



**CALiMERO**

IMPROVING BIO-BASED INDUSTRIES LIFE CYCLE SUSTAINABILITY

# D6.1 Draft of the Exploitation Plan

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### LIST OF ACRONYMS

BP – Business Plan
CA – Consortium Agreement
D – Deliverable
EC – European Commission
GA – General Assembly
HE - Horizon Europe: The EU Framework Programme for Research and Innovation
IEB – Innovation & Exploitation Board
IP - Intellectual Property
IPR – Intellectual Property Rights
KER – Key Exploitable Results
LCA – Life Cycle Assessment
LCC – Life Cycle Costing
LCSA - Life Cycle Sustainability Assessment
LSL - Laminated Strand Lumber
MOO – multi-objective optimization
O-LCA - Organisational Life Cycle Assessment
SWOT – Strengths, Weaknesses, Opportunities, and Threats
TRL – Technology Readiness Level
UVP – Unique Value Proposition
WP – Work Package

## PROJECT INFORMATION

**Project full title:** Industry CAse Studies AnaLysis to IMprove EnviROnmental Performance And Sustainability Of Bio-Based Industrial Processes

**Acronym:** CALIMERO

**Call:** HORIZON-CL6-2021-ZEROPOLLUTION-01

**Topic:** HORIZON-CL6-2021-ZEROPOLLUTION-01-06 - Increasing the environmental performance of industrial processes in bio-based sectors: construction, woodworking, textiles, pulp and paper and bio-chemicals


**Start date:** 1<sup>st</sup> July 2022

**Duration:** 36 months

**List of participants:**

Partner No.	PARTICIPANT ORGANIZATION   ACRONYM
1 (Coord.)	Contactica   <b>CTA</b>
2	WeLOOP   <b>WELOOP</b>
3	European Cellulose Insulation Association   <b>ECIA</b>
4	Swedish Environmental Research Institute   <b>IVL</b>
5	Neovili   <b>NEOVILI</b>
6	Cesefor   <b>CESEFOR</b>
7	Luxembourg Institute of Science and Technology   <b>LIST</b>
8	Technical University of Denmark   <b>DTU</b>
9	Techtera   <b>TECHTERA</b>
10	Essity   <b>ESSITY</b>
11	BIM Kemi AB   <b>BIMKEMI</b>
12	Ereks garment   <b>EREKS</b>

## DELIVERABLE DETAILS

<b>Document Number:</b>	D6.1
<b>Document Title:</b>	Draft of the Exploitation Plan
<b>Dissemination level</b>	PU - Public
<b>Period:</b>	PR1
<b>WP:</b>	WP6
<b>Task:</b>	T6.1
<b>Author:</b>	
<b>Abstract:</b>	<p>This deliverable D6.1 is the initial exploitation plan for the CALIMERO project funded by the European Union under Grant Agreement n° 101060546. This report set the structure and pathway to follow in the construction of the exploitation plan that will guide the project to its completion and provide the consortium with the tools to exploit the results of CALIMERO. This deliverable aims at presenting the project' results, the exploitation methodology developed, the Intellectual Protection overviewed and the next steps for the exploitation activities at M18. This initial Exploitation Plan is created at the middle of the project to present the exploitation activities while the definition of the feasibility of exploitation of Key Exploitable Results will be set in the Final Exploitation Plan at the end of the project.</p>

Version	Date	Description
V1	21/12/2023	First Deliverable version of the deliverables

## 1 INTRODUCTION

This deliverable D6.1 Draft of the Exploitation Plan is the first deliverable of the WP6 “Exploitation, Dissemination and Communication” of the CALIMERO project funded by the European Union under the Grant Agreement (GA) n° 101060546.

According to the provisions of the Horizon Europe program (REGULATION (EU) 2021/695 ), all CALIMERO partners must, - up to four years after the end of the action (2029) — use their best efforts to exploit their results directly or to have them exploited indirectly by another entity, in particular through transfer or licensing.

This first Draft of the Exploitation Plan document aims at presenting an updated list of the key exploitable results (KERs) expected to be accomplished during the CALIMERO project. Additionally, it outlines the preliminary strategy for how the participating partners intend to exploit these results during and after the project's completion.

This deliverable is part of the WP6 which started in M1 (July 2022) and will finish in M36, (June 2025) at the end of the project. It belongs to the Task 6.1. Exploitation and Business Plan as the first deliverable of the work package and the task. D6.1, as a first version of the Exploitation Plan, is building the basis of the deliverable D9.2 “Final Exploitation Plan” set for M36.

The exploitation strategy is being carried out transversally in the project and is related to all tasks. At the end of the day, what is sought with these strategies and plans is that all partners and the consortium as a whole find the best practices to exploit the results and generate a greater impact on the industry, society and the economy.

Partners have been advised and guided to begin outlining their path to exploitation and will continue to invest efforts to meet the expected objectives.

### 1.1 Definition of the document

This document is the plan for the exploitation and business strategy of the CALIMERO project. In it, the consortium is laying down the basis of the exploitation methodology that will be followed within the market and exploitation work package. This document has two purposes: 1) present the Key Exploitable Results that the different partners have defined and start developing during the project length, 2) prepare the following steps that CALIMERO will have to undertake towards exploitation and IP protection during and after the end of the project.

The exploitation of the results within Horizon Europe projects is dependent of the work of other packages and technical advances in the project in general, that is why the first version of the exploitation plan has the ambition to present the methodology followed to develop the strategy and outline the expected results from proposal-stage. D6.2 Final Exploitation Plan, planned for the end of the project (M36), will be a final version gathering market analysis, business models and marketing strategies for each final product. The finalized exploitation plan will allow the CALIMERO consortium to exploit, protect and take benefits from its results.

### 1.2 Roles and Responsibilities

The CALIMERO project consortium is constituted by 12 partners that have been chosen in order to provide the suitable multidisciplinary knowledge, skills and expertise to obtain the expected output of scientific and technological results. They complement each other with adequate financial, technical and management abilities for the successful achievement of the project. Partners do not have legal or financial links between them. All the value chain is covered by the CALIMERO partners.

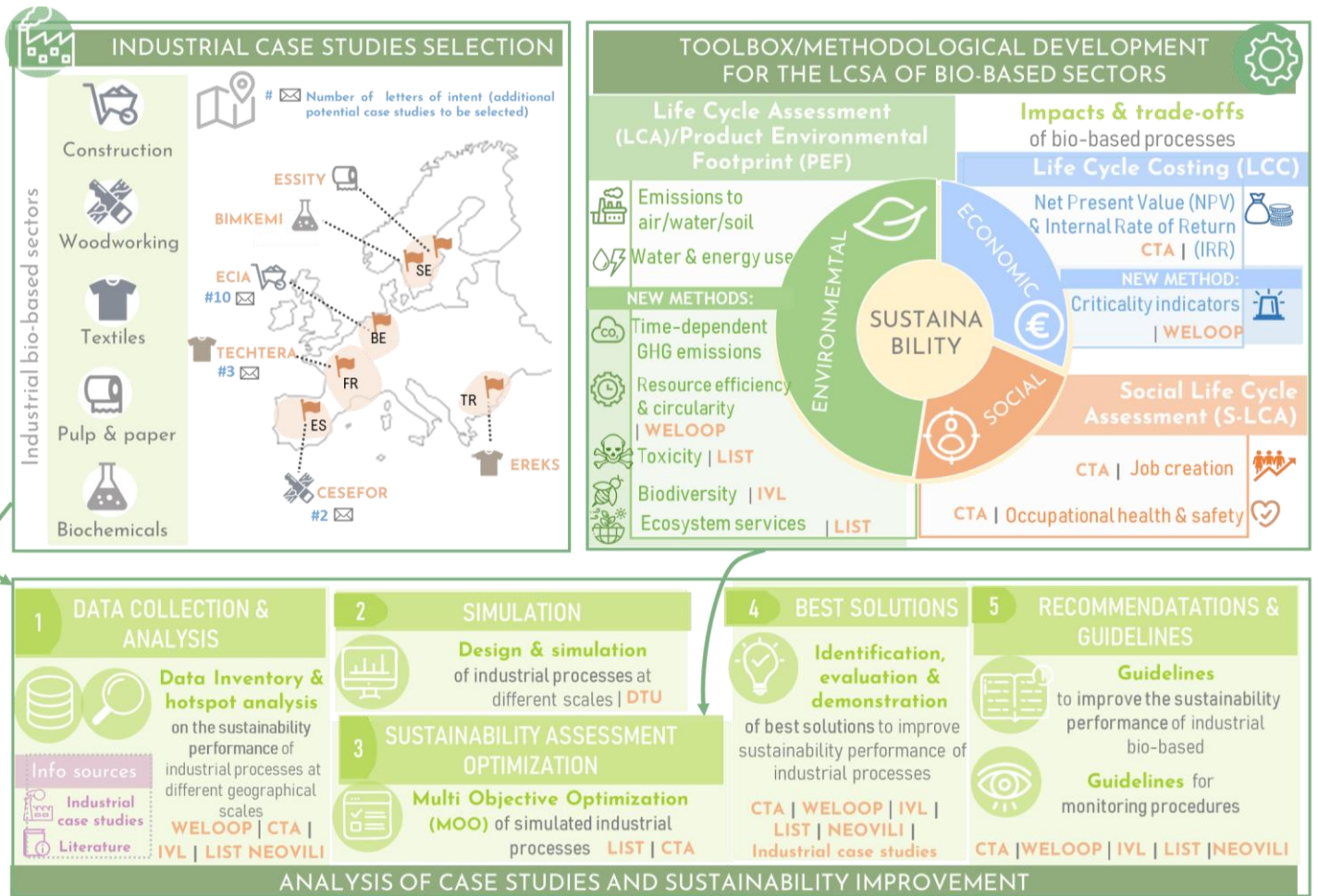


Figure 1. CALIMERO graphical abstract and main partners' role

### 1.2.1 Governance

The Board that controls all the Intellectual Property Rights regarding CALIMERO project is the Innovation & Exploitation Board (IEB). The IEB is formed by every partner that produced results during the length of the project or that are prone to IP sensitive issues. The IEB provides technical, legal and economic expertise in technology transfer, supporting guidance on IPR and innovation management, commercial assessment to enable the transfer of project's results outside the consortium for exploitation purposes.

The IEB is chaired by CONTACTICA and formed by one person for every partner with exploitable results (with commercial interest or not). They deal with the IP management following the IAPED strategy (see Figure 2: IAPED strategy Figure 2), project milestones monitoring, benchmarking, approval of dissemination materials, and risk due diligence on the implementation of the Exploitation Plan. The IEB manages the services of a Patent Attorney when prosecuting patents and licensing rights. The IEB also provides guidance to a multi-actor implementation and optimization of project activities, result transferability at industrial scale, and their exploitability to accelerate market access.

The complete list of people involved in the IEB has been finally defined in GA2. The table completed during the meeting is the following:

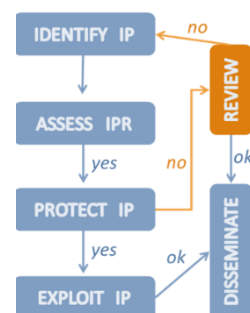


Figure 2: IAPED strategy

Table 1. IEB contact list

Innovation & Exploitation Board (IEB)	
Members (partner)	Contacts

The final list updated in M18 is presented in the confidential version of the Deliverable.

**INFORMATION HAS BEEN REMOVED TO AVOID SHARING PARTNERS' PERSONAL INFORMATION**

### 1.2.2 Guidelines

**INFORMATION HAS BEEN REMOVED TO AVOID IP ISSUES**

## 2 AMBITION OF THE PROJECT

CALIMERO aims to increase the sustainability of the industrial bio-based sectors, making them more resource-efficient and low-carbon, in order to mitigate the climate change and its impacts and preserving ecosystems services, natural resources, air/water/soil quality and biodiversity.

From the beginning of the project, CALIMERO partners are working to improve existing methodologies to assess the environmental impacts of industrial processes, adding: (1) characterization factors to assess biodiversity loss and impacts on ecosystem services, (2) the temporal dimension in GHG emissions, (3) criticality indicators and (4) enhanced assessment of circular systems, which can also consider economic and social aspects.

Specifically, CALIMERO's ambition is to identify and analyse the adverse environmental effects associated to five biobased industrial sectors (construction, woodworking, textile, pulp & paper, and biochemicals). Considering relevant trade-offs between environmental, economic and social aspects, the project will identify and demonstrate the best solutions to improve the environmental performance of the abovementioned biobased sectors through the use of a disruptive MOO tool for the simulation and optimization of industrial processes, considering sustainability indicators based on that improved methodology. Likewise, the project insights will contribute to the development of recommendations and guidelines to support bio-based industries for conducting processes modifications by making decisions related to aspects such as resources and energy efficiency, circularity of materials, replacement of toxic substances, greenhouse gas emissions reduction, etc. without causing harm to other impact categories.

### 2.1 Project objectives

CALIMERO aims at fulfilling the following objectives in its 36-month duration:

Technical objectives
To identify main barriers and incentives to apply life cycle thinking sustainability approaches and source of impacts in the target bio-based sectors.
To define reference case studies and identify levers to improve life cycle sustainability assessment methodologies and sustainability performances.
To improve existing sustainability assessment methodologies and their implementation for the 5 bio-sectors within the scope: (1) Life Cycle Assessment (LCA) methodology, will be improved, aligned with PEF through the consideration of regionalized impacts, circularity and criticality, temporal GHG emissions accounting, impacts on biodiversity and ecosystem services; (2) integrate Life Cycle Costing (LCC) with Social-Life Cycle Assessment (S-LCA) considerations.

To develop a MOO framework of industrial processes that integrates the improved LCSA methodologies based on PEF, for optimization of bio-based industrial processes with sustainability indicators

### Economic & Environmental Objectives

To provide feasible solutions with better sustainability performance than the current situation for the five studied bio-based industry sectors and the procedures to monitor their sustainability performance

### Communication & Dissemination & Exploitation

To maximize the impact of CALIMERO through tailored Exploitation, Dissemination and Communication activities aiming to pave the way to market of the sustainability assessment tool, build synergies with other R&D projects and transfer the project results to different target audiences.

## 2.2 State-of-the-art

Nowadays, environmental protection has evolved into a central concern in global policy discussions. Pressing issues such as climate change, waste management, deforestation, and biodiversity loss have attracted public attention. Manufacturing companies, driven by customer demands, competitive forces, and legislative mandates, are increasingly compelled to engage in environmental initiatives and adopt sustainable practices. The prevailing economic model endeavours to dissociate global economic development from finite resource consumption, pivoting away from the linear economy approach.

### 2.2.1 Role of LCA Methodology

Within this context, Life Cycle Assessment (LCA) methodology emerges as a critical tool for assessing the environmental performance of industrial sectors. LCA serves as a foundation for informed decision-making aimed at mitigating the environmental impacts of products, encompassing the entire supply chain—from raw material extraction and production to product use and final waste management.

### 2.2.2 Research Lines in CALIMERO Project

The state-of-the-art section in the CALIMERO project is organized into three primary research lines, reflecting the project's core objectives:

#### 2.2.2.1 Improvement of Existing LCSA Methodologies for Bio-based Industries

The PEF/OEF is the European Union's toolbox for Life Cycle Assessment (LCA), aiming to measure the environmental impacts of both products and organizations. While the importance of considering environmental dimensions and adopting a standardized approach for life cycle environmental performance assessment is undeniable, it is noteworthy that the PEF/OEF methodologies have certain gaps, as outlined below:

#### Gap 1: Sustainability Dimension

The existing Product Environmental Footprint (PEF/OEF) methodologies, recommended by the EU for LCA, exhibit gaps in incorporating social and economic dimensions. Addressing this, [Valdivia et al. \(2021\)](#) proposes ten principles for better-informed decision-making, yet further work is needed. The challenge lies in developing methodologies that align with the United Nations' Sustainable Development Goals, covering environmental, social, and economic aspects.

#### Gap 2: Assessment of Impacts on Biodiversity and Ecosystem Services

PEF struggles to assess bio-based products comprehensively, particularly in relation to impacts on biodiversity and ecosystem services. Enhancements are required to evaluate trade-offs and prevent burden shifting among impact categories.

#### Gap 3: Correct Accounting for Carbon Balance in Bio-based Products

Bio-based products pose challenges in terms of carbon balance assessment, overlooking the time dynamics involved. Existing assumptions, considering simultaneous occurrences of intermediate flows, need refinement to account for carbon storage potential and support climate objectives.

#### **Gap 4: Considering Circularity Aspects and Criticality Indicators**

Circularity in a bio-based context lacks clear definitions in the PEF Guide. Strategies to evaluate cascade effects and criticality indicators in a circular economy framework require further clarification.

##### *2.2.2.2 Identification, Evaluation, and Demonstration of Solutions*

Industry sustainability needs the demonstration of viable solutions to address significant environmental impacts. Best Available Technologies (BAT) and the European Commission's (EC) Best Available Techniques Reference Document (BREF) offer pathways for minimizing emissions and environmental impact. However, challenges persist in the high cost and time associated with identifying sustainable solutions, warranting the exploration of multi-objective optimization tools considering sustainability indicators.

##### *2.2.2.3 Recommendations and Guidelines for Bio-based Sectors*

Guidelines and recommendations are crucial to enhance the sustainability performance of bio-based industrial processes and align with EU objectives. Current guides recommended by the EC for assessing life cycle environmental impacts require refinement, especially concerning bio-based products. Additionally, there is a need to bridge the gap between LCA practitioners and industry/policy-makers, providing science and life cycle-based routes to enhance sustainability in bio-based sectors.

### **3 EXPLOITATION METHODOLOGY**

**INFORMATION HAS BEEN REMOVED TO AVOID IP ISSUES**

### **4 KEY EXPLOITABLE RESULTS**

#### **4.1 Procedure**

To give a thorough image of CALIMERO results and update the KERs, CTA will use a series of tools dedicated to discover the potential of the project and its results. As exploitation is a work that requires all partners' involvement, during the project timing, CTA will regularly send Exploitation Questionnaires (see Annex 1) to be completed with updated and relevant information from partners.

In order to collect the most appropriate information for each type of result, two types of questionnaires have been developed: a commercial and a non-commercial one (both included in Annex 1).

In this way, the partners have provided their contributions according to whether their KERs had potential for exploitation in the market or whether their exploitation strategy is oriented towards further research, publications, open-source dissemination, etc.

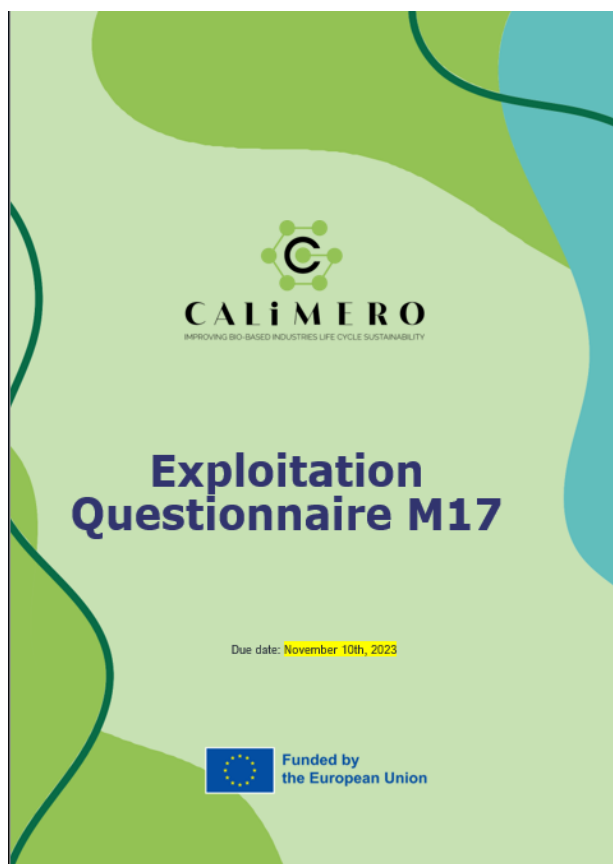


Figure 3: CALIMERO Exploitation Questionnaire main page

Moreover, these actions will be complemented by Exploitation Workshops during the General Assemblies or in online meetings if necessary. The Exploitation and IPR Workshop developed in the last General Assembly in September 2023 aimed at training partners in the exploitation activities and ensure fluent interaction with all the relevant parties.



Figure 4: Exploitation Workshop PowerPoint

With the use of the Exploitation Questionnaire and Exploitation Workshop, the results collected from the

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partners are included in a meta-table encompassing the project entire results as well as individual tables in order to keep the information as concise as possible and allowing the partners to use as a tool for their personal endeavours. Example models of such tables are included below.

Table 2: Meta-table for project KERs

Results	Owner	Partners	Description	Type	Innovation	State-of-the-art	Competition	Strategy	Time to market	Stakeholders

Table 3: Table template used for individual KERs

Key Exploitable Results n°1	
Description	
Lead partner	
Participating partners and their involvement	
Work package	
Exploitation potential	
Relevance and problem solution	
State-of-the-art	
Competitors	
Different applications	
Target users	
Value proposition	
Time to market (if applicable)	

In addition, partners have been asked about the advantages and possible disadvantages of their strategic results. The idea is to identify what added value and advantages the solutions they develop have with respect to those already existing in the market or science. Also, partners should describe the possible disadvantages or inconveniences that the solution could present regarding development, implementation, go to market or social acceptance.

An example of figure that summarize these pros and cons information for each KER is shown below.

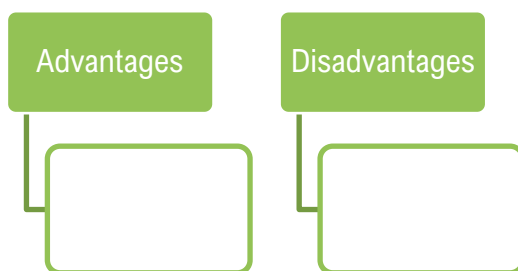


Figure 5 Advantages and Disadvantages for each KER

## 4.2 KER Table

### INFORMATION HAS BEEN REMOVED TO AVOID IP ISSUES

Partner	Result	Owner	Partners
<b>CTA</b>	Knowledge acquired in an improved, more complete and more suitable methodology to assess the environmental impacts of bio-based products	CTA	No
	Sustainable multi-objective optimization framework	CTA	LIST DTU
<b>CESEFOR</b>	New knowledge applied to the wood-based panel manufacturing related to: (1) the most impactful processes, (2) the solutions to reduce the environmental impact, (3) monitoring strategies to assess the environmental impact	CESEFOR	CTA, DTU, LIST, Neovili, IVL, Weelop
<b>WeLOOP</b>	Novel methodology for inventory and impact assessment of circularity and criticality indicators of bio-based products	WeLOOP	IVL, LIST, CTA, NEOVILI
	Monitoring procedures of target bio-based industries	WeLOOP	CTA
<b>NEOVILI</b>	Knowledge acquired in an improved, more complete and more suitable methodology to assess the environmental impacts for the textile sector	NEOVILI	DTU, IVL, LIST, WeLOOP, Techtera, Ereks
<b>TECHTERA</b>	New knowledges applied to textile sector	TECHTERA	IVL, DTU, WeLOOP, CTA, Neovili
<b>ESSITY</b>	Case studies definition and assessment for pulp and paper and forestry. Applicability of current and novel methodologies for biodiversity and ecosystem services.	IVL	Essity, LIST
<b>LIST</b>	COMMERCIAL: Updated temporal DyPLCA database	LIST	N/A
	COMMERCIAL: multi-objective optimization algorithm	LIST	CTA
	NON-COMMERCIAL: Method to character ecosystem services change through land use	LIST	TBD
	NON-COMMERCIAL: toxicity characterization set for used chemicals	LIST	TBD
<b>BIM Kemi</b>	New knowledge applied to the biochemical sector to reduce environmental impact, identify the most impactful processes and monitor strategies to assess the environmental impact	IVL	BIM Kemi
<b>DTU</b>	Simulation models	DTU	CESEFOR, Techtera, MELIORA
<b>EREKS</b>	EREKS BLUE MATTERS	EREKS	IVL, WeLOOP, NEOVILI, ECIA, CESEFOR, TECHTERA, ESSITY, BIM Kemi, LIST
<b>IVL</b>	ProScale and ProScale E method	IVL	No
	Simulation models in chemicals and pulp/paper industry:	IVL	Essity, BIM Kemi
	Novel methodology for inventory and impact assessment of biodiversity	IVL	Essity, LIST

	Knowledge about biobased industries sustainability performance and assessment of biobased value chains	IVL	No
<b>ECIA</b>	New knowledge in 3 fields: Boric acid, Biochar & Cardboard	WeLOOP	ECIA

## 5 IPR MANAGEMENT

CTA supports the partners in developing individual strategies as well as a joint strategy in order to ensure to follow the principles of the Horizon Europe projects regarding Open Access as well as ensuring all information and data are thoroughly protected when necessary to protect the partners' interest and added value.

### 5.1 Methodology

Before the project started, partners signed the Consortium Agreement (CA) for the management of the knowledge produced, which was developed around the following major points:

- The partners identified their pre-existing know-how, to which they grant access rights to the consortium in the Annex 1 to the Consortium Agreement. Partners were able to define the scope of already existing IPR ("background") to which access rights will be granted to the entire consortium.
- The contractors agreed that the access rights on the knowledge needed for carrying out the project shall be granted on a royalty-free basis.
- All project results (foreground) will be available for use to all partners.
- IP arising from the work carried out collectively will be the joint property of the partners. In this case, the partners will jointly apply to obtain and/or maintain the relevant rights and shall strive to set up amongst themselves appropriate agreements in order to do so. Decision-making procedures are well-defined in the CA. Knowledge/IP generated within the life of the project by individual partners will be owned by the partner generating it.

### 5.2 Background IP

**INFORMATION HAS BEEN REMOVED TO AVOID IP ISSUES**

### 5.3 Foreground IP

**INFORMATION HAS BEEN REMOVED TO AVOID IP ISSUES**

## 6 NEXT STEPS

The work carried out for this deliverable had the main objective of beginning to plan the exploitation strategies of each partner and the means to protect the KERs of the project.

During the coming months, work will continue to improve strategies and advice will be provided to partners to define their strategic results and exploitation activities. In addition, we will develop more tools to continue detecting business opportunities and the path to effective exploitation.

Below are some of the tools that will be used to meet the desired objectives. The results, exploitation strategies, market analysis and complete business plan will be presented in the final deliverable 6.2.

### 6.1 SWOT Analysis

SWOT analysis is a strategic management technique used to identify Strengths, Weaknesses, Opportunities, and Threats to establish the internal and external factors that are favourable and unfavourable to achieving the objectives of the venture or project. At M18, Advantages and disadvantages have been determined for each partner's results and that information was presented before in section 4.3 Partner's individual results.

For the next deliverable, a complete SWOT analysis will be carried out and we will work with each partner so that they can define their Strengths and Weaknesses and also the context of their results and thus be able to make more conscious and effective decisions when exploiting their solutions.

A figure similar to the example below will be presented at the end of the project.

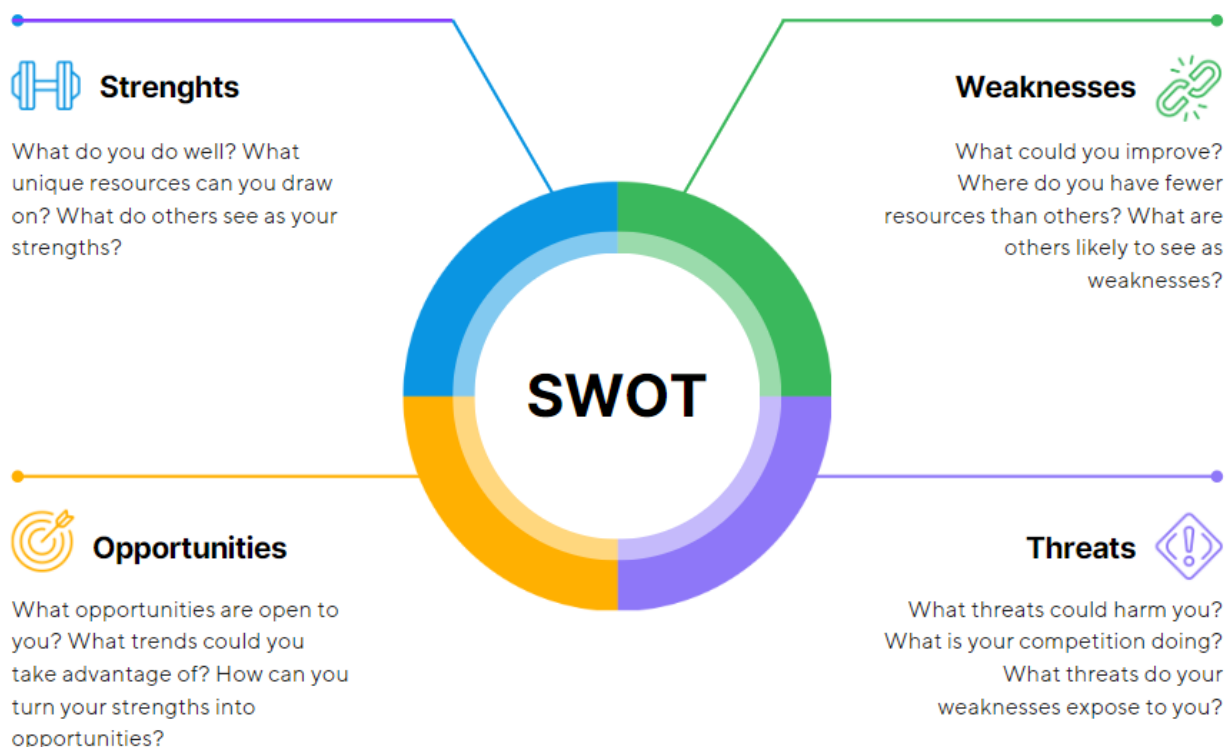


Figure 6 SWOT Analysis. Source: CTA

## 6.2 Business model

The Business Model Canvas is a strategic management template used for developing new business models developed by Alexander Osterwalder and Yves Pigneur in 2010. (Alexander Osterwalder, Yves Pigneur, 2010).

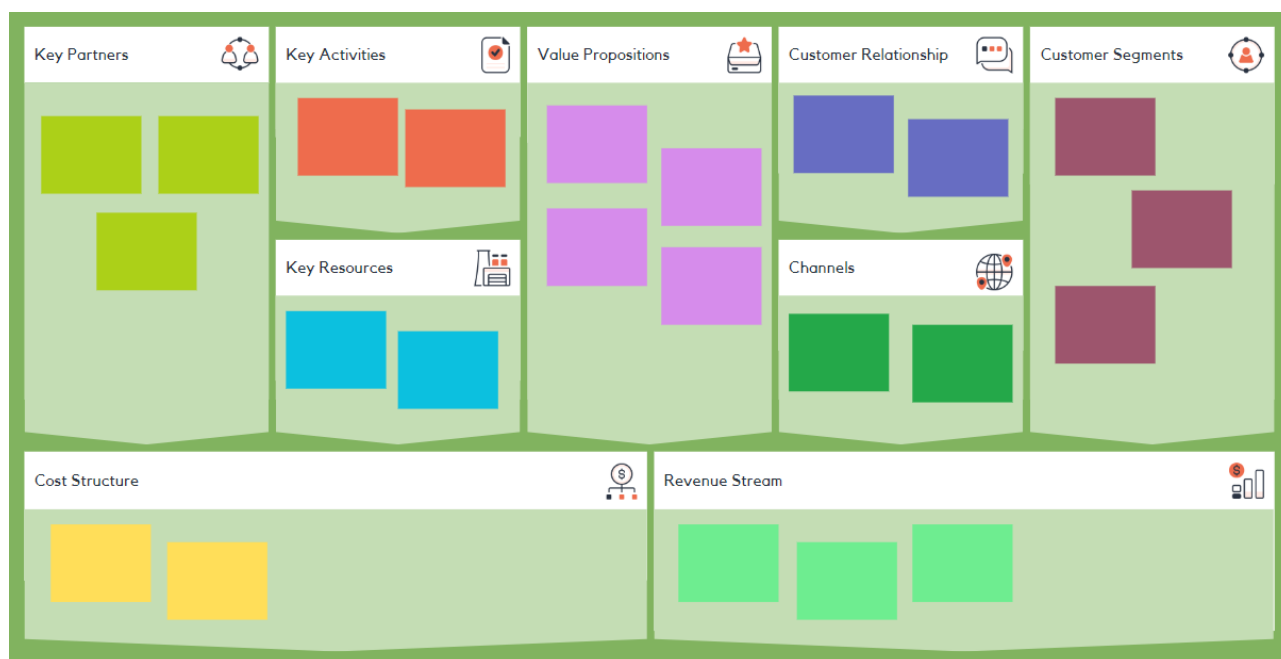


Figure 7 Business Model Canvas template

This tool will be used for D6.2 to be able to present a complete and defined Business Plan of all the commercial results of the project. Here the business models to apply in CALIMERO will be developed and the potential clients, revenue, costs, partners, etc. expected at the end of the project will be defined.

These business plans will be the basis for partners to continue planning their commercial strategies and obtain benefits from the results developed in the project.

### 6.3 Market analysis

Another activity that will be carried out for the next deliverable will be a market analysis of the commercial solutions and the CALIMERO project in general. We will work with partners to carry out a market description including market size, growth potential, market barriers/opportunities, identification of potential end-users, etc.

In addition, the marketing strategy will be developed for the innovative methodologies, products and services, developing information on the segmentation strategy (target users), pricing, marketing channels and promotion strategies.

## 7 CONCLUSION

The main objective of CALIMERO is to build on primary data from industrial case studies from construction, woodworking, textile, pulp & paper and biochemicals, to (1) improve current Life Cycle Sustainability Assessment (LCSA) methodologies of bio-based products, (2) identify and proposed sectorial and cross-sectorial solutions to tackle sustainability hotspots to bio-based industries and (3) develop guidelines and recommendations to assess, monitor and improve their sustainability performance.

This Preliminary Exploitation Plan serves as a guide to show where the project is heading and the means that the consortium is taking to reach the expected results and objectives. D6.1 provides an overview of the current status of the results and is the latest update of CALIMERO exploitation strategy and methodology. The report is a first version that will help a successful project close up when coming to its end in M36, ensuring that all partners have clear exploitation next steps to implement at the end of the funding periods.

All sections of this document will be updated in the deliverable D6.2 “Final Exploitation Plan”, as well as the

methodology if required to best reflect the consortium final thoughts.

Thanks to the collaboration of the partners who complete with the most relevant inputs about their KERs and prepared their preliminary exploitation plans, valuable information has been obtained that will serve as a map for the next coming period. In addition, thanks to the exploitation workshop, partners have started launching ideas for future synergies to continue collaborating between each other.

At this intermediate stage, the options that the partners have to meet their objectives of exploiting their results, individually or jointly, were validated and during the following months, they will be able to take advantage of the efforts that are being made.

To sum up, it's important to highlight that CALIMERO has proven its desire to concretize its objectives into realistic results that will have real positive impact for the whole consortium, partners individually, the European Commission and the society in general.

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## 9 ANNEXES

### Annex 1: Commercial questionnaire

#### Section 1: Key Exploitable Results (KER)

##### 1. Please fill in the following information

KER Name	Click or tap here to enter text.
Lead Partner	Click or tap here to enter text.
Participating Partners	Click or tap here to enter text.
TRL	Initial: Click or tap here to enter text. Current: Click or tap here to enter text. Expected at the end: Click or tap here to enter text.
Work Package	Click or tap here to enter text.

TRL 1 – basic principles observed  
TRL 2 – technology concept formulated  
TRL 3 – experimental proof of concept  
TRL 4 – technology validated in lab  
TRL 5 – technology validated in relevant environment (industrially relevant environment in the case of key enabling technologies)

TRL 6 – technology demonstrated in relevant environment (industrially relevant environment in the case of key enabling technologies)

TRL 7 – system prototype demonstration in operational environment

TRL 8 – system complete and qualified  
TRL 9 – actual system proven in operational environment (competitive manufacturing in the case of key enabling technologies; or in space)

(Commission, HORIZON 2020 – WORK PROGRAMME 2014-2015, 2023)

##### 2. KER description (Please include principal characteristics/functions/how it works, etc)

*Describe in a few lines your result and/or solution (i.e., product, service, process, standard, course, policy recommendation, publication, etc.). Use simple wording, avoid acronyms, make sure you explain how your Unique Value Proposition is delivered.*

Click or tap here to enter text.

##### 3. If this technology is developed by more than one partner, please indicate the contribution of each partner and how the ownership will be distributed among the partners.



**Technology Readiness Levels**

- TRL 0: Idea.** Unproven concept, no testing has been performed.
- TRL 1: Basic research.** Principles postulated and observed but no experimental proof available.
- TRL 2: Technology formulation.** Concept and application have been formulated.
- TRL 3: Applied research.** First laboratory tests completed; proof of concept.
- TRL 4: Small scale prototype** built in a laboratory environment ("ugly" prototype).
- TRL 5: Large scale prototype** tested in intended environment.
- TRL 6: Prototype system** tested in intended environment close to expected performance.
- TRL 7: Demonstration system** operating in operational environment at pre-commercial scale.
- TRL 8: First of a kind commercial system.** Manufacturing issues solved.
- TRL 9: Full commercial application,** technology available for consumers.

If this result/research activity is developed by more than one partner, please indicate the contribution of each partner and how the ownership will be distributed among the partners. Please make a brief description of each partner's contribution; the ownership distribution; value added by each partner; if applicable, mention how partners will coordinate their efforts and how communication and decision-making related to the shared result will take place.

Partner	Contribution
Click or tap here to enter text.	Click or tap here to enter text.
Click or tap here to enter text.	Click or tap here to enter text.

**4. The new technology/product could be used in the form of (Choose all the options that apply to your result):**

- Software       Products       Research Roadmaps       Policy recommendations  
 Processes       Services       Pre-standards       (Collaboration) platforms  
 Data       Reports       Codes of conduct       Educational material  
 Prototypes       Skills and knowledge

**5. What makes this new technology/product (KER) attractive to the potential markets/users? Key benefits or problems solved by this new technology/product? What is its added value compared to existing technologies?**

Please mention the key benefits or advantages that this technology offers and why is better to the existing ones; describe the challenges or problems that this technology aims to solve focusing in a simple way on how the result could benefit or add value to the market/society/community/stakeholders.

Click or tap here to enter text.

**6. What is the current state-of-the-art in the domain of this new technology/product (KER)?**

Provide information about most recent developments in the field of the technology or product, key technological advancements, relevant research or innovations that have recently emerged, emerging trends and areas of focus in the industry or community related to your KER, any references to leading products, solutions, or companies in this domain. Also explain how the technology fits within or contributes to the current state-of-the-art.

Click or tap here to enter text.

**7. What technology/product or company/research centers do you think will be the major competitors for this KER?**

Mention any existing technologies/products/research outcomes that are similar or related to the result; Name some companies or organizations that are currently active in the same field

Click or tap here to enter text.

**8. How do you plan on exploiting the project results after the end of the project? (You can choose one or more options)**

- Use for further research
- Develop and sell the new product/service
- Spin off activity
- Cooperation agreement/Joint venture
- Sell IP rights or IP-based business
- License IP rights
- Transfer ownership of IP rights to another partner from the consortium
- Standardization activities (new standards or support ongoing procedures)
- Other methods. Please indicate:

**9. Will this new result/research activity (KER) be marketable? Yes  No  - If so, what is the time to market after the end of the project (in years)?**

*Provide an estimate of the time it will take to bring this result to the market after the project's completion. When estimating the time to market, consider factors such as product development, testing, regulatory approvals (if applicable), market research, and any other relevant steps in the commercialization process.*

## Section 2: Technology Watch

**1. What are the different applications for this technology (KER)?**

*Potential applications for the new result. Think broadly about how this technology or research finding could be applied in different contexts. Examples of how the result could be used in practical applications (These examples should illustrate the versatility and adaptability of the technology).*

**2. Who will be the target customers or users of the new technology?**

*Enumerate the specific user groups or stakeholders who are expected to benefit from, interact with or by affected by the new result; Identify early adopters*

**3. What is the value that you would like to get from this KER? (e.g., for scientific, societal, or economic purposes, etc.) And how do you plan to get the value?**

Define the types of value you seek to derive from the result; Describe specific objectives related to the value. Outline strategies or approaches you plan to use to get it.

Click or tap here to enter text.

**4. What is the advantage and disadvantage of this new result/research activity (KER) comparing to existing ones?**

*Advantages: Identify the unique features or value of the new result that set it apart from existing ones and describe how it performs better than existing solutions; If applicable, explain how the new technology is more cost-efficient.*

*Disadvantages: limitations or drawbacks of the new result. Explain if there are barriers to initial adoption or implementation that potential users may face.*

Click or tap here to enter text.

### Section 3: IPR Strategy and Protection

#### Foreground IP (Intellectual protection of the KER)

**1. How do you plan to protect this technology, service, product, asset?**

Trade secret

Copy right

Trade mark

Patent

Utility model

Industrial design

Other methods. Please indicate:

Click or tap here to enter text.

No protection is foreseen. Please explain why:

Click or tap here to enter text.

#### Background IP (existing IP, previous to project start):

**2. Does this KER rely on any existing IP/background IP? What is it? Who owns it? Is the background IP protected? If so, how?**

*Remember that the background information cannot be modified with respect to what you have said in the proposal stage. However, we ask for a broader description of the knowledge, models, methods, patents, etc. that you have brought to the project to have more context about your expertise and value contribution.*

Click or tap here to enter text.

**Thank you very much for your contribution!**



## Annex 2 : Non-commercial questionnaire

### Section 1: Key Exploitable Results (KER)

#### 1. Please fill in the following information

KER Name	Click or tap here to enter text.
Lead Partner	Click or tap here to enter text.
Participating Partners	Click or tap here to enter text.
Work Package	Click or tap here to enter text.

#### 2. KER description (Please include principal characteristics/functions/how it works, etc)

Describe in a few lines your result and/or solution (i.e., product, service, process, standard, course, policy recommendation, publication, etc.). Use simple wording, avoid acronyms, make sure you explain how your Unique Value Proposition is delivered.

Click or tap here to enter text.

#### 3. If this result/research activity is developed by more than one partner, please indicate the contribution of each partner and how the ownership will be distributed among the partners.

If this result/research activity is developed by more than one partner, please indicate the contribution of each partner and how the ownership will be distributed among the partners. Please make a brief description of each partner's contribution; the ownership distribution; value added by each partner; if applicable, mention how partners will coordinate their efforts and how communication and decision-making related to the shared result will take place.

Partner	Contribution
Click or tap here to enter text.	Click or tap here to enter text.
Click or tap here to enter text.	Click or tap here to enter text.

#### 4. The new result/research activity could be used in the form of (Choose all the options that apply to your result):

- |                                     |   |  |  |
|-------------------------------------|---|--|--|
| <input type="checkbox"/> Software   | <input type="checkbox"/> Products             | <input type="checkbox"/> Research Roadmaps | <input type="checkbox"/> Policy recommendations    |
| <input type="checkbox"/> Processes  | <input type="checkbox"/> Services             | <input type="checkbox"/> Pre-standards     | <input type="checkbox"/> (Collaboration) platforms |
| <input type="checkbox"/> Data       | <input type="checkbox"/> Reports              | <input type="checkbox"/> Codes of conduct  | <input type="checkbox"/> Educational material      |
| <input type="checkbox"/> Prototypes | <input type="checkbox"/> Skills and knowledge |  |  |

#### 5. How is this research/result relevant in its field? What problem does it solve or what value does it add to its field?

Please mention the key benefits or advantages that this result/research offers and why is it relevant in its field; if applicable, describe the challenges or problems that this result aims to solve focusing in a simple way on how the result or research outcomes could benefit or add value to society/community/stakeholders.

Click or tap here to enter text.

**6. What is the current state-of-the-art in the domain of this new result/research activity (KER)?**

*Recent trends, developments, or advancements in the field; if applicable, identify key researchers, organizations, or projects that are leading this area; describe the technologies, methods, or approaches that are commonly used; explain how the result/research activity fits within or contributes to the current state-of-the-art and highlight what makes it innovative or different from existing approaches.*

Click or tap here to enter text.

**7. What technology/product or company/research centers do you think will be the major competitors for CALIMERO project?**

*Mention any existing technologies/products/research outcomes that are similar or related to the result; Name some companies or organizations that are currently active in the same field; If relevant, mention any research centres or academic institutions that are conducting research in a similar domain*

Click or tap here to enter text.

**8. How do you plan on exploiting the project results after the end of the project? (You can choose one or more options)**

- Use for further research
- Develop and sell the new product/service
- Spin off activity
- Cooperation agreement/Joint venture
- Sell IP rights or IP-based business
- License IP rights
- Transfer ownership of IP rights to another partner from the consortium
- Standardization activities (new standards or support ongoing procedures)
- Other methods. Please indicate:

Click or tap here to enter text.

## Section 2: Technology Watch

**1. What are the different applications for this new result/research activity (KER)?**

*Potential applications for the new result or research activity (KER). Think broadly about how this technology or research finding could be applied in different contexts. Examples of how the result or research activity could be used in practical applications (These examples should illustrate the versatility and adaptability of the technology).*

Click or tap here to enter text.

**2. Who will be the target users of the new result/research activity?**

Enumerate the specific user groups or stakeholders who are expected to benefit from, interact with or be affected by the new result or research activity; Identify early adopters

Click or tap here to enter text.

**3. What is the value that you would like to get from this new result/research activity (KER)? (e.g., for scientific, societal, or economic purposes, etc.) And how do you plan to get the value?**

Define the types of value you seek to derive from the result or research activity; Describe specific objectives related to the value. Outline strategies or approaches you plan to use (e.g.: collaborations, dissemination, commercialization, policy advocacy).

Click or tap here to enter text.

**4. What is the advantage and disadvantage of this new result/research activity (KER) comparing to existing ones?**

*Advantages: Identify the unique features or value of the new result or research activity that set it apart from existing ones and describe how the new result/research activity performs better than existing solutions; If applicable, explain how the new activity is more cost-efficient.*

*Disadvantages: limitations or drawbacks of the new result or research activity. Explain if there are barriers to initial adoption or implementation that potential users may face.*

Click or tap here to enter text.

**5. Are there any publications related to your result/research activity in the project that you are aware of?**

Provide a list of these publications. Include titles, authors, publication dates, and any relevant details. Also mention future or planned publication.

Click or tap here to enter text.

## Section 3: IPR Strategy and Protection

### FOREGROUND IP (INTELLECTUAL PROTECTION OF THE KER)

**1. How do you plan to protect this new result/research activity/ new knowledge (KER)?**

Trade secret

Copy right

Trade mark

Patent

Utility model

Industrial design

Other methods. Please indicate:

Click or tap here to enter text.

No protection is foreseen. Please

Click or tap here to enter text.

explain why:

**BACKGROUND IP (EXISTING IP, PREVIOUS TO PROJECT START):**

- 2. Does this new result/research activity (KER) rely on any existing IP/background IP? What is it? Who owns it? Is the background IP protected? If so, how?**

*Remember that the background information cannot be modified with respect to what you have said in the proposal stage. However, we ask for a broader description of the knowledge, models, methods, patents, etc. that you have brought to the project to have more context about your expertise and value contribution.*

Click or tap here to enter text.

**Thank you very much for your contribution!**

