

D7.7 Stakeholder Focus Group Creation

Due date of submission: 31/12/2024

Actual submission date: 19/12/2024

Resubmission date: 27/11/2025



Funded by
the European Union

TABLE OF CONTENTS

Table of contents.....	2
List of figures.....	2
List of tables	2
List of acronyms.....	3
Project information.....	4
Deliverable details	5
1 1. Introduction.....	6
1.1 Context	6
1.2 Objectives of the project	7
1.3 Methodology.....	8
2 Stakeholder analysis	9
3 Stakeholder focus groups	23
3.1 List of stakeholders engaged.....	23
3.2 Mapping of selected stakeholders.....	25
3.3 Matrix of engagement level of stakeholders.....	26
4 Participatory workshop	28
5 Conclusion	28

LIST OF FIGURES

Table 1. Governmental institutions, policy makers & trade and certification bodies	10
Table 2: Scientific community	12
Table 3: End users	16
Table 4: Sustainability Associations and Platforms	21
Table 5: List of stakeholders engaged.....	24

LIST OF TABLES

Table 1. Governmental institutions, policy makers & trade and certification bodies	10
Table 2: Scientific community	12
Table 3: End users	16
Table 4: Sustainability Associations and Platforms	21
Table 5: List of stakeholders engaged.....	24

LIST OF ACRONYMS

PROJECT INFORMATION

Project full title: Harmonised Life Cycle Assessment methods for sustainable and circular BIO based systems

Acronym: LCA4BIO

Call: HORIZON-CL6-2023-ZEROPOLLUTION-01

Topic: HORIZON-CL6-2023-ZEROPOLLUTION-01-04 - Environmental sustainability and circularity criteria for industrial bio-based systems

Start date: 1st January 2024

Duration: 36 months

List of participants:

PARTNER N°	PARTICIPANT ORGANIZATION	ACRONYM
1 (Coord.)	CONTACTICA SL	CTA
2	AALBORG UNIVERSITET	AAU
3	LUXEMBOURG INSTITUTE OF SCIENCE AND TECHNOLOGY	LIST
4	INSTITUT NATIONAL DES SCIENCES APPLIQUEES DE TOULOUSE	INSA TOULOUSE
5	NORGES TEKNISK-NATURVITENSKAPELIGE UNIVERSITET	NTNU
6	BIOECONOMY FOR CHANGE	B4C
7	BUSINESS E-INCUBATOR GO-UP	GOUP
8	FUNDACION CENTRO DE SERVICIOS Y PROMOCION FORESTAL Y DE SU INDUSTRIA DE CASTILLA Y LEON	CESEFOR
9	SONAE ARAUCO PORTUGAL SA	SONAE
10	ASOCIACION PARA LA CERTIFICACION ESPANOLA FORESTAL	PEFC ESPAÑA

DELIVERABLE DETAILS

Document Number:	D7.7
Document Title:	Stakeholder focus groups creation
Dissemination level	PU – Public, fully open,
Period:	PR1 / PR2
WP:	WP7
Task:	T7.3
Authors:	Andres Comba / Régis ESSIS
Reviewers	Chloé Joly / Estibaliz Garmendia / Tamara Coello / Anahi Fernandez
Abstract:	This document is twofold: first, it provides a stakeholder analysis through a comprehensive overview of the key organizations that may be impacted by or influenced by the LCA4BIO project. Secondly, the document includes a list of entities willing to take part in the co-creation process of the methodologies and tools to be developed by the project.

Version	Date	Description
01	08/11/2024	First draft shared with the partners
02	14/11/2024	Comments and feedback provided
03	27/11/2024	Integration and editing
04	19/12/2024	Submission of the report
05	27/11/2025	Resubmission of the updated deliverable with its title

1. INTRODUCTION

The objective of this deliverable is to map the groups and organizations that have an interest in or are affected by LCA4BIO and analyze their potential contribution to the project's success. Particularly, in the areas defined in Task 7.3 Stakeholder engagement which states that: *“a complete analysis of the most important external stakeholders will be carried out by B4C as a basis for communication, dissemination and exploitation but also and particularly for the tasks on co-creation and testing of the new methodology in WP5&6 (T5.2, T6.1, T6.3)”*. Communication and Dissemination activities involves participation in events, conferences and workshops but also regular management of the account on the social media and the website. For the co-creation activities, a process that is enhanced through designed activities that aims at unleashing individual creativity in a meaning sharing, sense-making, decision-making collective experience, the channel chosen by the consortium are workshops.

Overall impact of the project as expected by the consortium and mentioned the Grant Agreement includes that the new approaches developed in LCA4BIO stimulate *“(...) the growth of the European bio-based sectors that could lead to reduce the GHG emissions and other environmental impacts, and promote circularity processes along the economy and society, and thus allows a bigger impact for the results.”* which can not be done without a close collaboration with the stakeholders of the bio-based sectors dealing with LCA. This collaboration ensures that the project is useful for them the practitioners as their specific needs, concerns, and potential impact will be collected and activities will be tailored to maximize their engagement.

In order to prepare the Communication, Dissemination, Exploitation and co-creation activities, this report presents a first mapping and brief analysis exercise based on the “snowballing” methodology (see 1.3 Methodology for explanations) and introduces several entities divided in target groups of relevance for LCA4BIO (See 2 Stakeholders analysis). The mapping will be updated over time as the project partners identify additional relevant contacts for engagement. The document presents also a list of entities available to contribute even further to the project by taking part in the co-creation process (See 3 Stakeholder focus group). A confidential database is set up in parallel with contact details of the identified relevant organisations and stored on the SharePoint of the project.

1.1 Context

Stakeholders are defined as individuals, groups, or organisations who may affect, be affected by or perceive themselves to be affected by a decision, activity, or the outcome of a project. In the context of LCA4BIO, stakeholders are mainly entities in the bio-based sector, dealing with LCA and/or affected by implementation of the project. More explanation and precision on the challenges and needs they may have, is provided in part 2 Stakeholders Analysis.

For a clearer understanding, we divided them in the following groups:

- Governmental institutions, policy makers & trade and certification bodies.

- Scientific community (e.g. LCA practitioners, bioengineers, academia, research groups)
- End users: bio-based industry companies, LCA specialized consulting companies and bio-based industry associations
- Sustainability Associations and Platforms

These group are sufficiently encompassing to consider the stakeholders we are looking for. Taking this stakeholders analysis as basis, Contactica (leading entity in charge of the communication and dissemination strategy of the project) will design some tailored activities with the view to create a long-term community for sharing the results of the project. It should be noted that LCA4BIO will lead to an even bigger involvement of the stakeholders on the course of the project through some workshops whose objectives is to cocreate LCA methodologies and tools.

1.2 Objectives of the project

The LCA4BIO project is a key initiative to develop robust, harmonized Life Cycle Assessment (LCA) methodologies and tools to better assess the sustainability of bio-based products. As the bio-based industry expands, so does the need for rigorous, scientifically backed frameworks that help assess the environmental impact of these innovations across their entire lifecycle. LCA4BIO seeks to bridge the gap between current methodologies and the dynamic needs of the bio-based sector, enabling industries to make informed and sustainable choices.

Deliverable D7.7 Stakeholder focus group (within WP7) outlines the structured process for creating and organizing stakeholder focus groups, a critical step in the LCA4BIO project, not only to disseminate and communicate on the developments within the project, but also to co-create and test the new methodology developed within WP5 and WP6. This deliverable outlines the efforts to both map and engage external stakeholders in the bio-based industry, ensuring their expertise and interests are incorporated into the project's objectives and developments.

More broadly, through the active engagement and collaboration of stakeholders, LCA4BIO is committed to reach the following ambitious results:

- Develop enhanced methodologies for assessing environmental impacts and circularity in bio-based systems.
- Validate the reliability and precision of the developed assessment tools.
- Facilitate the green transition of European industries by providing practical sustainability evaluation methods for bio-based products.
- Address prospective life cycle assessment methodologies, considering upscaling and future scenarios.
- Foster collaboration among stakeholders in the bioeconomy value chain to ensure the adequacy and applicability of the developed methodologies.

1.3 Methodology

To maximize the adequacy and adoption of LCA4BIO's developments among relevant actors, a comprehensive stakeholder analysis was conducted by Bioeconomy for Change (B4C). This analysis will serve as a foundational element for effective communication, dissemination, and exploitation strategies, and will be particularly crucial for the co-creation and testing of the new methodology in Work Packages 5 and 6.

During the stakeholder analysis, we mapped and classified the stakeholders based on their expertise and needs vis-à-vis the project. This classification encompassed a variety of groups, including governmental institutions, certification bodies, industrial players, startups, researchers, consumer associations, and LCA consultants, among others. This structured analysis provided us with a clearer understanding of the ecosystem surrounding LCA4BIO and the diverse perspectives that stakeholders brought to the table.

In the order to map the actors, we mixed:

- **The snowball sampling method**, a qualitative method where subjects (entities members of the consortium in force) recruit future subjects from among their networks. Step 1 consists in defining initial participants (members of the consortium of LCA4BIO) that fit the scope of the project, step 2, in asking for referrals according to the target groups mentioned higher (entities dealing with LCA for bio-based sectors) and step 3, in repeating the process. Using this method allows to reach qualitative stakeholders within the scientific community and end users target groups with more precision, relying on partners' networks.

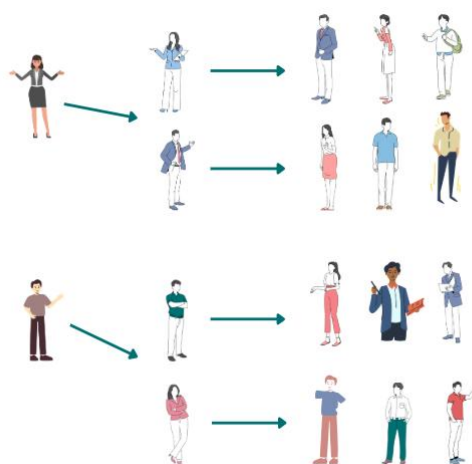


Figure 1: Snowball methodology representation

- **And a review of grey information**, a methodology whose efficiency is proved on identifying the larger number of entities in the target groups related to policy making for instance. Furthermore, this methodology can be used for any type of entities provided that their actions and expertise are acknowledged and public on a specific thematic. Which result in articles, papers, videos, on internet.

Thus, B4C assessed its network, which has over 500 members, and leveraged the networks of project partners. Then, targeted interviews were conducted, and questionnaires were sent to the identified stakeholders.

2 STAKEHOLDER ANALYSIS

One of the efficient means to reach the objectives of the LCA4BIO project is to actively engage a diverse range of relevant stakeholders to benefit from their expertise in the design of the methodologies and tools. This includes governmental institutions, certification bodies, industrial players, startups, researchers, consumer associations, and LCA consultants, as well as other external parties. By fostering collaboration among these varied groups, the project aims to gain a comprehensive perspective and maximize its impact on the bioeconomy landscape. Involving such a broad spectrum of stakeholders ensures that multiple viewpoints are considered, enhancing the project's effectiveness and relevance in addressing key challenges. Thus, the following four groups have been identified as relevant stakeholder groups to map and engage with:

Governmental institutions, policy makers & trade and certification bodies: This type of entities may be interested in LCA4BIO as the project can provide valuable insights to inform policy decisions, regulatory frameworks, and standardization efforts in the bio-based sector.

What are their specific Challenges/Needs?

- Giving clarity on green claims both for the market and the consumers, ensuring consistency and comparability across different sectors to facilitate accurate comparisons and decision-making is crucial for them.
- Addressing data gaps and improving data quality to enhance the reliability of LCA assessments.
- Developing and implementing policies and regulations that incentivize sustainable practices and incorporate LCA principles.

What are the potential benefits for them to engage with LCA4BIO?

- Access to reliable LCA data and insights to support evidence-based policy decisions.
- Contribute to the development of harmonized LCA methodologies and standards.
- Develop effective regulations that promote sustainable practices and reduce environmental impact.
- Facilitate the development of sustainable supply chains and promote international trade in bio-

based markets.

Table 1. Governmental institutions, policy makers & trade and certification bodies

Entity	Description	Country
ADEME (Agence de la Transition Écologique)	The French Environment and Energy Management Agency, which promotes sustainable development through energy efficiency and resource conservation, including bioeconomy initiatives	France
AENOR (Asociación Española de Normalización y Certificación)	Spanish organization for standardization and certification, including bio-based products and sustainability standards	Spain
AFNOR (Association Française de Normalisation)	The French national organization for standardization, which develops and certifies sustainability standards, including those for bio-based products	France
Alliance for Beverage Cartons and the Environment (ACE)	The ACE provides a European platform for beverage carton manufacturers and their paperboard suppliers to benchmark and profile beverage cartons as a safe, circular and sustainable packaging solution with low carbon benefits.	United Kingdom
Alliance for Biosolutions	Is an organization dedicated to promoting sustainable biobased solutions across various industries. It brings together businesses, researchers, and policymakers to foster collaboration and innovation in the development of bioeconomy initiatives	Denmark
Bureau Veritas	Global leader in testing, inspection, and certification services	France
Control Union	This is a centralised online system that enables customers to manage and track their certification and inspection activities.	Germany
ECOS	ECOS is an international NGO with a network of members and experts advocating for environmentally friendly technical standards, policies and laws	Belgium
European Commission – DG Research & Innovation	Plays a major role in shaping bioeconomy policies and promoting research into sustainable innovations across Europe	Belgium
European Commission – DG Environment	Responsible for EU environmental policy, including LCA methodologies and bioeconomy strategies.	Belgium
EU Ecolabel	The EU's official label of environmental excellence that certifies products and services meeting high environmental standards, including bio-based products	Belgium
European Committee for Standardization (CEN)	Sets standards, including for bio-based products and LCA methodologies, contributing to sustainable industry practices across Europe	Belgium
Flanders	The environmental agency responsible for water, air, and soil quality in	Belgium

Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or European Research Executive Agency. Neither the European Union nor the granting authority can be held responsible for them.

Environment Agency (VMM)	Flanders, Belgium, with initiatives related to bioeconomy and circular economy	
FranceAgriMer	National Establishment for Agricultural and Sea Products	France
German Bioeconomy Council	It advises the German government on the implementation of the National Bioeconomy Strategy	Germany
Global Reporting Initiative (GRI) Europe	A platform that provides standards for sustainability reporting and works with European organizations to improve transparency	Belgium
ISCC (International Sustainability and Carbon Certification)	A certification system for sustainable and traceable bio-based products, including agricultural and waste-based feedstocks	Germany
Italian Ministry for the Environment, Land and Sea	Promotes sustainable development, bioeconomy, and environmental protection in Italy	Italy
Ministry of Ecological Transition	The French ministry responsible for environmental policies, including climate change, circular economy, and the bioeconomy.	France
Ministry of Agriculture, Nature and Food Quality (Netherlands)	Oversees policies related to agriculture and sustainability, promoting the bio-based economy in the Netherlands	Netherlands
Ministry of Agriculture, Food Sovereignty and Forestry (MAAF)	The remit of the MAAF covers a wide range of areas: from the economy to health protection, from education to the territories.	France
RSB	A global certification system that ensures bio-based products, such as fuels and materials, meet sustainability standards	Germany
UBA (Umweltbundesamt)	German Environment Agency, responsible for environmental protection, including Life Cycle Assessment (LCA) policies and standards	Germany
UNI – Ente Italiano di Normazione	Is a private, not-for-profit association that carries out regulatory activities in Italy in the industrial, commercial and service sectors, with the exception of electrical engineering and IEC electronic skills	Italy

Scientific community (e.g. LCA practitioners, bioengineers, academia, research groups): This group is crucial for the development and validation of LCA methodologies and tools. LCA is their field of work and/or research, they are in constant approach of innovation and improvements on its methods.

What are their specific Challenges/Needs?

Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or European Research Executive Agency. Neither the European Union nor the granting authority can be held responsible for them.

- Limited access to reliable and consistent data on the bio-based systems.
- Difficulties in accurately assessing the environmental impacts of complex systems and emerging technologies.
- Need for clear guidelines and standards to ensure consistency and comparability of LCA studies.

What are the potential benefits for them to engage with LCA4BIO?

- Jointly develop and validate new methodologies and tools.
- Share knowledge and best practices.
- Stay ahead of the curve in the field of LCA for bio-based systems.

Table 2: Scientific community

Entity	Description	Country
Agro-transfert	Is an innovation transfer center, serving agriculture in the Hauts-de-France region and involved at national level	France
ARD	An expert in industrial biotechnologies, extraction and plant-based chemistry, ARD innovates and offers solutions to its agricultural partners and customers by adding value to biomass.	France
Arvalis	Is an applied research organisation whose role is to act as a technical reference for farmers, industry and public authorities.	France
Axens	Provides solutions for the conversion of oil and biomass to cleaner fuels, production & purification of major petrochemical intermediates and gas	France
Bioeconomy Science Center (BioSC)	Central themes at the BioSC include sustainable production of plants as food or feed and biomass, new bio-/chemocatalytic and biotechnological methods and processes for the conversion of renewable resources into valuable substances such as fine chemicals, proteins, enzymes, biopolymers and biofuels	Belgium
BIOREF - Collaborative Laboratory for Biorefineries	Is an innovative research facility focused on advancing biorefinery technologies. It aims to develop sustainable processes for converting biomass into valuable bio-based products, such as fuels, chemicals, and materials.	Portugal
CEA	Is a major player in research, serving the State, the economy and citizens.	France
CEDER-CIEMAT	Is a research center focused on renewable energy and environmental technologies. It conducts advanced research and development in areas such as biomass, solar energy, and energy efficiency	Spain
Centexbel	Research and technology center specializing in the textile and plastics sectors. It supports innovation and sustainability by providing research, testing, and certification services to companies in these industries	Belgium
CERTH (Centre for Research & Technology)	A leading Greek research center specializing in applied research and technology development across multiple sectors, including energy, environment, and transportation, aimed at promoting sustainable	Greece

HELLAS)	solutions	
Chimie ParisTech	Is an international reference for training and research in chemistry.	France
CIEMAT (Centro de Investigaciones Energéticas, Medioambientales y Tecnológicas)	Public research institution working on energy and environmental technologies, including bioeconomy and LCA.	Spain
CNRS	The French National Centre for Scientific Research, a major public research institution that promotes and conducts scientific research across various fields, contributing to advancements in knowledge and technology in France and internationally.	France
Copernicus Institute of Sustainable Development	Investigates and develops processes and opportunities for innovative change towards sustainability.	Netherlands
CSIC	Its fundamental function is to carry out scientific research and technological developments in the field of construction, its materials, and the services associated with the approaches pursued	Spain
Danmarks Tekniske Universitet (DTU)	A premier technical university in Denmark known for its cutting-edge research and education in engineering, technology, and natural sciences, focusing on innovation and sustainability	Denmark
DBFZ German Biomass Research Center GmbH	A research institute in Germany dedicated to the development and optimization of biomass utilization for energy and material production, promoting renewable energy technologies and sustainable practices	Germany
FRD – CODEM	Technology Resource Centre dedicated to ecomaterials and biobased materials	France
Geoponiko Panepistimion Athinon	A Greek university specializing in agricultural sciences, focusing on research and education related to sustainable agriculture, food production, and rural development	Greece
Ghent University	It is the second largest Belgian university, consisting of 50,000 students and 9,000 staff members.	Belgium
Holis	SaaS eco-design and life cycle analysis (LCA) platform	France
IFPEN	It is a major player in research and training in the fields of energy, transport and the environment.	France
IMPROVE/ITERG	An open European research and development platform totally dedicated to adding value to the proteins of the future: protein crops, cereals, oilseeds, algae, roots, co-products, micro-organisms and bacteria, etc	France
IMT - Mines	It is a public institution attached to the Ministry of the Economy and Finance, dedicated to higher education and research for innovation in the fields of engineering and digital technology at the service of industry.	France
Innozh	Accompanies, develops and supports entrepreneurial projects, R&D services in animal health and production and composite materials	France
INRAE (Institut National de la	France's national research institute dedicated to agriculture, food, and the environment, working on bioeconomy-related research.	France

Recherche pour l'Agriculture, l'Alimentation et l'Environnement)		
Institut Technologique FCBA	As an industrial technical center, FCBA's mission is to promote technical progress, to help improve performance and to guarantee quality in industry.	France
Instituto de Ciencias de la Construcción Eduardo Torroja (CSIC)	A Spanish research institute focused on building and construction sciences, conducting research on materials, structural engineering, and sustainable construction practices.	Spain
Institute for Energy and Environmental Research (IFEU)	Conducts research and provides a worldwide consultancy service in relation to all major environmental and sustainability issues	Germany
IVL Svenska Miljöinstitutet AB	The Swedish Environmental Research Institute, which conducts research and provides consultancy on environmental issues, promoting sustainable development and innovative solutions to ecological challenges	Sweden
Katholieke Universiteit Leuven	Is a prestigious research university located in Belgium, known for its strong emphasis on academic excellence and innovation	Belgium
LEITAT	An innovation and technology center based in Spain, LEITAT focuses on applied research and development in various sectors, including biotechnology, energy, and materials science. It aims to bridge the gap between research and industry, promoting sustainable technologies and practices	Spain
Lomartov	They support companies and research projects with technical advice, sustainability assessments, and certifications to mitigate their environmental impact, ensuring the successful market uptake of their technologies without compromising on social and economic progress.	Spain
Nova Institut	Research and consulting organization focused on bioeconomy, renewable resources, and sustainable materials.	Germany
Processium	Proposes improvements and transformations to its customers to achieve optimum performance from their current processes.	France
RINA	They provide expert solutions for engineering, testing, inspection and certification across diverse markets.	Italy
Sphera	It has more than 30 years' experience conducting LCAs.	Germany
Tecalia	Leading research and technological development centre in Europe.	Spain
TUB	With almost 34 000 students, circa 100 course offerings and 40 Institutes, the historic Technische Universität Berlin is one of Germany's largest and most internationally renowned technical universities	Germany
UMR transfrontalière BioEcoAgro	The BioEcoAgro Cross-Border Joint Research Unit is a new structure created in January 2020, which brings together around 300 researchers and technicians from both sides of the Franco-Belgian border, in particular from the French part of the regional biotechnology and agri-	France

	food research laboratory.	
Unitel Sapienza	A research and educational initiative at Sapienza University of Rome focusing on advanced technology and innovation, fostering collaboration across disciplines and promoting research in various field	Italy
Universidad de Corboba	A university in Spain that emphasizes research and education in agricultural sciences, environmental studies, and social sciences, promoting sustainability and regional development.	Spain
Universidad de Santiago de Compostela	A Spanish university with a strong emphasis on research and education in various fields, including humanities, health sciences, and technology, contributing to social and cultural development.	Spain
Universiteit Utrecht	A prominent research university in the Netherlands known for its interdisciplinary approach and strong focus on sustainability, environmental science, and innovation across multiple disciplines.	Netherlands
University Center for Circular Economy	An academic institution focused on promoting circular economy principles, researching sustainable practices, and facilitating knowledge transfer to foster environmentally friendly business models and policies	Hungary
University of Pannonia Nagykanizsa	A branch of the University of Pannonia in Hungary, this campus emphasizes practical education and research in fields such as engineering, economics, and environmental sciences. It aims to support regional development through innovation and collaboration with local industries.	Hungary
Wageningen University & Research (WUR)	A leading Dutch institution focused on bioeconomy research, including LCA studies related to agriculture, food, and environmental sustainability	Netherlands

End users: bio-based industry companies, LCA specialized consulting companies and bio-based industry associations: These stakeholders are directly involved in the production, processing, and marketing of bio-based systems.

What are their specific Challenges/Needs?

- Difficulty in understanding and applying complex LCA methodologies.
- Limited access to reliable and consistent data on bio-based systems.
- Limited time and resources for conducting comprehensive LCAs.
- Need for cost-effective tools and methods to assess the environmental impact of bio-based products.

What are the potential benefits for them to engage with LCA4BIO?

- Contribute to developing easy-to-use tools and guidelines to facilitate LCA assessments.
- Take part in workshops and training courses to enhance the skills of their internal practitioners.
- Establish platforms for data exchange and knowledge sharing.
- Highlight the value of their bio-based systems and their market sustainability.

Table 3: End users

Entity	Description	Country
Action Pin	Designs, manufactures and markets preparations based on natural raw materials derived from Landes Pine	France
Adisseo	Industrial group specialized in animal nutrition	France
ADM	Leader in global nutrition, producing ingredients and flavors for food and beverages, supplements	EEUU
Agrosolutions	LCA specialized consulting companies	France
Afyren	Startup that produces 7 100% biobased acids	France
Airbus	Aviation and Aerospace Component Manufacturing	France
Air Liquide	World leader in gases, technologies and services for industry and healthcare.	France
Ajinomoto	World leader in food and amino acids production	France
Akiolis	Producers of high-value ingredients from animal raw materials	France
Alderys	Alderys develops innovative approaches to the micro-organic biological engineering of profitable chemical compounds from renewable plant resources.	France
Algaia	Company developing, producing and commercializing Natural Extracts, mostly made out of seaweed.	France
Altens	Supplier of a range of alternative fuels	France
ANFTA (Asociación Nacional de Fabricantes de Tablero)	Spanish National Association of Board Manufacturer	Spain
APAG - Oleochemicals Europe	Oleochemicals Europe represents 27 European producers of Fatty Acids, Glycerine, Alcohols, Metallic Soaps and Fatty Esters located in 12 European countries	Belgium
Association Techtera Auvergne Rhône Alpes	A French organization focused on the textile and technical textile industries. It aims to promote innovation, support research and development, and foster collaboration among businesses and research institutions in the Auvergne Rhône Alpes region	France
Antofenol	Production of natural solutions by eco-extraction	France
Arkema	Leader in materials science	France
Association Chimie du Végétal (ACDV)	The mission of the ACDV is to support and accelerate the development of biobased chemistry.	France
Avril	Industrial leader in the French vegetable oil and protein sector	France
BASF	Industrial leader in the chemical sector	Germany
Berkem	Industrial player in the chemical industry	France

BioChem Europe	Forum of biomass-derived chemicals in Europe	Belgium
Bioeconomy Cluster	Founded in 2012, the BioEconomy Cluster was one of the winners of the Leading-Edge Cluster Competition organised by the Federal Ministry of Education and Research (BMBF)	Germany
Bioeconomy For Change (B4C)	Is the leading French Bioeconomy Cluster, recognised across Europe and internationally. It gathers over 500 members from across the entire bio-based value chain, from upstream agricultural and marine feedstocks to the marketing of end-products for several industrial sectors (food, feed, bioenergy, bio-based products)	France
Biophenol	Manufacture bio-based phenolic compounds	France
Biosynthis	Manufacturer of biodegradable and green chemistry products for the cosmetics and lubricants industries	France
Biomass Technology Group (BTG)	An engineering and consultancy firm based in the Netherlands, BTG specializes in biomass conversion technologies.	Netherlands
Bulgarian Industrial Association	A leading business organization in Bulgaria that represents the interests of the industrial sector	Bulgaria
Carbonworks	Develops an industrial platform for CO2 capture by microalgal photosynthesis	France
Cefic	The European Chemical Industry Council	Belgium
Centre Scientifique & Technique de l'Industrie Textile Belge (CSTIB)	A Belgian scientific and technical center dedicated to the textile industry.	Belgium
Celabor	A research and development organization that provides services in food technology, biotechnology, and material science, focusing on innovation and product development.	Belgium
Conferation of European Paper Industries (CEPI)	Is a non-profit making organization representing the European pulp and paper industry and championing this industry's achievements and the benefits of its products	Belgium
Confederation of European Forest Owners (CEPF)	An umbrella organization representing the interests of private forest owners across Europe	Belgium
Circa	Developed a proprietary process for the production of a highly flexible platform chemical (levoglucosenone) from waste cellulose	France
Cluster Spring	The Italian Circular Bioeconomy Cluster SPRING has the objective of triggering the development of biobased industries in Italy, through an holistic approach to innovation, aimed at revitalizing Italian industries in the name of environmental, social and economic sustainability	Italy
Colorey	It specializes in trading in dyes and pigments for all industrial sectors	France
Copalis	A company specializing in the extraction and production of marine ingredients, such as fish collagen and gelatin, for use in food and	France

	cosmetics	
Cosmetics Valley	A French competitiveness cluster dedicated to the cosmetics industry, promoting innovation, collaboration, and sustainable practices within the sector	France
Decathlon	World's largest sports retailer	France
DSB-FIRMENICH	A joint venture between DSB (a Danish company) and Firmenich (a leading fragrance and flavor company), specializing in the development of innovative aroma and flavor solutions.	Denmark/France
Ecoat	A company eco-designing, manufacturing and selling bio-based, water-based binders for paints and varnishes	France
Ecoextract	Development and manufacture bio-based extraction solutions.	France
EFPIA (Fédération européenne des associations et industries pharmaceutique)	A trade association representing the pharmaceutical industry in Europe, advocating for policies that support innovation and access to medicines	Belgium
European Panel Federation (EPF)	A trade association representing the European panel industry, EPF focuses on promoting wood-based panels such as particleboard, MDF, and plywood.	Belgium
Essity Hygiene and Health AB	A global hygiene and health company based in Sweden, Essity produces personal care and medical products, including tissues, diapers, and feminine hygiene items.	Sweden
European Biomass Industry Association Scotland House (EUBIA)	The European Biomass Industry Association represents the interest of its members, SMEs, Research Institutes and Universities.	Belgium
European Cellulose Insulation Association (ECA)	An industry association that promotes cellulose insulation as a sustainable building material. The ECA advocates for the use of recycled paper products in insulation, emphasizing energy efficiency and environmental benefits in the construction sector.	Belgium
European Council of the Paint, Printing Ink, and Artist's Colours Industry (CEPE)	Represents the interests of Paint, Printing Ink, and Artist's Colours manufacturers in Europe	Belgium
European Bioeconomy Alliance (EUBA)	A coalition of trade organizations advocating for bioeconomy policies within the European Union, promoting sustainable practices across industries.	Belgium
Europa Bio	European Association for Bioindustries, which promotes an innovative and dynamic European biotechnology industry.	Belgium
European	Represents the interests of the bioplastics industry	Germany

Bioplastics		
European Forest Institute (EFI)	An international organization that conducts research and provides policy advice on forest sustainability and bioeconomy in Europe	Belgium
European Federation for Construction Chemicals (EFCC)	EFCC represents construction chemical companies (both raw materials producers for construction chemicals and formulators of construction chemicals) and associations in Europe	Belgium
European Panel Federation (EPF)	The EPF represents the European manufacturers of particleboard, MDF, OSB, hard and softboard, and plywood.	Belgium
EVEA conseil	LCA consulting firm	France
FEICA	FEICA is a member-oriented, value-driven organisation, representing the European adhesive and sealant sector.	Belgium
FuturaMat	Develops, produces and markets bioplastics and functionalized materials	France
France Chimie	Organization representing chemical companies in France	France
Global Bioenergies	A biotechnology company focused on converting renewable resources into isobutene, a key building block for fuels and chemicals, using innovative processes to promote sustainable development.	France
Inditecma	A technology firm that provides engineering and consulting services, Inditecma specializes in innovative solutions for the energy and environmental sectors, promoting sustainable development through advanced technologies and strategic planning	Spain
Innovafeed	Producer of insects for animal feed	France
International Fragrance Association (IFRA)	IFRA has represented the collective interests of the fragrance industry, promoting the safe use and enjoyment of fragrances around the world	Switzerland
JRS Rettenmaier France	A subsidiary of JRS, specializing in natural fiber-based products for various industries, including food, pharmaceuticals, and cosmetics	France
KnowlEdge	A knowledge management consultancy that helps organizations harness information and data to improve decision-making and operational efficiency, focusing on sustainable business practices and innovation.	Spain
La Tannerie Vegetale	A company focused on sustainable and eco-friendly tanning processes for leather, using plant-based materials and methods	France
Lantana Bio	Engaged in the industrial fermentation of metabolically engineered yeast for the production of natural ingredients.	France
Lomartov	Environmental engineering SME, specialized in supporting R&D, industrial and technology-based projects with a multidisciplinary approach	Spain
L'Oreal	World leader in cosmetics	France
LVMH Recherche	Perfumes and cosmetics research center of the LVMH group (world leader in high-quality products)	France
Meo Carbon	Specializes in carbon management and sustainability consulting, offering	Germany

Solution	services that help organizations measure, reduce, and offset their carbon footprint while promoting environmentally friendly practices	
Michelin	World-leading manufacturer of life-changing composites and experiences.	France
Microphyt	A leading company in the production and marketing of natural active ingredients derived from microalgae.	France
Naturamole	Natural ingredients manufacturer and bioprocess developer for the flavor, fragrance, cosmetic and fine chemistry markets	France
Neovili SAS	Focuses on optimizing resource usage and improving sustainability practices through innovative software and data analytics	France
Plastics Europe	Trade association representing manufacturers of plastic materials in Europe	Belgium
Quantis	Environmental strategy consultancy that performs LCAs	Switzerland
RINA	They provide expert solutions for engineering, testing, inspection and certification across diverse markets.	Italy
Roquette	World leader in plant-based ingredients and a leading supplier of pharmaceutical excipients	France
Seppic	Designs, produces and distributes a wide range of specialty ingredients for cosmetic, nutraceutical, pharmaceutical, veterinary and industrial products.	France
Solvay	Production of chemical products for materials and formulations	Belgium
Soprema	World specialist in waterproofing, roofing and sound and heat insulation	France
Starch Europe	Starch Europe is the trade association which represents the interests of the EU starch industry both at European and international level.	Belgium
Total Energies	Produces and markets oil and biofuels, natural gas and green gases, renewable energies and electricity	France
Weloop	It's an office of expertise and innovation specializes in life cycle assessment.	France
Xfuel	Technology for sustainable and cost-effective conversion of biomass waste into clean and drop-in advanced fuels for the marine, road and aviation sectors.	Spain
Ynsect	Producer of insects for animal feed	France

Sustainability Associations and Platforms: These organizations play a crucial role in promoting sustainability and advocating for environmentally friendly practices.

What are their specific Challenges/Needs?

- Raising awareness about the benefits of LCA and encouraging its adoption.
- Developing standards and guidelines for data collection and analysis.
- Influencing policy decisions to promote sustainable practices

Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or European Research Executive Agency. Neither the European Union nor the granting authority can be held responsible for them.

What are the potential benefits for them to engage with LCA4BIO?

- Work together to promote the use of LCA and influence policy decisions.
- Participate in conferences, workshops, and other events to disseminate information.
- Stay informed about the latest developments in sustainability and LCA.

Table 4: Sustainability Associations and Platforms

Entity	Description	Country
European Biodiesel Board (EBB)	Association for companies producing biodiesel (HVO and FAME) in the EU.	Belgium
EU Climate Action Network (CAN Europe)	Europe's coalition working on climate and energy issues, advocating for sustainable policies across the EU	Belgium
European Chemical Industry Council (CEFIC)	Focuses on helping the chemical industry in Europe transition towards more sustainable processes and products	Belgium
Circular Economy Club (CEC)	A global network of circular economy professionals, with a strong presence in Europe, offering resources, networking, and knowledge-sharing	Belgium
Confederation of European Forest Owners (CEPF)	Confederation of European Forest Owners (CEPF) represents national forest owner organizations in Europe.	Belgium
CSR Europe	A leading European business network for Corporate Social Responsibility (CSR) and sustainability	Belgium
Ecoinvent	Organization supporting science-based environmental assessments, and provider of an LCA database.	Switzerland
European Environment Agency (EEA)	An EU agency dedicated to providing sound, independent information on the environment to policymakers and the public	Belgium
European Circular Economy Stakeholder Platform (ECESP)	A collaboration between the European Commission and the European Economic and Social Committee to promote the transition to a circular economy	Belgium
Epure	Represents the European renewable ethanol industry	Belgium
European Sustainability Academy (ESA)	A sustainability leadership and training organization focusing on supporting sustainability professionals and organizations	Greece
Ellen MacArthur Foundation	A global foundation that works closely with policymakers, businesses, and academic institutions to promote the circular economy, with strong engagement across Europe	United Kingdom
European	Network of environmental citizens' organizations in Europe, working	Belgium

Environmental Bureau (EEB)	towards the protection and improvement of the environment	
European Technology Platform for Sustainable Chemistry (SusChem)	A European platform promoting sustainable innovation in the chemical industry through collaboration between stakeholders	Belgium
European Sustainable Investment Forum (Eurosif)	A pan-European network advocating for sustainable and responsible investment	Belgium
Platform for Accelerating the Circular Economy (PACE)	A public-private collaboration platform that promotes circular economy initiatives across Europe and globally	Netherlands
Sustainable Europe Research Institute (SERI)	The Sustainable Europe Research Institute (SERI) is a Pan-European think tank exploring sustainable development options for European societies. It was set up in September 1999.	Belgium

Table 5 (see below) summarizes why the target groups selected are relevant for a project such as LCA4BIO based on their type but also on their challenges and needs. Therefore, taking it into account when elaborating the activities of the project will certainly result in their active engagement to participate in the evolution of the project.

Table 5. Summary of target groups and their challenges/needs

Target groups	Challenges/Needs	How to engage with them?
Governmental institutions, policy makers & trade and certification bodies	Ensuring consistency and comparability across different sectors and regions / Addressing data gaps and improving data quality / Identifying opportunities to incentivize sustainable practices.	• Presentations at/Attendances in events organized or attended by these stakeholders (see Table 7 in the DCP of the GA) • Co-creation Workshop • Training workshop
Scientific community (e.g. LCA practitioners, bioengineers,	Limited access to reliable and consistent data on bio-based systems / Difficulties in accurately assessing the environmental impacts of complex systems and emerging technologies / Need for clear guidelines and standards to ensure consistency and	

academia, research groups)	comparability of LCA studies.	• Co-creation Workshop • Training workshop
End users: bio-based industry companies, LCA specialized consulting companies and bio-based industry associations	Difficulty in understanding and applying complex LCA methodologies / Limited access to reliable and consistent data on bio-based systems / Limited time and resources for conducting comprehensive LCAs / Need for cost-effective tools and methods to assess the environmental impact of bio-based products.	
Sustainability Associations and Platforms	Raising awareness about the benefits of LCA and encouraging its adoption / Developing standards and guidelines for data collection and analysis / Influencing policy decisions to promote sustainable practices.	

3 STAKEHOLDER FOCUS GROUPS

The objective to create a Stakeholder focus group is mentioned in the description of the subtask 7.3.2 *“The stakeholders’ analysis will allow the selection to detect and engage the most relevant and interested actors of the bio-based industry willing to contribute to LCA4BIO’s developments through a co-design process”*.

The relevance of the subjects broached by the project allowed us to **enroll 43 entities** between the category of entities mentioned, a larger number than the initial target (30). These 43 entities out of 200 contacted were selected upon their free will to contribute to the project activities and mainly, the co-design process. These stakeholders are not only aligned with the objectives of LCA4BIO but also eager to contribute to the project’s developments. In this sense, the mapping realized for the stakeholder analysis was a critical step. Identifying and engaging systematically the most relevant and interested actors within the bio-based industry, facilitated a more targeted approach to collaboration with them.

Leveraging the expertise of these actors will enhance the quality of the project’s results and ensure that it meets the needs of the bio-based sector effectively. This process of stakeholder engagement will enrich not only the co-creation process, but also the other developments within the project, while fostering a sense of ownership and commitment among stakeholders, leading to a more sustainable bio-based sector.

3.1 List of stakeholders engaged

Table 5: List of stakeholders engaged

Entities	Type of
Association Chimie Du Vegetal (ACDV)	Sustainability Associations and Platform
Agrosolutions	End User (consulting company in agriculture and food sector)
Ajinomoto Foods Europe	End User (industrial biotech)
Alliance for Biosolutions (Danish Chamber of Commerce)	Governmental institutions, policy makers & trade and certification bodies
ANFTA	End User (industry association)
BASF	End User (chemical industry)
BTG Biomass Technology Group	End User (bioeconomy consultancy)
CEFIC	Scientific Community
Centexbel	Scientific Community
Circa Group	End User (biochemicals manufacturer)
CSIC	Scientific Community
Direction générale de la Performance économique et environnementale des entreprises (DGPE)	Governmental institutions, policy makers & trade and certification bodies
DRT (DSM-Firmenich group)	End Users (perfume)
Ecoat	End User (coatings, raw materials supplier)
EcoXtract	End User (bio-based Technology supplier for oil extraction from natural resources)
EVEA	End User (consulting company)
FEICA	Sustainability Associations and Platforms
FRANCE CHIMIE PCA	Sustainability Associations and Platforms (industrial chemistry)
FRD-CODEM	End User (technical center dedicated to the development ecomaterials and biobased products)
FuturaMat	End User (bioplastics compounder)
IFPEN	Scientific Community
IMT MINES ALES	Scientific Community
Innozh	End User (materials)
Innozh Composite	End User (consulting company for material innovation)
Institute for Energy and Environmental Research Heidelberg (IFEU)	End User
Lantana Bio	End User (industrial biotech)
LEITAT	Scientific Community
Lomartov	End User (consulting company in sustainability and engineering)
Meo Carbon Solutions GmbH	End User (consulting company)
METYS INRAE Transfert	Scientific Community
Michelin	End User (composites manufacturer)
Neovili	End User (Think Tank with industrial and bio-based sector experience)
Research Centre for Energy, Environment and Technology (CIEMAT)	Scientific Community
Roundtable on Sustainable	Sustainability Associations and Platforms

Biomaterials (RSB)	
Saint Gobain Construction Chemicals	End User (construction products - cement and concrete admixtures mainly)
Sphera Solutions GmbH	Sustainability Associations and Platforms
Syensqo (ex-Solvay)	End user (specialty chemicals industry)
Technical University of Berlin and German Federal Institute for Material Research and Testing	Scientific Community
Tecnia	Scientific Community
Timber industry consultant	End User
UNI Italian standards body	Governmental institutions, policy makers & trade and certification bodies (standardization body)
University of Santiago de Compostela	Scientific Community
XFuel	End user (biofuels and carbon recycled fuels development)

These 43 stakeholders break down as follows:

- **2** political decision-makers (5%), **10** from the scientific community (23%), **25** end-users (58%), and **6** associations and sustainable development platforms (14%).
- **9 countries:** 20 from France, 9 from Spain? 6 from Germany, 3 from Belgium, and 1 each from the following countries: Denmark, Italy, Norway, Switzerland and the Netherlands.
- **26 players who carry out or have carried out LCAs in the past**, which could indicate a certain level of knowledge.

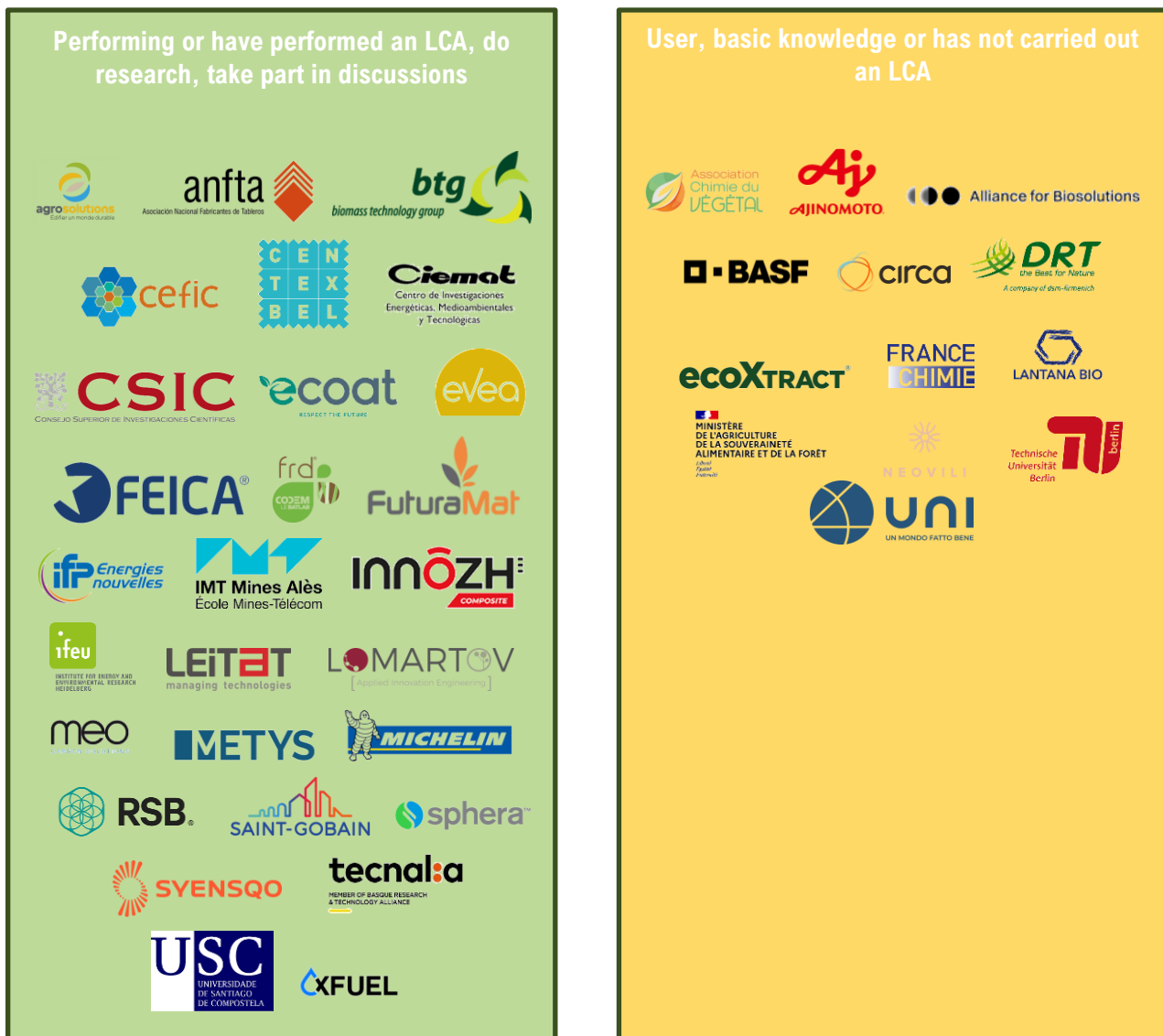
3.2 Mapping of selected stakeholders

A comprehensive assessment was conducted to evaluate the Knowledge & Experience about LCA of each stakeholder's designated point of contact. This evaluation aimed to gain a deeper understanding of their familiarity, expertise, and practical experience with Life Cycle Assessment methodologies and applications. Such an assessment is crucial for tailoring the project's engagement strategies to the specific needs and capabilities of each stakeholder group.

The project will organize several opportunities for exchanges with stakeholders, such as workshops, webinars, and one-on-one meetings. To ensure the effectiveness of these events, a classification system has been developed to categorize stakeholders based on their level of LCA knowledge and experience. This classification, as illustrated in Figure 2 and detailed in the Excel file stored on the project's SharePoint, will enable project partners to tailor the content, format, and level of technical detail of each event to the specific needs of the participating stakeholders.

By adapting the workshops and meetings to the diverse profiles of the stakeholders, the project aims to facilitate productive and informative discussions. This approach will ensure that all participants, regardless of their LCA expertise, can actively contribute to the project's goals and benefit from the knowledge and insights shared by others.

Figure 2: Mapping of selected stakeholders



3.3 Matrix of engagement level of stakeholders

This categorization enables the project team to tailor co-creation, communication, and engagement strategies according to the specific knowledge levels of stakeholders. By distinguishing between varying levels of proficiency, from novices to experts, the initiative ensures more effective collaboration and facilitates the alignment of stakeholders with the project's objectives.

Three main levels of engagements have been identified (Figure 1):

- **Inform:** stakeholder's interest towards the project is low, as it is its influence. The communication is one-way (consortium to stakeholder).
- **Inform and consult:** stakeholder's interest toward the project is relatively low, while its influence is high. The strategy provides for disclosing all the information of the relevant documents. The

Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or European Research Executive Agency. Neither the European Union nor the granting authority can be held responsible for them.

communication is two-way but with limitations, e.g. discuss specific aspects of the LCA methodology with the objective of reaching a consensus.

- **Inform, consult and collaborate:** both the level of interest of the stakeholder for the project and its influence over the outcome of the project are high; The engagement results in a collaborative effort from both the ORIENTING'S partners and the stakeholders, i.e. *working together in shaping the LCS methodology*.

Figure 3: Matrix of engagement level



4 PARTICIPAORY WORKSHOP

On November 26, 2024, B4C organized a “Plenary Session on Biobased Molecules and Materials”, at the Bpifrance offices (Paris). During this plenary session, an LCA4BIO workshop on “Feedback on the environmental assessment of biobased molecules and materials” was organized.

During this plenary session, participants discussed the recurring issues raised by environmental assessment. The following observations were shared:

1. Data

- a. **Some data are missing** (biomass, building blocks, matrix, reinforcement, semi-finished products)
- b. **Incorrect/obsolete data**
- c. **Agricultural data are highly variable** (in terms of time, the database used, geographical location via cultivation methods, and the nature and composition of the deposit).
- d. **Data on carbon sequestration can vary widely from one model to another** (USA, Europe).

2. Methodology

- a. **There are still many indicators to be optimized** (e.g. Land use).
- b. **Certain choices** of allocation, scope and criteria **are questionable**.
- c. Some international standards do not include biogenic carbon in their calculations (e.g. greenhouse gas balances - BGES).
- d. **The method used to determine bio-based content** is not always explained in the calculations.
- e. **Some end-of-life scenarios are not taken into account**, due to a lack of resources.

5 CONCLUSION

Besides this deliverable, an excel sheet of contact has been developed and shared with all partners; it is a list of stakeholders with contact data: this document will be updated on a rolling basis, to add or withdraw stakeholders upon their requests. The stakeholders' contact database will be kept confidential and shared only within the project consortium to strictly comply with the EU General Data Protection Regulation (GDPR) in force.

This stakeholder analysis was carried out during the first year of the project, based on the expected needs and knowledge of the project partners. It will serve as a tool for all the project activities, allowing partners to target relevant stakeholders and get in touch with them, contacting the right person. Based

Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or European Research Executive Agency. Neither the European Union nor the granting authority can be held responsible for them.

on this deliverable, Contactica will define specific engagement strategies and channels to be used to interact with each of these stakeholders. Regular evaluation of the stakeholders' engagement activities will help identify areas for improvement and make the adaptation of the communication and dissemination strategy easier.

LCA4BIO can adopt a balanced approach to engagement to actively involve the stakeholders throughout the project lifecycle, the project can maximize its impact and ensure that its outcomes are widely adopted in the bio-based sector.