BIObec partners involved.
Deliverables connected to the exploitable asset
<u>D3.4 - Plans for vocational, academic and lifelong learning programmes for the existing workforce by the 6BBEC</u>

4.1.1. Methodology for the replication of the BBECs

Challenges

The establishment of a BBEC involves different approaches, which may prevent the replication across regions. This is due to the variety of paths that could be taken and the fact that many of the decisions could be made for reasons that lack objective criteria or are based on a lack of knowledge in all the tasks that the creation of a centre of this nature requires. In order to provide a practical criteria, a methodology has been developed that allows rationalisation of decision and pooling that allows for the replicability of the centres. The implementation of the initially agreed methodology showed that other alternatives either allowed a better development of the activities or even improved them. All these lessons learned have been documented and an improved methodology has been developed along deliverable D4.2.

Asset description

The methodology has divided in the following phases covering the activities indicated:

- **Preparatory stage:** (a) creation of a working group, (b) establishment of an Advisory Committee and (c) Identification and mapping of stakeholders.
- **Stage one:** (a) analysis of needs, expectations and opportunities, and (b) scoping of the best practices and success cases in bioeconomy.
- **Stage two:** (a) competitive analysis, (b) definition of key activities, (c) co-creation and (d) conceptual designing
- **Stage three:** (a) designing of a governance plan, (b) development of a financial plan, and (c) development of a sustainability plan.
- **Stage four:** (a) designing of a communication plan, (b) development of a stakeholder engagement and mobilisation plan, (c) designing of a risk management plan, and (d) development of a monitoring and evaluation plan.

Asset category: Methodologies and frameworks

Stakeholders targeted and expected benefits

those who want to create dynamic new education centres with bioeconomy as their core mission. In principle, the concepts and methods are described for people with a low to medium level of experience in this type of structure. The implementation of the proposed methodology, the clear definition of concepts as well as the description of how to implement different types of strategic plans (financial, governance, etc) could contribute to a better understanding of the process and ideally improve the success rate of these new centres in the short and long term.

Unique selling point



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.

Clarity and informed-decision making. The document has in a single place valuable information on know-how accumulated during the development of BIObec project.

Use, exploitation and valorisation during the project

The methodology has been developed in six European BBECs that included regional, national and international organisations. The experience gained during BIObec project has been documented and some aspects that after the initial methodology could be considered as improvements. The methodology clarifies from initial to the final steps of the centre creation. It includes a complete guide for stakeholder analysis and identification of needs, opportunities and expectations, design of operational models, design of feasibility and sustainability plans and communication, risk management and evaluation plans.

Exploitation and valorisation proposal after the project

The methodology could be partially or totally exploitable due to the generation of a self-assessment test, which determines the level of maturity of a possible BBEC and offers a beginning point of the roadmap based on the customer circumstances.

Conditions of use is acknowledgement to the BIObec project.

Deliverables connected to the exploitable asset

[D4.2 - Roadmap Report for BBECs Replication](#)

D4.4 - E-Learning materials for the BBECs replication

<https://biobec.eu/e-learning-materials/>

4.12. BIObec capacity building package and e-learning material

Challenges

This programme aims to facilitate the understanding of the outcomes and processes that underlie the Bio-Based Education Centers (BBECs). It should serve as an informational package for people who are interested in the concept, for them to gain a wide view of the opportunities and challenges that may appear during the establishment of a BBEC. It is a key instrument for the replication of the project's concept and should be understood as an initial set of tools, information and guidance for anyone interested in bioeconomy and in extending the bioeconomy through a specific area or field. The e-learning materials could be used as a first online assessment for the creation of new centers or programmes within institutions.

Asset description

Several materials have been created in the context of this task:

- Interactive storymaps, that cover:
 - Description of BBECs Structure and Key Stakeholders.
 - Steps for Establishing a BBECs, a detailed guide outlining the sequential steps required to set up a BBECs effectively with initial recommendations for BBECs mobilization activities.
 - Funding and Financing Possibilities for BBECs:
 - Best Practices Derived from Cross-Fertilization Among BBECs in T4.1:
- A BIObec auto-test that helps to understand the maturity level of a specific project that aims to be a BBEC.
- Audiovisual materials, that include:
 - Interviews to the BBEC leaders.
 - Workshop and webinars recording.

Asset category: Replicable formats and educational tools

Stakeholders targeted and expected benefits

These materials are addressed to anyone interested in joining forces with others in order to enhance bioeconomy in a specific context. They have been created following clarity criteria, so most of the content can be understood by a wide audience. For this reason, they can be interesting for many stakeholders, from industry players or academics to educational institutions, educators, media or the general public.

Unique selling point

This e-learning summarizes all the outcomes from the project in an interactive and clear way. Because of this, it becomes a really valuable asset for anyone who wants to understand the entire process behind the BIObec project. It provides also very valuable information for anyone interested in starting a project related to bioeconomy (about methods, business models, funding opportunities, experiences

narrated by our partners, etc.). Furthermore, it poses an opportunity for the already existing BBECs to attract more actors and continue growing after the project ends.

Use, exploitation and valorisation during the project

The materials will be a key part of the communication and dissemination strategy of the project. They are very useful to show, in all the project channels, the evolution of the BIObec concept, as well as are an interesting tool to engage the stakeholders. Interviews also have been very useful for the BBEC leaders to think about their activities and scope, as they have had to analyse their path and actions to answer them properly.

Exploitation and valorisation proposal after the project

These materials are key to extending the BIObec concept after the project ends. They set the basis for anyone who wants to replicate the BBEC concept, being this, indeed, its main aim. They are, as well, a good tool for the existing BBECs to reanalyse their concept in comparison with the other BBECs.

SIE, as task leaders, will use these contents as an example for further capacity building activities in other projects that they are involved.

Deliverables connected to the exploitable asset

D4.4 - E-Learning materials for the BBECs replication

<https://biobec.eu/e-learning-materials/>

4.13. Conceptual framework for the design of the BBECs' certification scheme

Challenges
Education and training initiatives can highly benefit from certification.
Asset description
Report illustrating the role of certification schemes and the potential certification options attached to different kinds of education initiatives. Comprehensive review of existing quality certifications for management systems and standards. Furthermore, this asset furnishes information on standards and guidelines relevant to quality assurance within the European Higher Education Area (EHEA), the European Quality Assurance Reference Framework for Vocational Education and Training (EQAVET), and the European Credit Transfer and Accumulation System (ECTS).
Asset category: Methodologies and frameworks
Stakeholders targeted and expected benefits
In particular education institutions or leaders of education initiatives. Expected benefits include higher value for students, higher enrolment and willingness to pay for education services.
Unique selling point
The issue of certification is often mentioned in generic terms. Here it is addressed in a systematic way, with respect to the needs of BBECs. This asset also address the need to design a standard and qualification scheme to support collaboration and replication of the BBECs, identifying potential aims and roles in the certification scheme and its connection with existing schemes to avoid duplications.
Use, exploitation and valorisation during the project
This has been growing in parallel to other components of WP4 (e.g. replication) and WP3 (e.g. governance) with mutual feedback.
Exploitation and valorisation proposal after the project
The report will be available as a support to implementation of centres and as a basis for replication by other initiatives, helping to tailor certification solutions to individual needs.
Deliverables connected to the exploitable asset
D4.5 - BBECs certification scheme

4.14. Public and private additional funding sources

Challenges

BBECs might need additional funds to carry out the needed project and activities to ensure a lifelong performance after project's lifetime.

The challenges faced by the described funding activities might revolve around alignment and optimization. The diverse nature of the BBECs could embrace challenges in finding funding sources that perfectly match their individual goals, despite a wide range of options presented. Each BBEC's unique focus and needs might not be fully addressed by the available funding programs, potentially leading to some level of mismatch between requirements and resources.

Therefore, an assessment of the additional funding opportunities landscape is required in order to provide access to finance to BBECs in a way that matches with their requirements and scope, as well as the available instrument can provide enough funding to secure the planned activities.

Asset description

The asset description comprises an extensive Excel spreadsheet detailing results for each of the six BBECs. This comprehensive spreadsheet serves as a repository, outlining the various funding opportunities identified for each BBEC. It includes details such as program names, finance types, specific topics, descriptions, and website links, facilitating a systematic and organized overview of potential available funding opportunities.

Asset category: Studies and analysis

Stakeholders targeted and expected benefits

The stakeholders targeted by these additional funding sources likely encompass a wide spectrum, including educational institutions as the main target stakeholder group, but also the assessment can assist local businesses, rural communities, and bioeconomy-related organizations. The potential benefits may vary but could bring economic growth, technological innovation, and the enhancement of bioeconomy-related initiatives. The funding sources aim to empower stakeholders by providing financial assistance for innovative projects, fostering economic potential in such targeted areas that invest in the bioeconomy industry, and supporting technological leadership.

Unique selling point

The unique selling point (USP) lies in the diverse range of funding opportunities identified for the BBECs. By offering a wide array of options (private investment, funding grants, courses, etc.), these funding sources provide flexibility and versatility, catering to the specific needs and aspirations of each BBEC. The focus on rural development, technological innovation, and bioeconomy-related initiatives

highlights these funding programs, positioning them as catalysts for growth and progress in diverse sectors.

Use, exploitation and valorisation during the project

During the project lifecycle, the identified funding opportunities can be exploited to secure financial resources essential for implementing further or potential new innovative projects to foster bioeconomy education. The spreadsheet serves as a guide for the BBECs to assess these opportunities efficiently, leveraging them for the development and execution of their initiatives.

Exploitation and valorisation proposal after the project

Post-project, the exploitation and valorisation of the funded initiatives address a potential capitalizing on the outcomes achieved with the support of these funding sources. The long-term relationship established during the project with related partners and stakeholders can leverage the potential further application to any of these listed funding opportunities.

Deliverables connected to the exploitable asset

[D3.3 - Report on the detailed budget for running and maintaining the six BBEC and financial plan](#)

4.15. Investment Readiness Level

Challenges
<p>The investment process when facing potential funders and partnerships usually embraces potential risks and sustainability challenges that are likely to influence the final outcomes of these agreements. There is a need for a robust and accurate assessment that lies in ensuring the ratings across various dimensions to reflect accordingly the state of each BBEC.</p>
Asset description
<p>The Investment Readiness Level (IRL) is a business concept to assess how prepared and attractive a project or an organization is to a potential investor. It provides an accurate framework for evaluating the readiness of an entity to secure private funding and engage in investment activities. By performing IRL, the different BBECs will set the level of development, feasibility and potential return on investment of their project.</p> <p>The IRL assessment underlines various aspects of a project, such as the market potential, business model, team expertise, financial projects or scalability ratio. The assessment enables the identification of strengths, weaknesses and areas that need to be improved to increase IRL scoring.</p> <p>Asset category: Assessment tools</p>
Stakeholders targeted and expected benefits
<p>The IRL self-assessment targets a wide array of stakeholders. It aims to attract private investors by showcasing the readiness of BBECs for investment. Additionally, it provides actionable insights for decision-makers within the BBECs to strategize effectively. The comprehensive evaluations cater to BBEC leadership for informed decision-making.</p> <p>It aims to enhance the attractiveness of BBECs for investment through identified improvements. It provides comprehensive insights to support strategic decision-making for investments or improvement strategies.</p>
Unique selling point
<p>The essence of this initiative lies in its holistic approach as a multidimensional evaluation framework. It also provides improvement strategies specific to each BBEC based on their self-assessment. Furthermore, it serves as a decision-support tool aiding informed conclusions for investments or strategies.</p>
Use, exploitation and valorisation during the project
<p>The IRL self-assessment enabled BBECs to define tailored improvement roadmaps based on identified weaknesses, allowing effective prioritization activities and resource allocation. Furthermore, the tool serves for a continuous improvement approach, fostering iterative improvements during the project's lifetime.</p>

Exploitation and valorisation proposal after the project

The IRL self-assessment tool will leverage identified improvements for sustained development, by enhancing the readiness of BBEC's to embrace future investment opportunities. Additionally, it serves as an ongoing and continuous improvement enhancer through its adaptability and customized structure.

Deliverables connected to the exploitable asset

[D3.3 - Report on the detailed budget for running and maintaining the six BBEC and financial plan](#)

4.16. Methodology for stakeholder engagement and mobilization

Challenges
<p>Stakeholder engagement and mobilization is a central part of BIObec strategy.</p> <p>The project seeks to set the basis for the development of Bio-Based Education Centers (BBEC) in six different European regions to answer the needs of the bio-based industry at local, regional, and national levels. These BBECs are expected to ensure a wide geographical coverage in Europe and address a wide range of topics linked to the variety of value chains and the different institutional contexts, paving the way for replication in other regions.</p>
Asset description
<p>Stakeholder engagement specific activities are connected to the design and implementation of the 6 BBECs and build on the activities performed in WP1, WP3 and WP4. This activity aims at attracting, informing and involving stakeholders to support the design, implementation and replication of the 6 BBECs.</p> <p>It promotes the engagement and mobilisation of the relevant stakeholders through a series of activities that are implemented by BIObec. Stakeholder engagement targets actors across partner and non-partner countries, addressing all relevant networks, stakeholders and valuable players in the bio-based industry and bioeconomy field that can contribute to BIObec.</p> <p>Asset category: Network creation and stakeholder engagement</p>
Stakeholders targeted and expected benefits
<p>The BIObec stakeholders build on partner networks and organisations, in particular on the IRWG, the BIObec Advisory Board and the involvement of the Biobased Industry Consortium (BIC) members. This actor's network includes educational bodies, industries, public administration, civil society, political actors and other actors on a local, regional, national and at European level including their connections and different roles in the network. There are also other types of stakeholders present in the regions, such as associations, hubs, public-private partnerships, advisors and vocational institutions.</p>
Unique selling point
<p>The impact of the project will be maximised thanks to the coordinated involvement of a wide range of actors and stakeholders beyond the consortium partners, including the general public. Different means were implemented in order to motivate stakeholders to contribute to the outcomes of the project as well as to communicate/disseminate them, including the establishment of the IRWG to boost future implementation.</p>
Use, exploitation and valorisation during the project

- The creation of a network of stakeholders supported the 6 BBECs leaders (Regional representatives of the studied BBECs in the consortium) and WP leaders in order to boost regional participation.
- An early engagement of stakeholders raised awareness, enabled the timely identification of requirements, bottlenecks and challenges and enhanced the sense of ownership and acceptance of the solutions proposed (BBECs) toward an efficient exploitation.

Exploitation and valorisation proposal after the project

This methodology has proven to be effective to inform project's activities and can be further exploited and implemented in other projects with the aim of ensuring a wide geographical coverage in Europe, address a wide range of topics and identify needs and gaps by involving key quadruple helix actors.

There are no particular conditions of use for this exploitable asset. The personal data of the stakeholders involved and mobilised in the project are subject to GDPR data protection.

Deliverables connected to the exploitable asset

[D5.7 Report on stakeholder engagement and mobilization – First version](#)

4.17. Implementation and Replication Working Group (IRWG)

Challenges
<ul style="list-style-type: none">• Maximise the impact of the project thanks to the coordinated involvement of a wide range of actors and stakeholders• Assess specific needs and expectations as well as understand the regional conditions as basis for the design of the Bio-Based Education Centres (BBECs)• Promotion of initiatives replicating BIObec roadmap for the design and launch of additional BBECs, beyond the project's efforts
Asset description
<p>The project established a network of selected stakeholders named Implementation and Replication Working Group (IRWG) which is the core nucleus for the future implementation of the Bio-Based Education Centres (BBECs) as well as promoter of initiatives replicating BIObec roadmap for the design and launch of additional BBECs, beyond the project's efforts.</p> <p>Asset category: Network creation and stakeholder engagement</p>
Stakeholders targeted and expected benefits
<p>The multi-stakeholders IRWG involves Regions and BioRegions, industrial clusters, industries, educational providers (at different levels, covering vocational training, university and post university curricula, on-the job training and life-long learning), NGOs and associations of primary producers, multipliers, public administration, Digital Innovation Hubs. The IRWG members are targeted actors across Europe, addressing all relevant networks, stakeholders and valuable players in the bio-based industry and bioeconomy field that contributed to BIObec.</p> <p>The involvement of the IRWG concerns the:</p> <ul style="list-style-type: none">• participation in project's workshops by delivering information on current needs and potential solutions;• collaboration in the exploitation of the results of the project by exploring the opportunity to transfer the provided novel education framework into the territorial bioeconomy ecosystem;• collaboration to the dissemination of the project results and communication materials through its channels.
Unique selling point
<ul style="list-style-type: none">• The IRWG enabled the stakeholders to "Make their voice heard" in the design of the multi-level BBECs, by providing expectations, needs, requirements, opportunities and barriers.• The IRWG made sure that the BIObec project's outcomes are actionable in the stakeholders' practice, considering present and future needs of the industry and of the surrounding ecosystem at local, regional, national and/or international levels.

- The IRWG members have been provided with first-hand insights with regards to the setup of bioeconomy education centres (BBECs) and had direct access to good practices and case studies in different European Countries.
- The IRWG was key for the co-design of the BBEC in 6 European Countries towards a wide implementation and replication of the format in different countries and levels (local, regional, national).

Use, exploitation and valorisation during the project

The stakeholders participating in the IRWG, during the first 2 years of the project designed the multi-level Bio-Based Education Centers (BBECs), by providing their expectations, needs, requirements, opportunities and barriers. They have been engaged in the co-design of the BBECs in 6 European Countries, tailoring the format to respond to the different regions' specificities (local, regional, national).

In the last 6 months of the BIObec project, the role of the IRWG members became even more central to make sure that BIObec project's outcomes are actionable.

Exploitation and valorisation proposal after the project

- Stakeholders which are part of the IRWG are empowered with contents, case studies, roadmap for the implementation, they received a dedicated capacity building and were engaged in cross-fertilisation workshops to guarantee the implementation of the 6 BBECs established during the project.
- The IRWG members are also empowered to replicate the BBECs experience, with the possibility to design and launch additional BBECs, beyond the project's efforts.
- Conditions of use: there are no particular conditions of use for this exploitable asset, except for the mention to BIObec project as the source of the IRWG concept and model. The personal data of the BIObec's IRWG members are subject to GDPR data protection.

Deliverables connected to the exploitable asset

[D5.7 – Report on stakeholder engagement and mobilization – first version](#)

4.18. Network of ongoing projects and initiatives in bioeconomy education

Challenges
<ul style="list-style-type: none">• Promote collaborations, cross-fertilisation and synergies among EU funded projects and initiatives in bioeconomy education• Ensure proper exploitation of assets from concluded projects• Prevent overlapping of activities and outcomes among similar projects, maximising the overall impact of the final results
Asset description
<p>As part of the stakeholder engagement activities, BIObec promotes the collaboration and cross-fertilisation with other ongoing projects and initiatives to maximise the impact of project's activities and efforts towards the creation of an innovation ecosystem for the bioeconomy education, through effective educational Centres.</p> <p>Asset category: Network creation and stakeholder engagement</p>
Stakeholders targeted and expected benefits
<p>BIObec builds on the outcomes of several concluded and ongoing projects and initiatives that were key to inform the activities that took place in the project. This type of collaboration ensured that EU funded projects' exploitable assets were capitalised, preventing overlapping among the projects' activities and results.</p> <p>Since bioeconomy and education are typically crosscutting issues, a number of synergies and collaborations were established during the project in order to:</p> <ul style="list-style-type: none">• promote the collaboration and cross-fertilisation with other ongoing projects and initiatives to maximise the impact of project's activities and efforts toward the creation of an innovation ecosystem for the bioeconomy education, through effective educational Centres• facilitate the co-organisation of joint activities among projects and promote the exchange of knowledge and good practices• animate the debate around challenges and gaps still to be addressed• ensure the connection and collaboration with expert groups (like the BIC experts' group in education), to timely transfer the lessons learnt and scale-up the impacts• explore synergies in terms of communication and participation to other projects' activities.
Unique selling point
<p>Collaboration with existing initiatives played a key role in maximizing the impact of the project: a strong interlink with the European Bioeconomy Network and the parallel projects and initiatives was established to ensure BIObec's relevance in the community, contributing to the co-organisation of events and debates around</p>

bioeconomy education to maximise the impact of project's activities and efforts towards the creation of an innovation ecosystem.

Use, exploitation and valorisation during the project

BIObec joined the European Bioeconomy Network (EuBioNet), a proactive alliance of projects and initiatives dealing with Bioeconomy promotion, communication and support.

With its active participation, BIObec contributed in consolidating the EuBioNet robust position in stimulating the debate and delivering recommendations, position papers and policy briefs to increase its effectiveness in contributing to the transition towards the circular bioeconomy in Europe. BIObec is one of the key members of the working group in bioeconomy education established within the EuBioNet with the aim to map the future skills needed in bioeconomy and provide recommendations on how address the above-mentioned challenges.

Exploitation and valorisation proposal after the project

The results and outcomes produced in the collaboration with existing initiatives maximized the impact of BIObec, contributing also to the effective exploitation of its assets after the conclusion of the project.

There are no particular conditions of use for this exploitable asset, except for the mention of BIObec project as one of the organisers of the different activities in the framework of the EuBioNet's working group in bioeconomy education, as well as the EuBioNet as facilitator and promoter of these liaisons with other projects and initiatives.

Deliverables connected to the exploitable asset

[D5.7 – Report on stakeholder engagement and mobilization – first version](#)

5. Intellectual property rights

The Consortium Agreement minimises the probability of later disputes as it provides rules and responsibilities during the project as well as defines the access rights to be granted to the partners concerning the project. In addition, rights and responsibilities are outlined among the consortium members concerning issues of the IP.

The BIObec's Consortium Agreement main points and sections referring to IPR are contained in:

- Section 8 "Results", that sets out provisions on ownership and joint ownership of results, as well as on their transfer and dissemination.
- Section 9 "Access Rights", which clarifies the access rights governing principles along with the access rights for the exploitation and dissemination purposes. It also states specific provisions for access rights to the software.
- Attachment 1 "Background included" that presents the initial list of usable background.

According to the Consortium Agreement signed by partners, the "results are owned by the Party that generates them" (Article 8.1 – Ownership of results) and, in general, joint property arise when more than one partner contribute to generate that specific result (Article 8.1.1 – Joint ownership of Results of the Consortium Agreement and Article 26.2 of the Grant Agreement).

According to this, all partners have a joint ownership of all BIObec's assets and the IPRs are regulated by the Article 8.1.1, that says:

In case of joint ownership of Results in this Project, co-owners' shares of ownership shall be proportional to the intellectual contribution invested in generating that specific Result. The joint owners shall agree on shares of ownership, all protection measures and on the division of related costs in a joint ownership agreement to be negotiated in advance. Unless otherwise agreed:

- ✓ *each of the joint owners shall be entitled to use their jointly owned Results for non-commercial purposes, including research or educational activities, on a royalty-free basis and without requiring the prior consent of the other joint owner(s), and*
- ✓ *each of the joint owners shall be entitled to otherwise Exploit the jointly owned Results and to grant non-exclusive licenses to third parties (without any right to sub-license), if the other joint owners are given:*
 - a) *At least 45 calendar days advance notice; and*
 - b) *Fair and Reasonable compensation.*

Notwithstanding letter a), in case the non-exclusive licenses are granted to third parties for commercial purposes, the prior written consent of the joint owners shall be obtained.

Having this in mind, partners decided to maintain their ownership, without transferring their rights to entities external to the consortium. However, BIObec partners are open to share results and data (only the ones not covered by law restrictions and in compliance with GDPR and other relevant regulations, e.g. raw data coming from the survey for assessment, the BIObec network of stakeholders and IRWG members). Partners will also share best practices, formats, methodologies and outcomes with other EU funded projects and initiatives, policy makers and any other entity that will

use them for not commercial purposes and to ensure the proper dissemination and exploitation of the project's results. The sharing of such resources will be regulated through an agreement between the BIObec partners and the interested counterpart, and according to the Article 8.3 – Dissemination (and its sub-articles) of the Consortium Agreement and with the Article 29.1 of the Grant Agreement. In any case, the counterpart ought to mention in its document BIObec as a source.



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6. Partners' individual exploitation plan

This section summarizes the BIObec's exploitable assets that each partner is interested the most to exploit, as well as how they intend to proceed to this end.

Table 3 - Individual exploitation plan

Individual exploitation plan	
Partner name	Asset(s) of major interest
UNIBO	3.1, 3.2, 3.3, 3.4, 3.5, 4.1, 4.2, 4.3, 4.4, 4.5, 5.6, 5.7, ALL
	<p>In its role as coordinator, UNIBO is interested in the exploitation of virtually all exploitable assets of the project.</p> <p>One of the ambitions of UNIBO is to strengthen its teaching activities also through non-conventional initiatives complementary to the classic three levels of University education.</p> <p>In particular it is interested in the creation of a Mediterranean BBEC (and/or a national version of the centre). In this respect, exploitable assets 3.1 to 3.5 are a valuable starting point, not only because they include already a feasibility assessment of such a centre, but also for the rich information about strategies, activities and governance models of the other centres studied in the project. Hence these are the key exploitable assets in the interest of UNIBO.</p> <p>Exploitable assets from 4.1 to 4.5 are complementary to this strategy, especially in the view of developing the centre in a wider network of initiatives and to address from the very beginning issues such as funding and certification.</p> <p>5.6 and 5.7 will be relevant for future projects in this direction or of further research and innovation in the field of bioeconomy.</p>
UHOH	4.1, 4.2, 4.4, 4.7, 4.8, 4.10, 4.11, 4.12, 4.13, 4.14, 4.15, 4.16
	<p>UHOH foresees to use these assets for different objectives:</p> <p>Inspiration for further development of the BBEC: As we plan to implement the BBEC, the inspiration, best practice examples and revision of some of the assets will be done especially for assets 4.1., 4.2, 4.4, 4.7, 4.10, 4.11 and 4.12. Asset 4.11. will be used during the implementation of the BBEC to check the different stages and have a roadmap to follow. Asset 4.8, 4.13, 4.15 and 4.16 will be potentially used if during the implementation of the BBEC is decided to be necessary. For example, the use of the Centre Readiness Level Framework Assessment Survey could serve to identify areas for improvement. This can help in strategic planning and resource allocation during the implementation of the BBEC.</p> <p>Some of the assets might be used as baseline for new projects regarding bioeconomy education such as asset 4.1, 4.13 and 4.14.</p> <p>Assets such 4.2 might be used for classes of the master program in bioeconomy on the topic "stakeholder analysis".</p>
UEF	4.1, 4.2., 4.9., 4.11., 4.12., 4.14., 4.18.
	<p>Majority of assets have already been used during the project. Especially, 4.1. and 4.2. will be used in future work when presenting needs for bioeconomy education. 4.9. will be used as a framework for designing new bioeconomy hubs in Finland and when comparing with others. 4.11. will be used in presenting the project results within own network. 4.12. will be used in other projects developing similar innovation hubs or when providing information to stakeholders. From 4.14. new funding sources can</p>

be sought when developing other hubs. 4.18. will be used in stakeholder communication and reporting.

MTU	ALL, 4.1, 4.2, 4.6, 4.9, 4.12, 4.18
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ALL Assets: Have already been used extensively by MTU within the BIObec project and in development of the plans for Ireland's BBEC. MTU was invited to present the BIObec project (various assets) as it pertains to Ireland to the high level Bioeconomy Implementation Group run by the Department of Agriculture, Food and the Marine and has been invited to is currently working on developing the actions from Pillar 7 (Knowledge and Skills) of the Irish National Bioeconomy Action Plan. The various assets will be used in presentations, reports and publications related to this work and to further disseminating the work of the BIObec project.

4.1 and 4.2: Used information when presenting to national bioeconomy stakeholders around skills needs analysis within the bioeconomy.

4.6, 4.9: Potential future use for considering readiness & design of other centres of excellence within MTU and Ireland.

4.12: Potential future use as reference from other projects advancing elements of bioeconomy education.

4.18: Has been used and will continue to be used as information access point for ongoing projects and initiatives in bioeconomy education. Future use in preparation of publications and reports.

CTA	ALL, 4.1,4.2, 4.9, 4.11, 4.12, 4.14, 4.16, 4.18
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In general, the majority of the assets has been used by CTA during the implementation of the BIObec project to carry out the various tasks assigned to the Foundation.

Asset 4.1 will be used by CTA in order to advise stakeholders on regional needs, opportunities and expectations regarding bioeconomy education.

Assets 4.2, 4.9, 4.11, 4.12, 4.14, 4.16 and 4.18 are of strategic importance and will be used by CTA as a cornerstone for the development of bioeconomy projects. The generated tools are an inspiration for us, and the know-how will be used in other projects that Foundation will take part in the near future.

CNR	4.1, 4.2, 4.3, 4.10, 4.11, 4.18
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Most assets have already been used during the project. 4.1, 4.2, and 4.3 will be used in future works related to bioeconomy education and networking. 4.10 will be used as a framework for designing educational strategies. 4.11 and 4.18 will be used in presenting the project results within our network for seeding new ideas in bioeconomy projects, including in stakeholder communication and reporting.

FBCD	<ul style="list-style-type: none"> Identified best practices in bioeconomy education Methodological approach for co-creation of BBECs with regional stakeholders Public and private additional funding sources Business Model Canvas structure for the BBECs Description of the six BBECs at different regions in Europe
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These key assets will be used to develop the Danish BBEC and applications for funding with the IRWG members to raise funds to start.

The best practices from other BBECs is key inspiration and the analysis of public and private funding has opened our eyes for new sources.

In Denmark, 4 co-creative workshops have been undertaken during the project lifetime and through fruitful discussions we have reached a concept that is now followed up with applications for financing.

The BMC structure was quite essential for us to design and discuss the Danish BBEC and the role of the included stakeholders as well as the description of the other 5 BBECs in different regions has been very inspirational

ART	All the Assets
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ART has approached all the Assets, although not all were applicable. It is important to note that it has been considered the whole BioEast macro-region. More specifically:

Asset 4.1: Regional needs on education have been identified and analysed in the past during a thematic study conducted by ART in cooperation with the Agricultural Research Center of Zagreb. The data have been updated

Asset 4.2: Some best practices have been identified in the study mentioned above

Asset 4.3: ART contributed to the creation of the network of stakeholders for BIObec

Asset 4.4: ART contributed to the frame of a BBEC in the region

Asset 4.5: It has been used for the creation of an operational structure for the BBEC. The existing HUB in Czech Republic can be a typical example

Asset 4.6: The Readiness Level is low for the region. The establishment of the BBEC and the supporting elements from the HUBs might increase it

Asset 4.7: Methodology has been developed and adopted at least by the three partners of the region participating in the project

Asset 4.8: Same as above, however the outcomes are incomplete mainly due to the lack of a solid growth-model

Asset 4.9: Business model has been developed and adopted at least by the three partners of the region participating in the project

Asset 4.10: Based on the studies described in Asset 4.1. they exist some, however still in experimental level

Asset 4.11: Not completed yet.

Asset 4.12: Same as above

Asset 4.13: It has been developed; however, it requires still the consideration of specific parameters such as operational capacity, sectors specificity, consideration of value chains etc.

Asset 4.14: Still very far from an ideal level

Asset 4.15: Same as above

Asset 4.16: Specific methodologies have been developed also applicable in other cases and projects

Asset 4.17: Initiated for the requirements of the BIObec project. Still under development

Asset 4.18: Strong Network with other ongoing projects and initiatives on Bioeconomy Education

UAB	Report on European and regional analysis of the needs, opportunities and expectations to bio-based education/training model Report on plans for a governance structure of the six BBECs
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The results obtained in these two reports will be exploited through the presentation in conferences as well as papers in national and international journals.

The main focus will be to facilitate to those interested in these results an easy way to access them as well as to understand it in summarized documents. The results could be also exploited through the participation in other EU and National projects related to the importance to enhance Bio Education across Europe.

PRO-CIVIS	4.1, 4.2, 4.3, 4.4, 4.6, 4.7, 4.9, 4.16, 4.18
<p>Most of the assets have been used during the project. 4.1, 4.2, 4.3, 4.6, 4.7, 4.16 was used to gain valuable knowledge on the stakeholder's perspective in the macro region. It helped to design and create the assumptions for the governance structure and action plan of future organization.</p> <p>Asset 4.14 was very important in order to make some scenarios on obtaining the external funding for development of the center and make the plans feasible.</p> <p>BBEC for Central Eastern Europe was designed as a bioeconomy hub for exchanging the knowledge. During the project we have found strong synergies with Horizon funded CEE2ACT project which is aimed at establishing national bioeconomy hubs in BIOEAST macroregion. Assets: 4.4, 4.7, 4.9, 4.18 was used to analyse the possibilities of creating a HUB with strong cooperation with other bioeconomy stakeholders. Those assets will be used in establishing final bioeconomy HUB in which BBEC will operate.</p>	
SIE	BIObec capacity building package and e-learning material, IRL self-assessment and additional funding sources spreadsheet
<p>The materials produced in T4.4 will be used by SIE as a basis for further bioeconomy projects in which the organization will take part leading similar tasks. The tools implemented, along with the knowledge acquired, will serve as a good starting point for creating similar capacity building programmes, and have reinforced the company's expertise in the e-learning field.</p> <p>The entire programme will be shared with stakeholders within SIE's network, so they can use them as an asset for any initiative related with bioeconomy, such as replicating the BBEC experience.</p> <p>Furthermore, the IRL self-assessment can be strategically exploited as a benchmarking tool for new bio-based projects, guiding them in evaluating competence, market potential, talent, technology integration, financial sustainability, and economic impact. Furthermore, the IRL process serves as an educational resource for stakeholders entering the bio-based sector and can be continuously revisited for dynamic guidance, ensuring adaptability and sustained growth.</p> <p>Additional Funding Sources Spreadsheet can be effectively exploited as a comprehensive resource for future fundraising, aiding in tailoring funding strategies for bio-based initiatives.</p>	
IHE	4.5, 4.6
<p>These assets were mainly used during the project.</p> <p>Potential use can also be foreseen to design and evaluate the readiness of centers of excellence in bioeconomy as well as other fields.</p>	
FVA	4.1, 4.2, 4.3, 4.4, 4.7, 4.12, 4.16, 4.17, 4.18, ALL
<p>FVA already contributed to the use and exploitation of most assets during the project, facilitating the knowledge exchange between other relevant projects and initiatives in bioeconomy education, also promoting the valorisation and exploitation of BIObec's results in the context of the EuBioNet working group in bioeconomy education. Specifically, some assets were already adopted by parallel projects in bioeconomy education (e.g. BioGov.net) that share similar challenges and objectives in developing effective educational governance and pathways in the bioeconomy. Specifically, assets 4.1 (Identified European and regional needs, opportunities and expectations to biobased education/training model) and 4.2 (Identified best practices in bioeconomy education) were exploited in BioGov.net</p>	

project during the assessment of regional need and priorities that were essential for the establishment of 8 multistakeholder European Communities of Practice. Finally, FVA as BIObec exploitation plan manager, as well as main contact and initiator of the EuBioNet, will keep on promoting the key results of the project in the context of conferences, events, as well as papers and publications to facilitate their adoption across Europe.

BOKU	BIObec capacity building package and e-learning material Methodology for stakeholder engagement and mobilization Network of ongoing projects and initiatives in bioeconomy education
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Spreading around the developed materials to stakeholders (especially in Austria) and coordinate further steps together with the German BBEC.
Continuous information exchange with UHOH (BBEC-Leader) about the development of the German BBEC and relevant inputs from our side. Also Austrian stakeholders will be informed about the BBEC development and potential integration and support will be provided.
Continuation of collaboration and cross-fertilisation towards a target-oriented bioeconomy education through an effective BBEC enabling e.g. international student courses.

TRU	Network creation and stakeholder engagement
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This is an important asset for the sustainable growth of the biobased education efforts of the TRU, including the Go-Up incubator that it has created. By mobilising the network and furthering it TRU could maximise its endeavours in nurturing the educational component of bioeconomy across the whole value chain. This asset will be exploited in current and upcoming national and international collaborations and EU projects.

Some BIObec partners didn't identify an individual exploitation route yet, but they will use selected exploitable assets in future activities of their organisation, as well as new EU funded projects.



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7. Conclusions

At the end of the project, **BIObec developed 18 exploitable assets**, clustered according to 5 categories (Studies and analysis, Assessment tools, Methodologies and frameworks, Network creation and stakeholder engagement, Replicable formats and educational tools) and presented in form of actionable knowledge factsheets under section 4.

The assets, together with their clustering, description, aim and source represented the core moment of the 2nd International IRWG workshop organised in January 2024, to empower IRWG members and all stakeholders interested in the replication of the project's outcomes, enabling the full rollout of the BBECs and boosting the continuation and replicability of BIObec's results across Europe (see D5.8 for the detailed report).

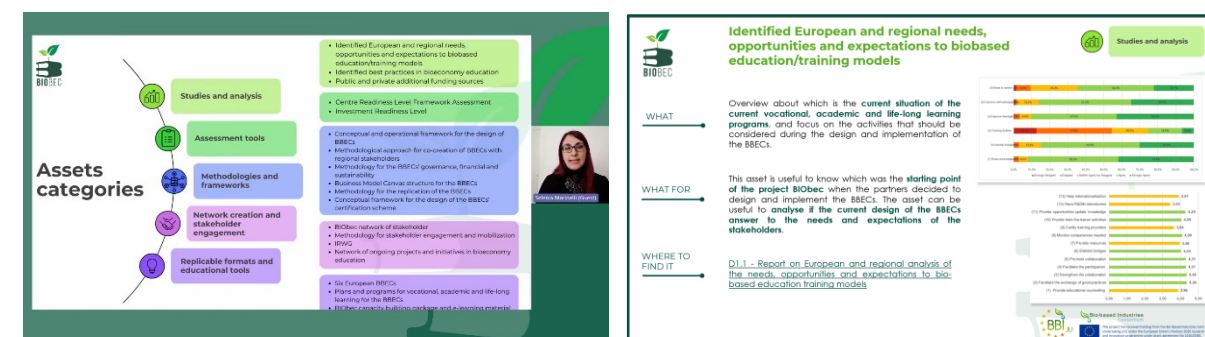


Figure 1: Presentation of the assets during the 2nd International IRWG workshop

Having in mind all the considerations provided per each single asset in this document, it is possible to sum-up and define the possible future exploitation activities and pathways:

- **Publication and availability of all BIObec's assets in the website** – the BIObec website will contain the public deliverable dedicated to the exploitation plan, giving the possibility to consult and download it for anyone interested in knowing and re-use the assets for improving their own work (with the obligation to mention the source)
- **Promotion within the EuBioNet community or in public events** – the assets will be promoted within the EuBioNet for their re-use from other projects members of such community, as well as disseminated and promoted in other events during the next years. Thanks to this, it is expected that the assets will be adopted both from EuBioNet members and entities or projects external to it. Some current EU funded projects in bioeconomy education like BioGov.net and GenB are already exploiting some of the BIObec's exploitable assets
- **BIObec's partners individual exploitation activities** – it is expected that each of the BIObec partners will re-use the assets for their own individual purposes, for instance to feed and improve research activities conducted in new and other European projects. Moreover, some of them could use the assets to support regional and national stakeholders in the implementation of activities to improve the development of the bioeconomy.

8. Annex

8.1. IPR Matrix

Table 4 - Background Identification

#	Relevant Background	Contributing Partner	BG number	Short description of BG	Type of protection	Conditions to use within BIOBec	Conditions to use outside BIOBec	Interest in further exploitation through BIOBec's results
1	“European Bioeconomy Network” database and mailing lists	FVA	BG.1	“European Bioeconomy Network” database and mailing lists	N/A	Will be used for project’s activities by FVA, but will not be shared among partners	Will be used for project’s activities by FVA, but will not be subject of exploitation by the consortium	
2	“European Bioeconomy Network” website, knowledge and partnership	FVA	BG.2	“European Bioeconomy Network” website, knowledge and partnership	N/A	Will be used for project’s activities by FVA	Will be used for project’s activities by FVA	
3	Transition2BIO capacity building package (EN)	FVA	BG.3	A capacity-building programme for educating Member States and Regions, as well as other national and regional stakeholders in the implementation of awareness and communication activities for the deployment of their Bioeconomy Strategies.	Copyright	In accordance with regulations for copyrighted work; Free to use within the project	Free	
4	Transition2BIO capacity building package (IT)	FVA	BG.4	A capacity-building programme for educating Member States and Regions, as well as other national and regional	Copyright	In accordance with regulations for copyrighted work; Free to use	Free	

				stakeholders in the implementation of awareness and communication activities for the deployment of their Bioeconomy Strategies.		within the project		
5	Transition2BIO toolkits	FVA	BG.5	Toolkits for citizens, teachers, students, communicators, policy makers and business https://www.transition2bio.eu/toolkits/	Copyright	In accordance with regulations for copyrighted work; Free to use within the project	Free	
6	FVA Database of contacts in the bioeconomy sector	FVA	BG.6	FVA Database of contacts in the bioeconomy sector	N/A	Will be used by FVA for the project's activities, but not shared with the partners	Will be used for project's activities by FVA, but will not be subject of further exploitation by the consortium	
7	Videos (interviews, educational videos, etc.)	FVA	BG.7	Many videos including videointerviews to young bioeconomy professionals, video "A bioeconomy day", videos engaging young ambassadors	N/A	Will be used for project's activities	Will be used for project's activities	
8	Methodologies for Mobilisation and Mutual Learning (MML)	FVA	BG.8	Methodologies stemming from BIOVOICES, Biobridges, LIFT, Transition2Bio	N/A	Will be used for project's activities	Will be used for project's activities	
9	Methodologies for school projects	FVA	BG.9	Extensive knowledge in developing methodologies to engage students and their teachers in school projects, stemming from Startupper School Academy, Bioeconomy4YOU	N/A	Will be used for project's activities	Will be used for project's activities	

10	Capacity building (soft skills and communication)	FVA	BG.10	Metodologies for capacity building activities to develop soft skills and communication, stemming from the project TETRA	Copyright	Will be used for project's activities	Will be used for project's activities	
11	CNR Database of contacts in the bioeconomy sector	CNR	BG.11	CNR Database of contacts in the bioeconomy sector	N/A	Will be used by CNR for the project's activities, but not shared with the partners	Will be used for project's activities by CNR, but will not be subject of further exploitation by the consortium	
12	Metodologies for school projects	CNR	BG.12	Extensive knowledge in developing metodologies to engage students and their teachers in school projects, stemming from Il Linguaggio della Ricerca, RM@Schools, ChangeGame projects	N/A	Will be used for project's activities	Will be used for project's activities	
13	Knowledge in innovation on bio-based materials and processes	CNR	BG.13	Results of R&D activities, initiatives and data on bio-based materials and processes in different sectors (e.g. textiles, packaging, biomedical), including the substitution of existing fossil-based ones.	N/A	Will be used for project's activities	Will be used for project's activities	
14	CNR Data Base of high schools	CNR	BG.14	Data base of contacts for actions in middle and high schools	N/A	To be used for project's activities	To be used for project's activities	
15	CNR Data Base of collaborative teachers	CNR	BG.15	Data base of contacts for training actions towards teachers of high and middle schools	N/A	To be used for project's activities	To be used for project's activities	

16	experimental toolkits for school students	CNR	BG.16	protocols and guidelines for introducing at school some of main concepts on bioeconomy	N/A	To be used for project's activities	To be used for project's activities	
17	ICA: Community of Practice for Bioeconomy Education in Europe (https://www.ica-europe.info/ica-board-committees/ica-community-of-practice-for-bioeconomy-education-in-europe)	BOKU	BG.17	trans- and interdisciplinary events on bioeconomy education, networking, interacton with industry partners and policy makers to identify skills demands and enhance the quality of bioeconomy education	no	To be used for project's activities	To be used for project's activities	Should be used also after project end
18	BIOEAST: Central and Eastern European Initiative for Knowledge-based agriculture, aquaculture and forestry in the bioeconomy https://bioeast.eu/home/	BOKU	BG.18	BIOEAST offers a common political commitment and shared strategic research and innovation framework for working towards sustainable bioeconomies in CEE countries	no	To be used for project's activities	To be used for project's activities	Should be used also after project end
19	BLOOM (https://bloom-bioeconomy.eu/)	BOKU	BG.19	BLOOM School Box (for 10-18 years old students, in different languages): educational and outreach materials, videos (MOOC - training platform for teachers)	no	To be used for project's activities	To be used for project's activities	Could be used also after project end, but material should be checked according to its vailidity
20	ELLS Summer Schools (https://www.euroleague-study.org/en/summer-schools#jfmulticontent_c232519-2)	BOKU	BG.20	each year summer schools dealing with bioeconomy (related issues) are provided by one of the ELLS universities	N/A	To be used for project's activities	To be used for project's activities	students but also teachers of BBECs should be informed about these events

21	Bioeconomy Austria	BOKU	BG.21	network for building an Austrian bioeconomy cluster (with focus on wood-based bioeconomy) involving regional, supra-regional and European target groups of economy, science, policy and society	N/A	Will be used by BOKU for the project's activities, but not shared with the partners	Will be used for project's activities by BOKU, but will not be subject of further exploitation by the consortium	this network should be informed about BIObec also after project end for potential knowledge exchange
22	CTA Database of contacts in the bioeconomy sector	CTA	BG.22	CTA Database of contacts in the bioeconomy sector	N/A	Will be used by CTA for the project's activities, but not shared with the partners	Will be used for project's activities by CTA, but will not be subject of further exploitation by the consortium	
23	Capacity building and train the trainers methodologies	CTA	BG.23	Methodologies for capacity building and train-the-trainers activities towards relevant project audiences from UrBIOfuture project	N/A	Will be used for project's activities	Will be used for project's activities	
24	Knowledge of bioindustry needs	CTA	BG.24	Knowledge of bioindustry needs in terms of HR skills and capacities, coming from UrBIOfuture project	N/A	To be used for project's activities	To be used for project's activities	
25	UrBIOFuture Toolbox	CTA, SIE, CNR, UAB	BG.25	Materials developed within the UrBIOfuture toolbox	N/A	To be used for project's activities	To be used for project's activities	
26	List of educational programmes related to Bio-Economy across Europe (https://www.urbiofuture.eu/educational_programmes/)	UAB	BG.26	Data Base developed in previous project	N/A	To be used for project's activities	To be used for project's activities	

27	Best Practices in Academy-industry cooperation. (https://ddd.uab.cat/record/221187)	UAB	BG.27	Description of some examples of good practices of cooperation between the industry and the academy.	N/A	To be used for project's activities	To be used for project's activities	
28	Instruments to identify training needs in bio-based industry	UAB	BG.28	Instruments (Interview, survey and focus group guidelines) to get data regarding training needs.	N/A	To be used for project's activities	To be used for project's activities	
29	First validated version of a training programme for bio-based industries	UAB	BG.29	The report contextualizes and specifies some education and training guidelines oriented to fill actual gaps and provide professional profiles demanded by the bio-based industries	Protected	To be used within the project	To be used to plan project activities	
30	BIOEAST: Central and Eastern European Initiative for Knowledge-based Bioeconomy. The Thematic Working Group on Education (TWG-Edu) within the BioEast https://bioeast.eu/education-2/	ART	BG.30	Highlighting the regional character of all Bioeconomy Education matters. Considering, structural and the presence of a stimulating ecosystem at regional level. The main goal of this TWG is to support the development of Bioeconomy education in the BIOEAST region, particularly tailored training in Bioeconomy	no	To be used within the project	To be used for various project activities	

31	ICA: Community of Practice for Bioeconomy Education in Europe (https://www.ica-europe.info/ica-board-committees/ica-community-of-practice-for-bioeconomy-education-in-europe)	ART	BG.31	Organization of events on Bioeconomy education, networking, interact with industry partners and policy makers to identify skills demands and enhance the quality of bioeconomy education. Also providing consultation in EDucational topics and themes on a case by case basis	no	To be used within the project	To be used for various project activities	The ICA-CoP Education organized a workshop on Bioeconomy Education and connections with Industry. BIC was present and expressed interest for the frame of BioBECs and possible further exploitation and operational funding. Even possible in a forthcoming CBE JU Proposal
32	BioEast- UNINET - Network of Universities dedicated on Bioeconomy EDucation within the BioEast RegionBioEast-	ART	BG.32	The network has been recently established. A launching of Action Plan is ex-pected within June 2023	no	To be used within the project	To be used for various project activities	
33	Database of contacts in the bioeconomy sector	PRO CIVIS	BG.33	Database of contacts in the bioeconomy sector, especially located in the Baltic Sea Region countries and Poland.	N/A	Will be used by PC for the project's activities, but not shared with the partners	Will be used for project's activities by PC, but will not be subject of further exploitation by the consortium	
34	The Biobord Network	PRO-CIVIS	BG.34	Database of bioeconomy profiles of regions from Baltic Sea area.	N/A	To be used within the project	To be used to plan project activities	This network could be informed about BIObec also after project end for potential knowledge exchange
35	UrBIOFuture https://www.urbiofuture.eu/	SIE	BG.35	Boosting future careers, education and research activities in the European bio-based industry	N/A	To be used within the project	To be used to plan project activities	No. Topic-related EU-funded project that brings knowledge to create value in BBECs activities
36	BIOSWITCH https://bioswitch.eu/	SIE	BG.36	Encouraging brand Owners to Switch-to-Bio-based in highly innovative ecosystems	N/A	To be used within the project	To be used to plan project activities	No. Topic-related EU-funded project that brings knowledge to create value in BBECs activities

37	GREENER https://www.greener-h2020.eu/en/normal/home	SIE	BG.37	Integrated systems for Effective Environmental Remediation	N/A	To be used within the project	To be used to plan project activities	No. Topic-related EU-funded project that brings knowledge to create value in BBECs activities
38	M-POWER https://mpowerbio.eu/	SIE	BG.38	Em-Powering SME Clusters to help SMEs to overcome the valley of death	N/A	To be used within the project	To be used to plan project activities	No. Topic-related EU-funded project that brings knowledge to create value in BBECs activities
39	IRL self-assessment methodology	SIE	BG.39	Methodology developed in-house to perform Investment Readiness Level to carry out further investment activities	N/A	To be used within the project	To be used to plan project activities	IRL will be fine-tuned according to BBECs needs to fit within their needs and deliver a suitable IRL
40	Database of funding sources	SIE	BG.40	Internal database about funding sources. Screening and updating different programmes and sort them according different parameters to obtain a valuable database to offer in a suitable way to potential beneficiaries.	N/A	To be used within the project	To be used to plan project activities	Funding database will be fine-tuned according to BBECs needs to fit within their needs and deliver a suitable funding source database for further activities.
	Knowledge of bioindustry needs	FBCD		Generalized knowledge based on > 100 innovation events on Bioeconomy	N/A	To be used within the project	To be used to plan project activities	
41	FBCD Biobased cluster members database	FBCD	BG 41	Around 450 members, mainly Danish, from bioeconomy industry and educational /knowledge institutions	no	To be used within the project	To be used for various project activities	
42	Irish & EU Bioeconomy network members database	MTU	BG 42	Irish & EU Bioeconomy network members database				

43	Innovation sprint methodologies for second level education and engagement programme for primary level education.	MTU	BG 43	Extensive knowledge in developing methodologies to engage students and their teachers in school projects.				
44	Knowledge and innovation skills in bio-based materials and processes. CIRCBIO group at MTU for research and outreach and Circular Bioeconomy Cluster Southwest for industry innovation.	MTU	BG 44	CIRCBIO group at MTU for research and outreach and Circular Bioeconomy Cluster Southwest for industry innovation.				
45	Knowledge of bioindustry needs	MTU	BG 45	Proven knowledge of needs of bioindustry needs from work of partner Irish Bioeconomy Foundation (IBF) and both CIRCBIO at MTU and Circular Bioeconomy Cluster Southwest also at MTU				
46	Data base of primary and secondary schools	MTU	BG 46	Data base of contacts for outreach and education programmes in primary and secondary schools				
47	MTU CIRCBIO (https://circbio.ie/)	MTU	BG 47	Multi disciplinary national and international research leader in bioeconomy. Partnering with national and international teams on wide range of projects				

48	Circular Bioeconomy Cluster South West	MTU	BG 48	Focus on agriculture, marine and value from waste. Supporting enterprise profit, training, collaboration.				
49	DDBB Journalists of Europe	SIE	SIE	Media expertise of Europe, wider audience amplification		To be used within the project	To be used to plan project activities	
50	ALIGNED www.alignedproject.eu	SIE	BG 50	Expertise in C&D of EU Biobased projects		To be used within the project	To be used to plan project activities	
51	https://www.mtu.ie/courses/tlsbebbg/	MTU		Postgraduate diploma BIOECONOMY with business				
52	https://www.biotalous.koulutusitasuomi.fi/en/	UEF	BG 52	Join Bioerko project website, report and other materials for regional bioeconomy education development	N/A	To be used within the project	To be used for various project activities	
53	BIOSCOPE project https://www.eura2014.fi/rrtiepa/projekti.php?projektikoodi=A76405	UEF	BG 53	Regional project for developing industry-research-education collaboration	N/A	Will be used by UEF for the project's activities but will not be shared with the project partners	Will be used for project's activities by UEF, but will not be subject of further exploitation by the consortium	
54	UEF contact list of forest-based bioeconomy actors in North Karelia Region	UEF	BG 54	List of forest-based bioeconomy companies operating in North Karelia region	Protected	Will be used by UEF for the project's activities but will not be shared with the	Will be used for project's activities by UEF, but will not be subject of further exploitation by the consortium	

						project partners		
55	https://www.bioeconomy.fi/facts-and-contacts/the-finnish-bioeconomy-strategy/	UEF	BG 55	Finnish Bioeconomy Strategy 2022	N/A	To be used within the project	To be used for various project activities	
56	EBU label- European Bioeconomy Qualification Certification	UHOH	BG 56	Additional certificate for master students of the EBU	N/A	It could be used as inspiration and model for other certification schemes	It could be used as inspiration and model for other certification schemes	It could be used when implementing the BBECs as a model to create an additional qualification supplement
57	Bioeconomy Textbook	UHOH	BG 57	Textbook about bioeconomy	Open access	The text book is free to be used	The text book is free to be used	Apply for bioeconomy-related curriculum/ Use in life long learning formats
58	Bioökonomie Camp concept	UHOH	BG 58	The two-day research convention was an event for phd students of various disciplines where they discussed ideas for more sustainable management together with top-class experts - and how best to communicate them.	Potential access Access upon demand	Potential access Access upon demand	Potential access Access upon demand	

59	Game: Resource don't go (German)	UHOH	BG 59	Board game developed by international students as part of a summer school at the University of Hohenheim to give interested parties a playful insight into bioeconomy research.	Open access	The game is in german but can be used/ translated	The game is in german but can be used/ translated	Apply for bioeconomy-related curriculum/ Use in life long learning formats
60	MOOC: Concepts of Sustainable Bioeconomy	UHOH	BG 60	Online course about bioeconomy and different related topics	Open access	The MOOC is open access. Anyone can have access to it through the university platform	The MOOC is open access. Anyone can have access to it through the university platform	Application for bioeconomy-related curriculum/ Use in life long learning formats
61	Bioeconomy Network at Baden Württemberg and German level	UHOH	BG 61	Network of stakeholders working on bioeconomy at the region and national level	Restricted	It is possible to use it just by UHOH because of data protection issues	Not possible to use directly	Internal for the BBEC implementation
62	Bioeconomy teaching material (Sample box) - BLITZ	UHOH	BG 62	Upon demand for agricultural schools	Restricted	Upon demand for agricultural schools with a potential cost	Upon demand for agricultural schools with a potential cost	Application for bioeconomy-related curriculum/ Use in life long learning formats
63	Manual of best practices for short courses on bioeconomy	UHOH	BG 63	Manual for educational institutions for creating a short hybrid course on bioeconomy	Open access	The manual of best practices will be available in September 2023 and will be open for everyone interested	The manual of best practices will be available in September 2023 and will be open for every interested party	Application for bioeconomy-related curriculum/ Use in life long learning formats

64	Teaching Unit for pupils about bioeconomy using the example of circular urban gardening	UHOH	BG 64	Online teaching material incl. videos, exercises and experiments in class and in school garden	Open access upon demand	Access upon demand	Access upon demand	Application for bioeconomy-related curriculum/ Use in life long learning formats
65	Inno greenhouse concept	UHOH	BG 65	Innovation space with different services (advise, coaching, network) and activities (lectures, events). It aims to establish a dynamic ecosystem for transferring science into sustainable innovation and fuel solution-oriented thinking.	Open access	The concept could be checked in the website and serve as inspiration	The concept could be checked in the website and serve as inspiration	Application for bioeconomy-related curriculum/ Use in life long learning formats
66	Institute for Sustainable Development and Transition, GO-UP Business Incubator	TRU	BG 66				To be used for various project activities	
67	Curriculum of the master Bioeconomy	UHOH	BG 67	Courses and structure of the master of bioeconomy at UHOH	Open access	It could be used as inspiration and model for other certification schemes	It could be used as inspiration and model for other certification schemes	
68	Irish BioMap.	IBF	BG 68	Map and database of 600 organisations relevant to the bioeconomy in Ireland	Open access	Could be used for potential users of Irish BBEC		

69	Irish and EU Funding brochure 2023	IBF	BG 69	Brochure with information on public and private funding and financing options for Ireland and EU.	Open access	Could be used for BBEC as potential funding sources	Could be used for funding sources	
70	BioeconomyVentures Matchmaking platform	IBF	BG 70	Matchmaking Platform for innovators and investors working in the bioeconomy.	Access when registered	Could be used in BBEC for education on accessing finance	Could be used for education on accessing finance	
71	MPowerBIO training webinars	IBF	BG 71	Webinars aimed at Clusters and SMEs for accessing finance	Access when registered	Could be used in BBEC for education on accessing finance	Could be used for education on accessing finance	
72	BioeconomyVentures training webinars	IBF	BG 72	Webinars aimed at startups for accessing finance	Access when registered	Could be used in BBEC for education on accessing finance	Could be used for education on accessing finance	
73	Irish Bioeconomy Network	IBF	BG 73	Network of Irish bioeconomy stakeholders	N/A			
74	Databases and mailing lists in the bioeconomy sector	IBE	BG 74	Databases and mailing lists in the bioeconomy sector, In particular, representatives of sectoral competence councils	N/A	Will be used by PC for the project's activities, but not shared with the partners	Will be used for project's activities by PC, but will not be subject of further exploitation by the consortium	
75	Results of research on the demand for competences in sectors related to the bioeconomy	IBE	BG 75	Results of research on the demand for competences in sectors related to the bioeconomy	no	To be used for project's activities	To be used for project's activities	

76	Methodology for creating sectoral competence frameworks	IBE	BG 76	Methodology of work on the development of learning outcomes for sectors related to the bioeconomy	no	To be used for project's activities	To be used for project's activities	
77	Cooperation network with sectoral competence councils	IBE	BG 77	tools, instruments, cooperation paths	N/A	To be used for project's activities	To be used for project's activities	
78	Database of educational institutions	IBE	BG 78	Database of schools, universities and training companies	N/A	Will be used by PC for the project's activities, but not shared with the partners	Will be used for project's activities by PC, but will not be subject of further exploitation by the consortium	
79	A network of regional leaders to support LLL	IBE	BG 79	A network of regional representatives cooperating with schools, business and local government in Poland	no	Will be used by PC for the project's activities, but not shared with the partners	Will be used for project's activities by PC, but will not be subject of further exploitation by the consortium	
80	Laboratories of the future	IBE	BG 80	The aim of the project is to equalize educational opportunities by ensuring universal access to modern technologies and supporting teachers through e.g. conducting demonstration lessons in schools in Poland	N/A	Will be used by PC for the project's activities, but not shared with the partners	Will be used for project's activities by PC, but will not be subject of further exploitation by the consortium	

Table 5 - Foreground and Exploitable assets identification

WP#	EA#	EA Name	Specific EA description	Main Partner(s)	Contributing partner(s)	Related BG# (if any)	FG#	Type of protection	Use, exploitation and valorisation during the project	Interest in Further Exploitation of Project Results	If yes, describe context of use after the end of project (e.g. within other EU funded projects, for academic purposes etc)	If yes, describe conditions of use after the end of project (e.g. free of use, under usage licence, under commercial licence, etc)
1	EA1.1	BIObec actors' network map	The BIObec actors' network will build on partner networks and organisations, in particular on the Implementation and Replication Working Group (IRWG), the BIObec Advisory Board and the Biobased Industry Consortium (BIC) members. This actor's network will include educational bodies, industries, public administration, civil society, political actors and other actors on a local, regional, national and at	UHOH	All	BG.1 BG.2 BG.6 BG.11	FG.1	Confidentiality agreements	Identification for further involvement and assessing demands for Bioeconomy Education and BBECs	Yes	1. Bring students into the context of industry 2. Involve industry in education of students; 3. paper publication	Publication (open access)

			European level including their connections and different roles in the network.									
EA1.2	Database of stakeholders		Data collection, clustering and contacts of stakeholders connected to the network map.	UHOH	All	BG.1 BG.2 BG.6 BG.11	FG.2	Confidentiality agreements	Because of data protection, just for internal use	Yes	Internal use	Internal use
EA1.3	European and regional needs, opportunities and expectations (D1.1: Report on European and regional analysis of the needs, opportunities and expectations to biobased education/training models)		European and Regional Analysis of the needs, opportunities and expectations for BBE among the key stakeholders from the industry to educational, public bodies, organisations, etc. (through desk work, reviewing literature and outputs of other EU initiatives, collecting information from the project partners and a survey with stakeholders and actors at local level.	UAB	All		FG.3					

EA1.4	Collection of best practices in bioeconomy education (D1.2: Report on best practices of bio-based education Centres)	Identification and selection of the most relevant best practice cases (26 in total) for existing or evolving bio-based education hubs at different geographical and educational levels to obtain insights about education and infrastructure models, their core principles, characteristics, phases, learning outcomes, impacts and potential success as well as failure factors.	UHOH	All			FG.4	N/A	1. Design of the BBECs 2. help to develop education material	Yes	1. inspiration to other interested institutions or BBECs 2. Advise to other institutions	Free of use
EA1.7	Expectations on future BBECs (D1.3: Report on expectations on future BBEC, elaborated as summary of results from T1.2, T1.3 and the regional and pan-	Needs and expectations on future BBEC	UHOH	All			FG.6	N/A	1. Fit to future BBEC according to regional demands 2. Help other seeking information on how to start BBEC	Yes	Help other seeking information on how to start BBEC	Free of use

		European workshops)										
2	EA2.1	Educational center framework (D2.1:Report on conceptual and operational framework for design of BBECs)	Inventory of best practices (29 best practice examples from a European and international perspective, both in the Bioeconomy sector and outside it); creation of a Centre Readiness Level survey that profiles the unique regional capabilities of the six BBEC locations and highlights opportunities for collaboration that will support the BBEC network design	IHE	MTU, All		FG.7	N/A	help on the BBEC design during the project	Yes	Help other seeking information on how to design BBEC	Free of use
	EA2.2	Methodology to design BBECs	Co-creation and conceptual design of each BBEC	UEF	MTU, All		FG.8					

	EA2.3	Conceptual design of each BBEC	The aim is to ensure that the BBEC development meets local needs. It will be also focus on understanding the value created from different actors' angles and mapping out the best ways to operationalize and facilitate value creation in evolving operational environment, taking into account the local perspective on major future trends	UEF	MTU, All		FG.9					
	EA2.4	BBECs business models and governance structure at regional level D2.2: Report on Regional BBEC Business Models and Governance Structures of the six selected centres	For each BBECs, a simplified business model and connected governance structure will be compiled in order to further qualify and describe the activities of each BBEC. It will focus on value proposition, core activities, services and collaborations.	UEF	MTU, All		FG.10			Yes		

3	EA3.1	BBECs governance, financial and sustainability D3.1: Planning of governance, financial and sustainability assessment	Coordination and fine-tuning of the governance framework, assessment, and funding options through the different BBECs.	UNIBO	All		FG.11	N/A	Mainly aimed at providing a common framework for the next tasks in wp3	No		
	EA3.2	BBECs governance structure D3.2: Report on plans for a governance structure of the six BBECs	The governance plan will include potential legal forms such as profit/not-for profit, association, company etc., internal distribution of roles and governing bodies, forms of participation by external collaborators, contractual structure. It includes the models and procedures for integrating stakeholders, as members, clients, external service providers, or general interested stakeholders as well as the different options for its	UAB	All		FG.12	N/A				

			institutional and legal basis. The organisation model will be identified, supporting the management structure of the centres, based on relevant services and target groups and relevant geographical coverage.									
EA3.3	BBEC economic requirements D3.3: Report on detailed budget for running and maintaining the six BBEC and financial plan for their funding in the short and long term	Identification of the financial needs of the BBECs and development of a tailored financial plan as well as identification of potential sources of funding for the BBECs.	FBCD	FBCD, SIE, All	BG.39 BG.40	FG.13	N/A	Used for evaluating economic sustainability of the proposed BioBECs	No			

	EA3.4	<p>Plans and programs for vocational, academic and life-long learning</p> <p>D3.4: Plans for vocational, academic and life-long learning programmes for the existing workforce by the six BBEC</p>	<p>The plans will specify learning objectives, entering requirements, skills, contents (topics), teaching methods, learning instruments. The plans will provide a concrete reality check of the activities planned in the centres and could provide models for other centres and replicators. The plans will take into account the interplay of the different levels/types of education, with respect to the local and international needs of the industry and other players. It will also provide connection with other information/education needs (e.g. consumers, policy makers, etc.).</p>	UNIBO	All		FG.14	N/A	<p>Mainly to feed other tasks in wp3 and wp4; basis for discussion with external entities about realistic BBEC implementation</p>	Yes	<p>academic purposes, potential publication, basis for the implementation of BIOBEC centres and for replication</p>	free
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	EA3.5	BBEC Sustainability plan D3.5: Overall exploitation and Sustainability Plan	Development of a model for moving the centres from project-based education centres, to longterm sustainability.	FBCD	SIE and FBCD		FG.15	N/A	Evaluation of BioBEC business model and sustainability of the BioBEC based on the business model	Yes	May be used to describe Businessplan for establishing BioBECs	Free
4	EA4.1	Roll-out plan for identification of collaborations and synergies. D4.1: report on regional workshops	Strategic plan to identify collaborations and synergies at local and EU level, including regional workshops and cross-fertilization among BBECs.	CTA	All		FG.16	N/A	Mainly for the establishment of collaborations between stakeholders and BBECs	Yes	Potential collaboration in new related projects.	Free
	EA4.2	BBECs replication roadmap D4.2: Roadmap Report for BBECs replication	A replication methodology based on the definition of roadmap for the establishment of BBECs across external regions will be developed. The Roadmap based on the learning experience of BIObec will include: (1) the motivation for establishment of	CTA	All		FG.17	N/A	Methodology for the replication of BBECs in non-involved regions to BIObec project	Yes	Potential collaboration in new related projects.	Free

		regional BBECs; (2) a description of a BBEC structure and essential stakeholders; (3) steps to establishing a BBEC based on each regional Bioeconomy Educational Maturity, (4) first recommendations for BBEC mobilisation activities, workshops etc. Funding and financing possibilities etc.									
EA4.3	Capacity building package for replication and roll-out of BBECs D4.3: Report on results of the Capacity building workshop	Definition of the contents to be included in the capacity building package to support replication and roll-out of BIObec outputs in external regions.	CTA	All	BG.23	FG.18	N/A	Use as a support for the final design of the centres, roll-out and replication	Yes	Potential collaboration in new related projects.	Free
EA4.4	D4.4: E-Learning materials for the BBECs replication	A suite of e-Learning training tools/materials will be developed targeting the BIObec audiences (education providers, industry,	SIE	CNR, All	BG.3 BG.4 BG.5 BG.10 BG.13 BG.25	FG.19	Copyright	Use as a support for the final design of the centres,	Yes	Potential collaboration in new related projects.	Free of use

	EA4.5	D4.5: BBECs certification scheme	Potential design of a standard and qualification scheme to support collaboration and replication.	UNIBO	UAB, IHE, All		FG.20	N/A	Use as a support for the final design of the centres, roll-out and replication	Yes	academic purposes, potential publication, basis for the implementation of BIOBEC centres and for replication; basis for further development in future projects	
5	EA5.1	Identity	Website, brand, logo, 2 social media channels, project's promotional videos, factsheets, infographic cards, newsletters	SIE	FVA, All	BG.7, BG49	FG.21					
	EA5.2	Audiovisual materials	Interviews, videos at events, video teasers etc.	FVA	All	BG.7	FG.22					

EA5.3	Webinars	Online workshop / webinar to explain the different programs at BIObec for international attendees and another one to share the best practices and success cases identified.	SIE	All	BG.49 BG.50	FG.23						
EA5.4	Publications	Publications in peer-reviewed high impact journals dealing with environmental sciences	UNIBO	All		FG.24		publication	Yes	for academic purposes; basis for future projects	usage licence depending on publication type (envisaged open access, so creative commons)	
EA5.5	Methodology for stakeholder engagement and mobilization (D5.7 and D5.8: Report on stakeholder engagement and mobilization)	Engagement and mobilisation of the relevant stakeholders and potential members of the IRWG (implementation and replication working group) through a series of activities to facilitate the debate, mutual learning, good practices exchange and collaboration on	FVA	All	BG.1 BG.2 BG.6 BG.8 BG.11	FG.25					Free	

		challenges towards the creation of Bio-Based Education Centres.										
EA5.6	Implementation and Replication Working Group (IRWG)	The IRWG will participate to project initiatives in the role of stakeholders and will be the core nucleus for the future implementation of the BBECs as well as initiators of initiatives replicating BIObec experience beyond the project's efforts. The multi-stakeholders IRWG will involve Regions and BioRegions, industrial clusters, industries, educational providers (at different levels, covering vocational training, university and post university curricula, on-the-job training and life-long learning), NGOs and associations of primary producers, multipliers, public administration, etc.	FVA	All	BG.1 BG.2 BG.6 BG.11	FG.26						Free

	EA5.7	Network of ongoing projects and initiatives in bioeconomy education D5.9: Report on liaison with other projects and initiatives	Creation of a network of ongoing projects and initiatives in bioeconomy education, to promote the collaboration and cross-fertilisation and to maximise the impact of project's activities and efforts. This network will exploit the European Bioeconomy Network, which is an alliance of more than 140 projects and initiatives in Bioeconomy.	FVA	All	BG.1 BG.2 BG.6 BG.8 BG.9 BG.10 BG.11 BG.12	FG.27					
Transversal EA	EA.T1	Methodological approach for co-creation of BBECs with regional stakeholders	Methodological approach experimented and validated in the context of BIOBec for the creation of BBECs ready to be replicated in different contexts. This approach includes all the methodologies across all the WPs for: - collecting european and regional needs, opportunities and expectations; - design of BBECs	UNIBO	All		FG.28	N/A	support the following activities in the project	Yes	Potential methodological basis for design of additional BBECs	

			(governance, financial, educational programmes and sustainability)									
EA.T2	6 BBECs	6 BBECs established in partners' countries: BIObec Mediterranean Europe Hub (Italy), BIObec North- West Europe Hubs-Finland, BIObec North- West Europe-Denmark, BIObec North-West Europe- Ireland, BIObec Central-East Europe-East, BIObec Central-East Europe-Germany	UNIBO	UEF, FBCD, MTU, CNR, PRO-CIVIS+ART, UHOH		FG.29	N/A	support the following activities in the project	Yes	Potential basis for implementation of BBECs		