Portfolio of Research and Innovation Results

HARMONISED LCA ALLIANCE -

Advancing LCA Methodology, for a Greener Europe

[ALIGNED]

SERVICE 1 "Portfolio Dissemination and Exploitation Strategy (PDES)"
MODULE A: Identification and creation of the portfolio of R&I project results

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Dissemination Level

X	PU: Public
	PP: Restricted to other participants of the HRB Project Group (including the Commission)
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Contents

Table of Tables

Table of Figures

List of Acronyms & Abbreviations

Item	Description
HRB	Horizon Results Booster
PG	Project Group
PDES A	Portfolio Dissemination & Exploitation Strategy - Module A
PDES B	Portfolio Dissemination & Exploitation Strategy - Module B
SWOT	Strengths Weaknesses Opportunities Threat
TRL	Technology Readiness Level
Univ.	University
EP	Environmental Performance
LCA	Life-Cycle Assessment
EPD	Environmental Product Declaration
PEF	Product Environmental Footprint
LCC	Life-Cycle Costing
KER	Key Exploitable Result
IRTC	International Round Table on Materials Criticality
MOO	Multi Objectives Optmization

LCSA	Life-Cycle Sustainability Assessment
S-LCSA	Social-Life Cycle Assessment

1. Executive Summary

Supported by the European Commission's Horizon Results Booster programme (HRB), ALIGNED and CALIMERO have taken the first step towards forming a Project Group (PG) based on commonalities between their work in this research field.

HRB supports the effective transfer of research and innovation project results to policymakers, industry and society by offering various services such as dissemination, exploitation strategy, and business plan development to projects supported under the 7th Framework Programme (FP7), Horizon 2020 or Horizon Europe funding schemes.

This document, the D1.1 Portfolio of Research and Innovation Project Results of identifies the collective results of the Project Group to be disseminated, their characteristics, and the target stakeholders that can benefit from these results and are ultimately the target audience for the Project Group dissemination activities.

The main objectives of the various projects that will serve in the Project Group dissemination effort are:

- Improve, harmonize, and align LCA methodology for the assessment of bio-based industries (ALIGNED)
- Demonstrate the power of the methodology to improve the environmental performance of five specific biobased technologies (ALIGNED)
- Create a common framework for the Life Cycle Assessment methodologies of certain bio-based industries' sectors (CALIMERO)

The analysis has identified, in a snapshot, the following most relevant results as part of the Project Group's portfolio of research and innovation results.

Table 1 - Key results for dissemination

Id	Result	Result type	Project(s)	TRL	Delivery date
R1	Improved EP in 5 exemplary industrial processes in five bio-based sectors.	Tool	ALIGNED	3-Applied research. First laboratory tests completed; proof of concept	9/10/2024
R2	Recommendations to improve sector-wide EP in the 5 industrial bio-based sectors	Policy Brief	ALIGNED	6-Prototype system. Tested in an intended environment close to expected performance	10/1/2023
R3	Novel methodology for inventory and impact assessment of circularity and criticality indicators of bio-based products	Methodology	CALIMERO	7-Demo system. Operating in operational environment at pre-commercial scale	12/31/2024
R4	Updated temporal DyPLCA database	Tool	CALIMERO	Full commercial application. Technology on 'general availability' for all consumers	06/30/2025

R5	Multi-objective optimization framework which follows a holistic perspective of sustainability under a life cycle approach (i.e., LCA, S-LCA and LCC)	Framework	CALIMERO	7-Demo system. Operating in operational environment at pre-commercial scale	11/30/2024

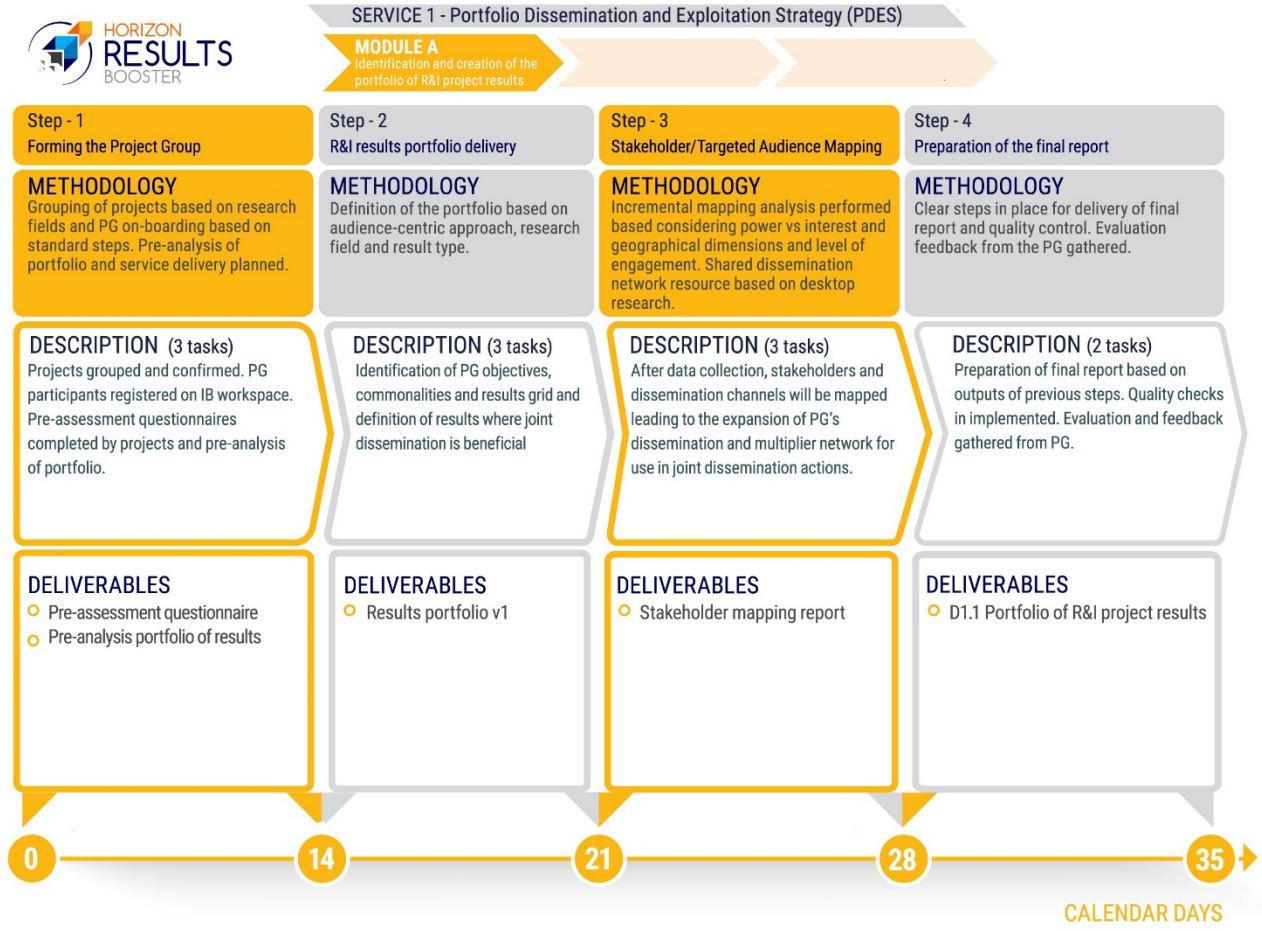
The document is organised as follows:

- Project Group overview
- State of the art analysis
- Field overview and differentiators
- Project Group results
- Positioning in the field
- Multi-dimensional positioning diagram and SWOT analysis
- Stakeholder analysis
- Dissemination channels
- Conclusions and recommendation

2. Methodology

Portfolio Dissemination & Exploitation Strategy - Module A (PDES A) identifies and forms groups of projects, or Project Groups (PG), in order to create a Portfolio of Research & Innovation Results (D1.1) that can benefit from joint dissemination from the participating projects. A key element of this process is the identification of commonalities between projects in terms of results, areas of research and target stakeholders. This is the foundation for the establishment of cohesive Project Groups. The module also includes a mapping of stakeholders/target audiences for joint dissemination actions and an identification of the best dissemination channels.

Figure 1 - PDES 1A Identification and creation of the portfolio of R&I Results



Step 1 Forming the Project Group

The service team identifies projects that could join the Project Group and sends the pre-analysis portfolio of projects and results to the main beneficiary. Following convergence with the main beneficiary the group is confirmed. Projects are then contacted and invited to join the HRB platform. Each project completes the pre-assessment questionnaire the responses to which can be found in Annex B. A first introductory call may take place.

Step 2 – R&I results portfolio delivery

Using the data collected in the pre-assessment questionnaires and the first versions of the portfolio presented at a conference call, the Service Team elaborates the information to prepare the final Portfolio of R&I results.

Step 3 – Stakeholder / target audience mapping

Step 3 provides the Project Group with a full mapping of stakeholders/target audience referred to the identified Portfolio of R&I results, including specifications on how they should address them through the most effective dissemination channels and dissemination networks to leverage on.

Step 4 – Preparation of the final report

The Lead Expert will resume all results and outcomes in the final report which will include:

1. **Portfolio of R&I results**
2. **Stakeholder mapping report**.

3. Results and Positioning

3.1. Proposed Project Group

The first step of HRB Module A is to identify a number of projects that are pertinent to or have similarities with the main beneficiary project in terms of focus, research field and target stakeholder. For practical reasons, in terms of managing the Project Group and delivery of PDESA and PDESB, a limited number of projects (maximum 10) are proposed.

The applicant invited CALIMERO to the Project Group which decided to be part of the cluster.

Table 2 - Proposed Project Group

Project	GA No.	Invited to join group	Status	Comment
ALIGNED	101059430	Applicant	Applicant	
CALIMERO	101060546	Invited	Joined the group	

3.2. Clustering features

In identifying the cluster of projects' commonalities results, areas of research and target stakeholders are taken into consideration. The applicant invited CALIMERO to join the Project Group, which accepted the invitation.

It is important to specify that the two projects have been collaborating since 2023 to harmonise the Life-Cycle Assessment (LCA) methodology in five bio-based sectors: construction, woodworking, biochemicals, pulp and paper, and textile. Participation in HRB Module A, therefore, aims to strengthen the collaboration between these two projects.

The introductory call with ALIGNED (Project Group leader) was held on the 22nd of February 2024, while the service officially started on the 11th of March 2024.

3.3. Project Group Overview

The table below provides an overview project included in the Project Group and the challenges each project is addressing.

Table 3 - The Project Group

Project Snapshot	Description	Challenges Addressed
Project Acronym: ALIGNED **Duration: 10/1/2022-09/30/2025** **Website: https://alignedproject.eu/** **No. of Partners: 15** **Funding Programme: Horizon Europe** **Funding Amount: € 3.718.076,25** **Project Type: European** **Geographical Coverage: European**	**Aligning Life Cycle Assessment methods and bio-based sectors for improved environmental performance** The ultimate goal of ALIGNED is to improve the environmental performance of Bio-Based industrial processes in five sectors: bio-chemicals; textile; woodworking; construction; pulp and paper. This goal will be achieved by delivering on three specific objectives that form the basis of ALIGNED: • Improve, harmonize, and align the Lifecycle Assessment methodology for the assessment of biobased. • Demonstrate the power of the methodology to improve the environmental performance of five specific biobased industries. • Inform, involve, and empower all relevant stakeholders, enabling an efficient methodological uptake.	**Societal Challenges** • Food security, sustainable agriculture and forestry, marine and maritime and inland water research, and the Bioeconomy **Scientific and Technological Challenges** Current LCA practices are very fragmented. Even the Product Environmental Footprint (PEF) framework, that the European Commission plans to use as a common denominator for the high number of different green claims and labels, has produced results that lack comparability across sectors. In addition, there are incompatibility problems with the Environmental Product Declaration (EPD) system and the European Ecolabel. Despite these problems, the LCA method is strong in giving quantitative evaluations of specific products and activities, but the results are heavily dependent on the numbers and assumptions. Therefore, it is not surprising that a core need related to lifecycle assessment is the harmonisation of methods. **Industrial Challenges** Current methods used to evaluate the impact of bio-based products give inconsistent and incomparable results. This hinders decision-making processes,

		negatively impacting the transition to a sustainable economy.
Project Acronym: CALIMERO **Duration: 07/01/2022-06/30/2025** **Website: https://calimeroproject.eu/** **No. of Partners: 12** **Funding Programme: Horizon Europe** **Funding Amount: € 3.518.900,00** **Project Type: European** **Geographical Coverage: European**	**Industry CAse studies anaLysis to IMprove EnviROnmental performance and sustainability of bio-based industrial processes.** The whole goal of CALIMERO is to create a common framework for the Life Cycle Assessment methodologies of five bio-based industries. The specific CALIMERO's objectives are: • Identify barriers and incentives for applying life cycle sustainability approaches in bio-based sectors. • Define reference case studies and identify levers to enhance sustainability assessment methodologies and performances. Improve existing sustainability assessment methodologies for the five bio-sectors, integrating Life Cycle Assessment (LCA), Life Cycle Costing (LCC), and Social-Life Cycle Assessment (S-LCA). • Develop a Multi-Objectives Optimization framework integrating improved Life Cycle Sustainability Assessment (LCSA) methodologies based on PEF for optimizing bio-based industrial processes. • Provide feasible solutions with enhanced sustainability performance for the five bio-based industry sectors, along with procedures for monitoring their sustainability. • Maximize CALIMERO's impact through tailored Exploitation, Dissemination, and Communication activities	**Societal Challenges** Climate action, environment, resource efficiency and raw materials **Scientific and Technological Challenges** The CALIMERO project tackles significant scientific and technological challenges amidst Europe's focus on greenhouse gas emissions and environmental impacts. Prioritizing a shift to a bio-based low-carbon economy aligns with EU strategies like the European Green Deal. However, assessing environmental burden shifting is crucial. CALIMERO identifies methodological gaps in the Product Environmental Footprint (PEF) methodology, particularly in biodiversity assessment, toxicity characterization, and circularity. Its goal is to establish a unified sustainability framework for bio-based industries and enhance PEF indicators. Collaborating across sectors enables pinpointing pollutant sources and promoting solutions, contributing to a greener, more resilient Europe. **Industrial Challenges** The CALIMERO project addresses challenges in bio-based industries, notably the urgent need to reduce greenhouse gas emissions and environmental impacts. Identified gaps in the Product Environmental Footprint (PEF) methodology hinder the development of a sustainable European bioeconomy, particularly in biodiversity, toxicity, and circularity assessments. These hurdles impede accurate measurement of environmental impacts and hinder industry's sustainability efforts. Without effective assessment tools, transitioning to greener practices is challenging. CALIMERO aims to tackle these challenges by establishing a unified sustainability framework and enhancing assessment methods tailored to bio-

		based sector needs, facilitating the transition to more sustainable practices.

3.4. Project Group members

The following individuals have participated in PDES1A. This includes the following type of activities:

- registering on the HRB platform
- participation on conference calls
- completion of pre-analysis questionnaire.

Table 4 - Project Group members

Project	Name	Organisation	email
ALIGNED	Rocio Garcia	Sustainable Innovation	rociogarcia@sustainableinnovations.eu
ALIGNED	Søren Løkke	University of Aalborg - Department of Sustainability and Planning-	loekke@plan.aau.dk
ALIGNED	Agneta Ghose	University of Aalborg - Department of Sustainability and Planning-	agneta@plan.aau.dk
ALIGNED	Massimo Pizzol	University of Aalborg - Department of Sustainability and Planning-	massimo@plan.aau.dk
CALIMERO	Eduardo Entrena	Contactica Innovation	eduardo.entrena@contactica.es
CALIMERO	Estibaliz Garmendia	Contactica Innovation	estibaliz.garmendia@contactica.es

The following conference calls were carried out with the group

- Introductory call: 22 February 2024
- Convergence call: 13 May 2024

3.5. Collective challenges

The main challenges tackled by the Project Group are summarised in the following table.

Table 5 - Collective challenges

Type of Challenge	Complementary Challenge and Description
Societal	**ALIGNED** • Food security, sustainable agriculture and forestry, marine and maritime and inland water research, and the Bioeconomy

	CALIMERO • Climate action, environment, resource efficiency and raw materials
Scientific and Technological	**ALIGNED** Current LCA practices are very fragmented. Even the Product Environmental Footprint (PEF) framework, that the European Commission plans to use as a common denominator for the high number of different green claims and labels, has produced results that lack comparability across sectors. In addition, there are incompatibility problems with the Environmental Product Declaration (EPD) system and the European Ecolabel. Despite these problems, the LCA method is strong in giving quantitative evaluations of specific products and activities, but the results are heavily dependent on the numbers and assumptions. Therefore, it is not surprising that a core need related to lifecycle assessment is the harmonisation of methods. **CALIMERO** The CALIMERO project tackles significant scientific and technological challenges amidst Europe's focus on greenhouse gas emissions and environmental impacts. Prioritizing a shift to a bio-based low-carbon economy aligns with EU strategies like the European Green Deal. However, assessing environmental burden shifting is crucial. CALIMERO identifies methodological gaps in the Product Environmental Footprint (PEF) methodology, particularly in biodiversity assessment, toxicity characterization, and circularity. Its goal is to establish a unified sustainability framework for bio-based industries and enhance PEF indicators. Collaborating across sectors enables pinpointing pollutant sources and promoting solutions, contributing to a greener, more resilient Europe.
Industrial	**ALIGNED** Current methods used to evaluate the impact of bio-based products give inconsistent and incomparable results. This hinders decision-making processes, negatively impacting the transition to a sustainable economy. **CALIMERO** The CALIMERO project addresses challenges in bio-based industries, notably the urgent need to reduce greenhouse gas emissions and environmental impacts. Identified gaps in the Product Environmental Footprint (PEF) methodology hinder the development of a sustainable European bioeconomy, particularly in biodiversity, toxicity, and circularity assessments. These hurdles impede accurate measurement of environmental impacts and hinder industry's sustainability efforts. Without effective assessment tools, transitioning to greener practices is challenging. CALIMERO aims to tackle these challenges by establishing a unified sustainability framework and enhancing assessment methods tailored to bio-based sector needs, facilitating the transition to more sustainable practices.

3.6. State-of-the-art Analysis

3.6.1. Field overview

The bioeconomy is one of the main catalysts for sustainable systemic change and transition, tackling key economic, societal and environmental challenges faced by EU Member States.

In this context, the European Commission adopted a Bioeconomy Strategy in 2012 and updated it in 2018. This strategy aims to reach five goals: 1) ensuring food and nutrition security; 2) managing resources

sustainably; 3) reducing dependence on non-renewable and non-sustainable resources; 4) mitigating and adapting to climate change; 5) enhancing European competitiveness and creating job[1]s.

This strategy, in line with the European Green New Deal launched at the end of 2019, enables green transition and encompasses all three dimensions of sustainability: environment, society, and economy.

A Bioeconomy Strategy Progress Report [2] was published in 2022, at the request of the Council of the European Union. It assesses the progress made in the implementation of the strategy and its action plan and identifies gaps for possible future EU bio economy action and initiatives. No specific EU bioeconomy legislation exists. However, sectorial legislation, in many cases considerably older than the bioeconomy concept, has a major impact in the field.

Activities in the bioeconomy sectors are especially reliant on healthy ecosystems to ensure a sustained production of biomass. However, at the same time activities along the bioeconomy supply chains generate environmental impacts which can damage local and global ecosystems.

It is, therefore, necessary to monitor and evaluate environmental impacts associated with bioeconomy activities and bio-based commodities to identify and minimize negative impacts as well as potential trade-offs.

In this context, Life Cycle Assessment (LCA) [3]is considered as a reference method for environmental assessment. Moreover, LCA allows the assessment of a multiplicity of different environmental impacts, unveiling burdens, benefits, and trade-offs not only among life cycle stages along the supply chain but also among environmental issues.

However, currently, the LCA framework is fragmented into several practices, and it is necessary to harmonise them into a common integrated tool to assess and improve industries' sustainability performance.

Within this context, ALIGNED and CALIMERO aim to improve the LCA methodology in five specific bio-based sectors: construction, woodworking, biochemicals, pulp and paper, and textile. They intend to allow these industries to have a common integrated tool to assess and improve their sustainability performance, ultimately leading to a greener and more sustainable Europe.

Seen this strong commonality among the Project Group members, there is a strong potential for joint dissemination activities.

[1] https://research-and-innovation.ec.europa.eu/research-area/environment/bioeconomy/bioeconomy-strategy_en

[2] https://knowledge4policy.ec.europa.eu/publication/report-com2022283-eu-bioeconomy-strategy-progress-report-european-bioeconomy-policy_en

[3] The EU Bioeconomy Footprint: Using life cycle assessment to monitor environmental impacts of the EU Bioeconomy, https://doi.org/10.1016/j.spc.2023.02.015

3.6.2. Differentiators in the field

The most relevant differentiators in the field of Bioeconomy and possessed by the Project Group are summarised in the following table.

Table 6 - Most relevant differentiators

Differentiator	Description (order by most important)
ALIGNED • **Integration of the ALIGNED approach to harmonizing methods through the scientific consensus with the CALIMERO methodology** • **Unique decision support**	ALIGNED's approach to harmonizing methods through scientific consensus, where researchers select methods based on experience and quality criteria, could benefit greatly from insights gleaned from CALIMERO's methodology. By including CALIMERO in this process and comparing approaches, ALIGNED could potentially enhance the rigor and effectiveness of its harmonization efforts.
CALIMERO • **Offering of a unique sustainability framework)** • **Integration of the PEF methodology with tailored indicators for bio-based sectors.**	The CALIMERO project innovatively addresses sustainability challenges in bio-based industries by offering a unique framework. Unlike others, CALIMERO integrates the Product Environmental Footprint (PEF) methodology with tailored indicators for bio-based sectors, filling crucial gaps in biodiversity, toxicity, circularity, and socio-economic impact assessments. Collaborating across sectors and leveraging diverse industry expertise, CALIMERO provides a comprehensive solution surpassing current offerings. Its emphasis on a common sustainability framework ensures consistency and comparability, enhancing environmental management and decision-making effectiveness

3.7. Project Group Results

A synthesis view of the main results from the projects in the Project Group is provided in the table below, as the basis for future service definition and stakeholder mapping.

Table 7 - Dissemination portfolio results grid

Id	Result	Result type[4]	Project(s)	TRL	Delivery date
R1	Aligned and simplified methods to assess the Environmental Performance (EP) in the 5 biobased industries	Model	ALIGNED	2-Technology formulation. Concept and application formulated	06/01/2024

[4] Results types are: Blueprint; Commercial solution; Data set / data pool; Demonstrator; Feasibility study; Framework (e.g. software environment, policy document, legal framework); Hardware (e.g. chip, appliance, drone, sensor, system); Infrastructure (e.g. IT infrastructure, transport infrastructure, energy infrastructure, water infrastructure, building etc.); Methodology; Model (e.g. risk model, mathematical model, data model, physical model, business model etc.); Patent (e.g. utility, design patents and plant patents); Policy report; Prototype; Proxy/broker service; Research and/or virtual environment; Scientific publication (Refereed); Scientific publication (Non-refereed); Software (e.g. routine, integrated platform, library, plugins); Standard (e.g. norms, policies); Taxonomy / Ontology; Tool / Toolkit / toolbox; Training (e.g. learning tools, services, modules); White paper or similar publication; *Other – please specify*.

R2	Improved EP in 5 exemplary industrial processes in 5 bio-based sectors	Tool	ALIGNED	3-Applied research. First laboratory tests completed; proof of concept.	09/10/2024
R3	Recommendations to improve sector-wide EP in the 5 industrial bio-based sectors	Recommendations; Policy brief	ALIGNED	6-Prototype system. Tested in an intended environment close to expected performance	10/01/2023
R4	Sustainable multi-objective optimization framework	Framework	CALIMERO	5- Large scale prototype. Tested in intended environment	11/30/2024
R5	Novel methodology for inventory and impact assessment of circularity and criticality indicators of bio-based products	Methodology	CALIMERO	7-Demo system. Operating in operational environment at pre-commercial scale,	12/31/2024
R6	Updated temporal DyPLCA database	Tool	CALIMERO	9- Full commercial application. Technology on 'general availability' for all consumers	06/30/2025

3.8. Main actors in the field

This table identifies the elements of differentiations of the results of the Project Group with respect to the main players, similar research initiatives or competitors that are currently working in this field.

Table 8 - Differentiation with key actors in the field

Result ID	Differentiator	Closest Competing/Related Actors
R1-R3 ALIGNED	ALIGNED's approach to harmonizing methods through scientific consensus, where researchers select methods based on experience and quality criteria, could benefit greatly from insights gleaned from CALIMERO's methodology. By including CALIMERO in this process and comparing approaches, ALIGNED could potentially enhance the rigor and effectiveness of its harmonization efforts.	Eco Monitor. The ALIGNED project considers especially results from previous LCA-focused projects namely Bio-LCA (FP7) and RELIEF (H2020, increasing the reliability of food environmental footprints) Moreover, it also considers the ALIGNED related initiatives .
R4-R6 CALIMERO	The CALIMERO project innovatively addresses sustainability challenges in bio-based industries by offering a unique framework. Unlike others, CALIMERO integrates the Product Environmental Footprint (PEF) methodology with tailored indicators for bio-based sectors, filling crucial gaps in biodiversity, toxicity, circularity, and socio-economic impact	• Current LCA software providers who may include multi objective optimization aspects (implementing Brightway2, using OpenLCA, etc.) • Competition may arise from the ORIENTING Project where circularity aspects in LCSA are developed (however not specific to bio-based materials), as well as the results obtained in the sister Project, ALIGNED Project.

	assessments. Collaborating across sectors and leveraging diverse industry expertise, CALIMERO provides a comprehensive solution surpassing current offerings. Its emphasis on a common sustainability framework ensures consistency and comparability, enhancing environmental management and decision-making effectiveness	• Regarding the temporal DyPLCA database, there are no direct competitors, since no other database like this exist at the scale of a full life cycle database, but there might be some that foresee to develop such a database

3.9. SWOT Analysis

In the figure below, a preliminary SWOT analysis for the Project Group has been prepared, to support the envisaged Project Group dissemination activities.

Figure 2 - SWOT analysis for the Project Group

Strengths	Weaknesses
• The LCA method is strong in giving quantitative evaluations of specific products and activities (CALIMERO) • Integration of the PEF methodology with tailored indicators for bio-based sectors, filling crucial gaps in biodiversity, toxicity, circularity, and socio-economic impact assessments. (CALIMERO) • The development of a harmonized LCSA methodology that considers environmental, economic, and social objectives from a life cycle perspective provides the bio-based industries with a common and integrated tool to assess and improve their sustainability performance	• The results produced by the PEF do not allow comparability between sectors (ALIGNED) • Methodological gaps in the PEF methodology, particularly in the assessments of the following topics: ecosystem services, biodiversity assessment, toxicity characterization factors, circularity, criticality and socio-economic aspects (CALIMERO) • Difficulty in properly measuring environmental impacts and assessing industry sustainability efforts (CALIMERO) • Lack of methodology for sustainability assessment of technologies with a low TRL (CALIMERO) • Difficulties encountered by R&D professionals in measuring the environmental impact within their industrial design (CALIMERO) • Lack of prospective life cycle studies in the up-scaling stage for R&D projects (CALIMERO)
Opportunities	**Threats**
• Advances in the modelling of circularity and criticality represent a potential advantage when seeking for public and private funding for multiple R&D and LCA-related projects (CALIMERO) • By working across bio-based sectors, it can be identified sources of pollution and promote solutions that contribute to a greener, more resilient Europe (CALIMERO)	• High fragmentation of LCA practises (ALIGNED) • Incompatibility problems between European Ecolabel and EPD system (ALIGNED) • Great efforts to convey and understand the functionalities of new sustainability analysis tools, when including social and economic dimensions (or additional concepts such as multi-optimization), from academic to industrial stakeholders (CALIMERO)

Having assessed the above elements, the Project Group should promote its strengths (which will therefore be highlighted in the dissemination activities), mitigate its weaknesses wherever possible, and leverage on the available opportunities while taking into account any potential threat.

Positioning Insights

By analysing the state of the art, actors in the field, the Project Group's differentiators, the market positioning diagram and the SWOT analysis, we reach the following conclusions:

- The group consists of two projects which aim to improve the Life Cycle Assessment methodology in five bio-based sectors: construction, woodworking, biochemicals, pulp and paper, and textile. They intend to allow industries to have a common integrated tool to assess and improve their sustainability performance, ultimately leading to a greener and more sustainable Europe.
- Points of strength resulting from this collaboration should be fostered while limiting the possible threats represented in terms of high fragmentation of the current LCA practices and incompatibility between European Ecolabel and the EDP system.
- The audiences are broad and, therefore, not easy to reach and engage, but potentially highly interested in such research results.
- The specific audiences deserve to be targeted with tailored dissemination activities and a professional tone of voice. This is again an added value, but also a possible source of weakness.

Therefore, special attention on how to convey the message and the results to specific audience must be paid and this can lead to high interest from all the targets identified.

4. Stakeholder Analysis

4.1. Target stakeholders

Stakeholders are parties that will be affected by operations, objectives and results of the Project Group. Stakeholders that are relevant for each project in the group are categorised and mapped according to several different perspectives including their geographical broadness, domains, type of activity, interest in the portfolio of results, and level of influence.

The information here was collected from the questionnaire results and the conference call with Project Group. The main primary stakeholders for HARMONISED LCA ALLIANCE are identified below in order of importance and relevance to the dissemination objectives of the group.

4.1.1. Stakeholder 1

Description	Research and Academia
Projects	ALIGNED; CALIMERO
How stakeholders can benefit from the Project Group results	**ALIGNED** • **Aligned and simplified methods to assess the Environmental Performance (EP)in the 5 biobased industries.** By establishing unified and simplified methods for assessing EP, research in biobased industries becomes more standardized. This allows for more direct comparisons between different studies, industries, or processes. For academia, it means that researchers can more easily compare their findings with others, fostering a more collaborative and cumulative building of knowledge. **CALIMERO** • **Sustainable multi-objective optimization framework** It's a versatile solution that can extract information from different sources, offering LCA)/LCC optimization studies and scale-up solutions in Industrial Processes using a Multi Objective Optimization Algorithm. It solves the following problems: • R&D professionals are facing several difficulties to measure environmental impact within their industrial designs. • Lack of methodology for sustainability of novel techs. • The scaling step for R&D projects lacks both prospective LCA and life cycle cost studies, causing environmental and economic impacts. • European 2030 framework is pushing for a more sustainable design for any kind of industry so companies need to perform environmental studies from laboratory design to the final production plant. • **Updated temporal DyPLCA database.** This is the only temporal database for a full life cycle database. In other words, it is the only one permitting the analysis of a fully dynamic LCA spreading all emissions over time and impacts and considering the time-related influence on the latter. Yet, this KER is not concerned with the new development but rather its update and improvement. It would lead to better-informed decision-making.

Engagement to date	• Supportive - Aware of project & impacts and supportive to change. (CALIMERO) • n/a (ALIGNED)

4.1.2. Stakeholder 2

Description	Innovation platforms & Clusters
Projects	ALIGNED; CALIMERO
How stakeholders can benefit from the Project Group results	**ALIGNED** • **Improved EP in 5 exemplary industrial processes in said bio-based sectors.** Improved EP often leads to products that are more environmentally friendly and sustainable. This improvement aligns with increasing consumer and regulatory demands for sustainable products, thus opening new markets and expanding existing ones for innovative companies. **CALIMERO** • **Sustainable multi-objective optimization framework** It's a versatile solution that is able to extract information from different sources, offering LCA/LCC optimization studies and scale-up solutions in Industrial Processes using a Multi Objective Optimization Algorithm. Problems solved: ○ **R**&D professionals are facing several difficulties to measure environmental impact within their industrial designs. ○ Lack of methodology for sustainability of novel techs. ○ The scaling step for R&D projects lacks both prospective LCA and life cycle cost studies, causing environmental and economic impacts. ○ European 2030 framework is pushing for a more sustainable design for any kind of industry, so companies need to perform environmental studies from laboratory design to the final production plant.
Engagement to date	• Leading - Aware of project & impacts and actively engaged in ensuring the project is a success (ALIGNED) • n/a (CALIMERO)

4.1.3. Stakeholder 3

Description	Large Enterprises
Projects	CALIMERO
How stakeholders can benefit from the Project Group results	**CALIMERO** • **Sustainable multi-objective optimization framework** It's a versatile solution that is able to extract information from different sources, offering LCA/LCC optimization studies and scale-up solutions in Industrial Processes using a Multi Objective Optimization Algorithm. Problems solved: ○ R&D professionals are facing several difficulties to measure environmental impact within their industrial designs. ○ Lack of methodology for sustainability of novel techs. ○ The scaling step for R&D projects lacks both prospective LCA and life cycle cost studies, causing environmental and economic impacts.

	○ European 2030 framework is pushing for a more sustainable design for any kind of industry, so companies need to perform environmental studies from laboratory design to the final production plant. • **Novel methodology for inventory and impact assessment of circularity and criticality indicators of bio-based products** Advancements in the modelling of circularity and criticality represent a potential advantage when prospecting for public and private funding on various R&D or LCA-related projects. Circularity may be used in training or expert consulting service in helping other people to set up their LCA model. The developments on criticality may be integrated in criticality data of bio-based materials in our IRTC tool (currently non-commercial, possibly commercial at a later stage).
Engagement to date	n/a

4.1.4. Stakeholder 4

Description	Civil Society, NGOs; Citizens
Projects	ALIGNED; CALIMERO
How stakeholders can benefit from the Project Group results	**ALIGNED** • **Recommendations to improve sector wide EP in the 5 industrial bio-based sectors.** Strengthen partnerships between academia, industry, and government to innovate and implement EP solutions. **CALIMERO** • **Updated temporal DyPLCA database** This is the only temporal database for a full life cycle database. In other words, it is the only one permitting the analysis of a fully dynamic LCA spreading all emissions over time and impacts and considering the time-related influence on the latter. Yet, this KER is not concerned with the new development but rather its update and improvement. It would lead to better-informed decision-making.
Engagement to date	n/a for both the projects

Barriers to dissemination

The table below outlines the main barriers to successful dissemination actions that have been identified and considerations such as possible initial recommendations.

Table 9 - Barriers to dissemination

Id	Stakeholder group	Description	Considerations
B1	Various stakeholders'group	**ALIGNED** 1. Dissemination efforts need to extend beyond the	1. Develop synergies with other similar projects and thematic networks in order to create early

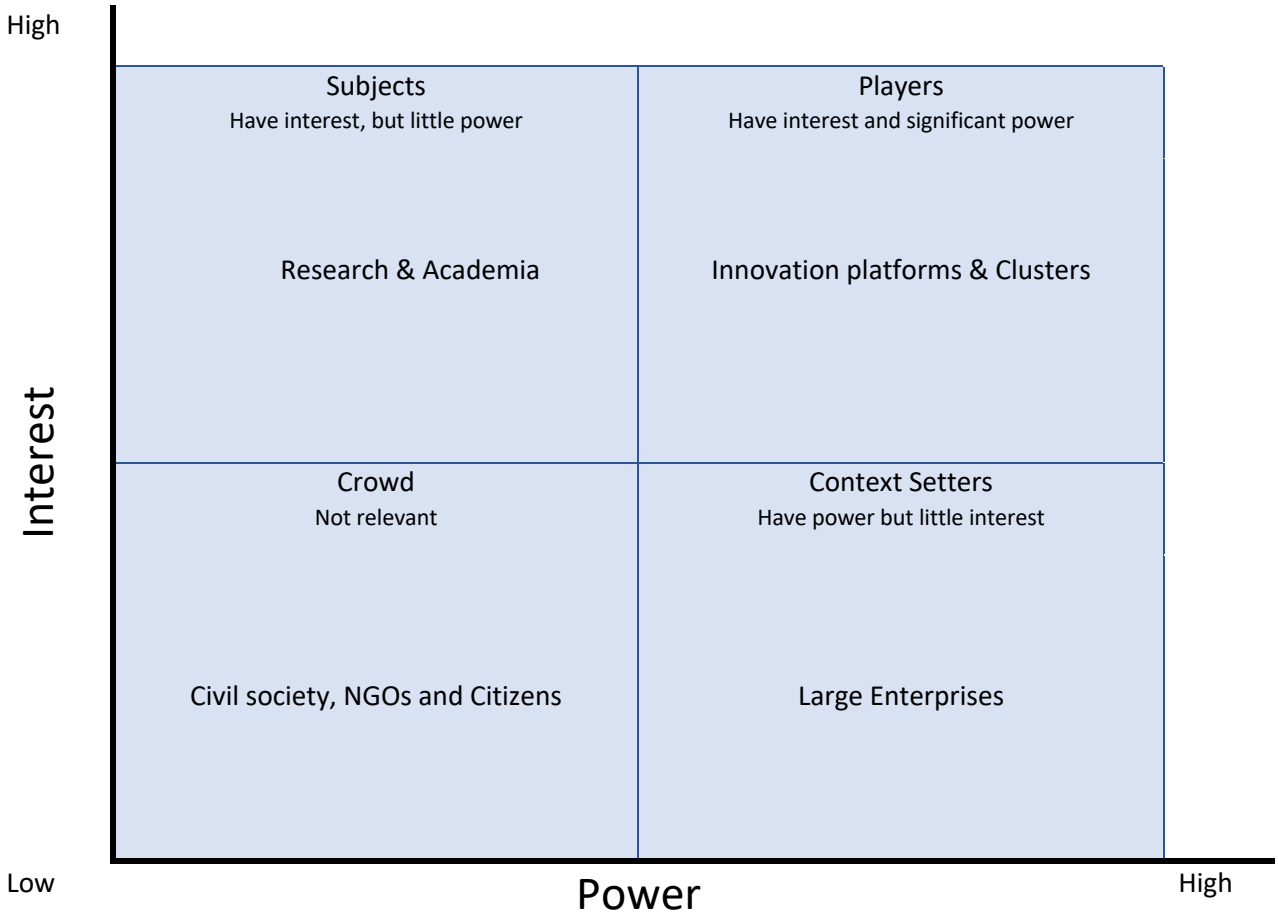
		project duration to ensure long-term impact and utilization of results. 2. Different European countries may have varying cultural norms and preferences regarding communication styles, formats, and channels. Understanding and accommodating these differences is crucial for successful dissemination	opportunities for future cooperation beyond the natural duration of its own project. It is also important to ensure that the results are easily accessible on the project website even after its natural conclusion, e.g. through reports and/or fact sheets that can collect and '*tell*' the main achievements of the project and the steps that led to them. 2. For the proper dissemination of results, first of all, it is important to be clear about the target audiences, and then - on the basis of these - to understand which communication gateways to use and the tone of voice to adopt. To overcome local geographical and cultural specificities, make sure to have local partners as intermediaries between the project and local targets, to make sure that contents and messages are properly conveyed in local language and aligned with cultural practices.
B2		**CALIMERO** 1. Firstly, the complexity of the project's findings, involving intricate sustainability methodologies and frameworks, may make it challenging to communicate effectively to various stakeholders, including industry professionals, policymakers, and the public. 2. Additionally, reaching a diverse audience across different bio-based sectors and regions requires tailored communication strategies. Ensuring the relevance and applicability of the results to the target audience is crucial for engagement and adoption. Moreover, navigating through regulatory and institutional barriers and ensuring buy-in from key stakeholders pose additional challenges. Overcoming these obstacles requires a comprehensive	1. it is important to identify precise key messages on the basis of each project's target audience. Secondly, it is important to identify the most suitable communication gateways that take into account the specific needs of each target audience identified. For example, to reach the industry professionals, we suggest producing a set of factsheets with the key findings of the project and disseminate them on the website and social network. It is also recommended to build a social media strategy on LinkedIn, where it will be possible to inform them about the progress made by the project and invite them to participate in a dialogue on the different topics/issues addressed by the project for each target audience and to adopt a specific tone of voice. Another way to follow for this target audience is the organization of a set of webinars to disseminate project-related information, fostering engagement, and maximizing the project's impact by reaching a broader audience. This tool enables the project to present its goals, objectives, progress, and outcomes. Regarding the dissemination project's results to the policymakers, we suggest the production of policy briefs, in which you outline the macro context and contextualise, carefully explaining the main project findings that need to be regulated.

		dissemination plan, including clear messaging, targeted outreach efforts, and collaboration with relevant partners and networks.	About the dissemination to the general public, it is strongly suggested to build an "*educational*" and awareness-raising social media campaign to raise awareness of the importance of environmental certifications to make informed decisions about the products they buy. Moreover, since the project is highly technical, you can consider the production of a "glossary/dictionary" to be shared on the social media to better explain each key concept. 2. It is important to focus on the **informative needs of each specific target audience** and build a local D&C strategy based on them. A key role will be also played by the key messages, which are to be constructed on two levels: 1. a general level, that involves all the project's stakeholders and regards the key findings of the project; 2) a stakeholder group's level, to facilitate the dissemination and replication of results on the basis of each specific industry.

4.2. Stakeholder Relevance Analysis

The influence and interest of each stakeholder group is now considered in order to define their strengths in terms of supporting the uptake of the groups result. This will help the Project Group understand where to invest effort to maximise dissemination activities.

Figure 3 - Influence vs interest grid



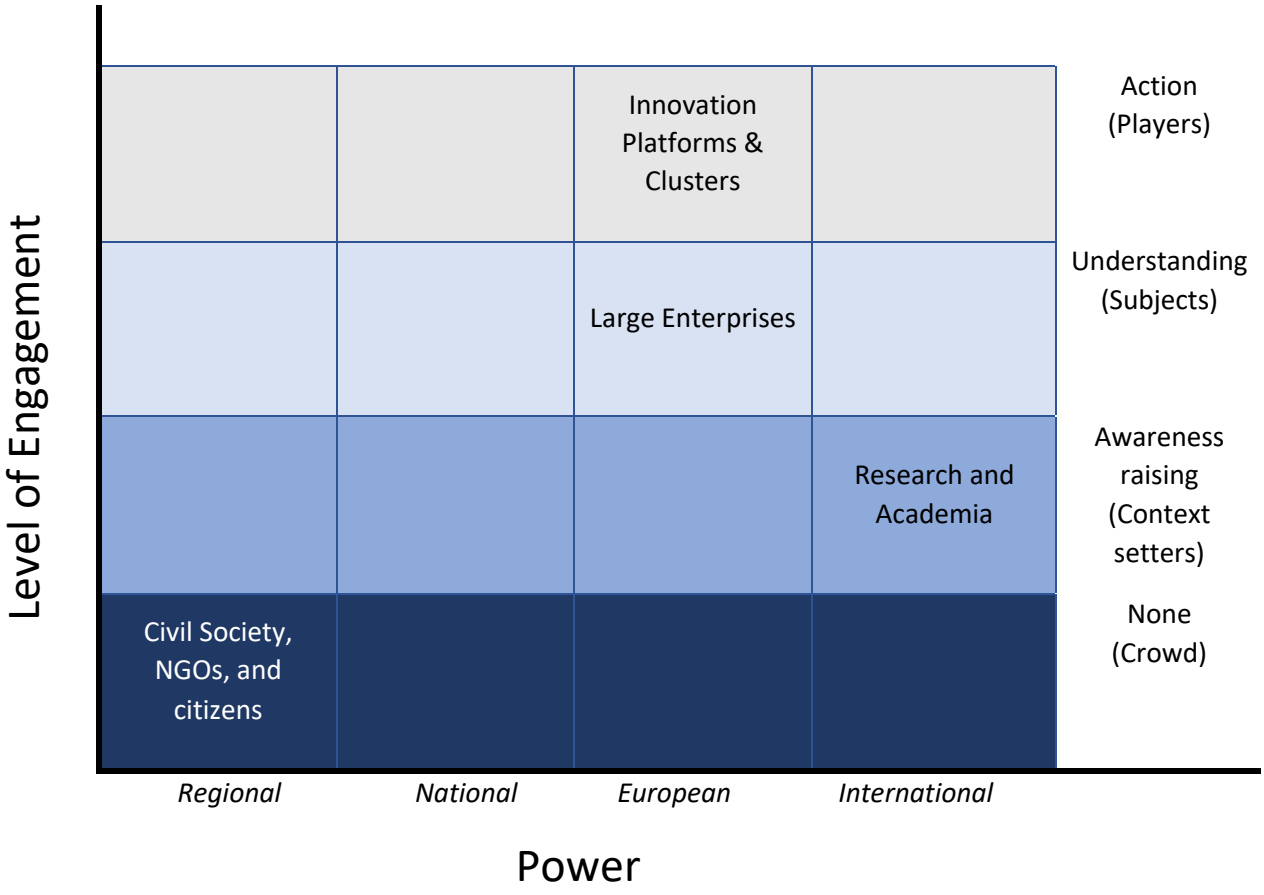
- **Players**: the stakeholders falling into this quadrant hold maximum power and express the greatest interest on the Project Group's results. Innovation platforms & Clusters represent the priority targets for the Project Group to be addressed in order to boost the impacts of their results through common dissemination activities.
- **Subjects**: the stakeholders falling into this quadrant hold high interest but low power. Within the Project Group, Research & Academia are highly interested in the Project Group results but bear little influence on unleashing the uptake of the Project Group's results.
- **Context setters**: Large Enterprises are positioned as stakeholders setting the context, meaning, they bear high power to spur impact and they represent the key stakeholder setting the framework and its conditions within whom the research and innovation activities of the Project Group are positioned.

- **Crowd**: the stakeholders falling into this quadrant hold minimum power and express the least interest in the Project Group's results. Civil society, NGOs and Citizens should be monitored in case of any changes in their interest or power.

4.3. Geographical dimension and level of engagement

In this section we map the stakeholder groups according to geographical dimension and current levels of engagement between the projects in the group.

Figure 4 - Geographical dimension vs. level of engagement grid



With the analysis of the current state of engagement and importance of the stakeholders now known along with new general goals set, the Project Group can now identify the right dissemination channels they can use and can be easily referenced when they draw up their Portfolio Dissemination Plan.

5. Stakeholder & Dissemination Networks Mapping

5.1. Dissemination channels

Based on the desired level of engagement and the dissemination network, the diagram below maps the stakeholders with the most appropriate dissemination channel to use to create the greatest impact.

Table 10 - Dissemination channels

	Innovation platforms & Clusters	Research & Academia	Large Enterprises	Civil society, NGOs and Citizens
Demos and Videos	YES	YES	YES	YES
Website Pages and Blogs	YES	YES	YES	YES
Newsletters	YES	YES	YES	YES
Social: X (formerly Twitter)	YES	YES	YES	YES
Social: LinkedIn	YES	YES	YES	
Press Releases and Kits	YES	YES	YES	YES
Collaterals: Flyers, Banners, Posters	YES	YES	YES	YES
Events and Workshops	YES	YES	YES	YES
Presentations	YES	YES	YES	YES
Infographics	YES	YES	YES	YES
Datasets and insights	YES	YES	YES	
Policy Briefs				

5.2. Dissemination network

Based on the analysis on target stakeholders, the HRB service delivery team identified a dissemination network with approximately 50 contacts and related social media channels identified across the stakeholder groups. All information gathered is publicly available. This can serve as an important basis for future dissemination activities.

The full network can be found in Annex 1.

Insights – Channels to approach your audience

By analysing your collective target stakeholders, we recommend the following channels to approach your audience:

- Horizon Results Platform:
  - It is strongly suggested for Dissemination purposes that projects upload their respective key Exploitable result on the EC Horizon Results Platform: https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/horizon-results-platform
  - The platform provides a new resource for projects and their partners to showcase results, network and forge partnerships, and be discovered by investors seeking opportunities, and where policy makers can get valuable insights.
  - The platform improves project exploitation opportunities, proactively promoting project results and can be a source of opportunities connecting you to new stakeholders.
- CORDIS Results Packs:
  - Create an account here: https://cordis.europa.eu/
    Work together to package your complementary results in a way that is easily understandable by professionals in the field of Bioeconomy. There are plenty of examples online here (CORDIS Results Packs): https://cordis.europa.eu/results-packs/en . Once the article is ready and checked also by your communication/dissemination partners, publish and promote it.
- **Demos and videos** – Develop tailored videos and demos that directly address the challenges of Research & Academia, Innovation Platforms and Clusters, Civil Society, NGOs and Citizens ,and show how the Project Group's results can benefit them. Consider developing different versions (i.e. shorter video pills for social media, longer ones for the website or events) and consider making joint videos
- **Website pages** – Either create a joint website or mini-site that showcases the collective results within the Project Group or each project should create one page in each of their project websites containing the joint results, who they benefit and how. Make sure to have pages that directly address each stakeholder through special pages or sections (one for Research & Academia, Large Enterprises) and content should be tailored.
- **X (Formerly Twitter)** – identify popular hashtags (both specific to your field such as #biomass, but also more general but related hashtags such as #Bioeconomy #Sustainability) and influencers and exploit them in posts. Consider creating a joint account as a Project Group. Each post should have an objective (page visits, signups for registration, download of a report, views for a video etc.)
- **Press releases** – Research the type of news published by the press and media identified in the dissemination networks. See what topics they write often and have a feel for their style or what type of information they like to post then write press releases that cover those. When sending press releases to media outlets, consider offering an exclusive interview with the head of research, business developer, policy expert (depending on what the media outlet's audience is).
- **Infographics** – Design multiple infographics for each stakeholder. Focus on interesting statistics and facts. Dimensions of the infographics should make it optimal for sharing online, particularly social media (i.e. think landscape layouts instead of portrait). They can also be used as images in website pages, press releases and inserted in videos when appropriate.
- **Policy briefs** – Create a unified policy position or a position paper on the LCA Methodology. Be creative in repurposing policy briefs. Even if they are in a downloadable format, they should be

introduced by easily digestible content linking to the policy briefs such as blogs, a social media post that has an infographic attachment or a YouTube video.

- **Newsletters** – First, design a stakeholder journey that will help you collect subscribers. Have a way for subscribers to sign up (usually in a website). You can even brand your newsletter as a curator of the latest developments in the European or global biomass and energy crops industry. Recommend viewers of stakeholder targeted content to subscribe to your newsletter. Consider segmenting newsletters as well so you can also consider sending tailored newsletters to specific stakeholder groups i.e. an SME newsletter can't just have specific updates from the projects but also latest developments in the general field or industry.
- **LinkedIn** – Start by coming up with a list of top 50 Innovation Platforms & Clusters that you would like to engage with. After, use LinkedIn to connect with them and message them directly to explore collaborations. Join existing groups that already deal with energy crops, renewable energy etc. and initiate discussions and connect with the members there.
- **Flyers, banners, posters** – Develop different printed material for each stakeholder group and ensure you have tailored message for each, particularly for fliers. Consider designing flyers that can also be shared digitally so you can repurpose flyers for social media.
- **Presentations** – Have tailored presentations for each stakeholder group. Consider uploading into SlideShare. You can also embed them in special web pages that target your stakeholder.
- **Datasets and insights** – If the project has available and interesting datasets and insights from its activities, consider showcasing them in your websites by embedding them in blogs or website pages. You can also create infographics based on them.

6. Conclusions and Recommendations

Following an in-depth analysis of the Project Group results and stakeholders, we conclude that:

- The Project Group's results deliver innovations in the field of bioeconomy.
- The Project Group's stakeholders are, by order of priority:
  - Innovation Platforms and Clusters
  - Research & Academia
  - Large Enterprises
  - Civil society, NGOs, and Citizens
- The barriers to dissemination are:

  ALIGNED

  The dissemination challenges that the project ALIGNED must face are directly related to its dissemination and communication objectives, as described below:

  - Dissemination efforts need to extend beyond the project duration to ensure long-term impact and utilization of results.
  - Different European countries may have varying cultural norms and preferences regarding communication styles, formats, and channels. Understanding and accommodating these differences is crucial for successful dissemination.

  CALIMERO

  Disseminating can face several challenges, such as:

  - The complexity of the project's findings, involving intricate sustainability methodologies and frameworks, may make it challenging to communicate effectively with various stakeholders, including industry professionals, policymakers, and the public.
  - Reaching a diverse audience across different bio-based sectors and regions requires tailored communication strategies. Ensuring the relevance and applicability of the results to the target audience is crucial for engagement and adoption. Moreover, navigating through regulatory and institutional barriers and ensuring buy-in from key stakeholders pose additional challenges. Overcoming these obstacles requires a comprehensive dissemination plan, including clear messaging, targeted outreach efforts, and collaboration with relevant partners and networks.
- The recommended dissemination channels to be used by the Project Group to reach its newly identified common stakeholders are
  - Demos and videos
  - Website Pages and Blogs
  - Newsletters
  - Social: Twitter
  - Social: LinkedIn
  - Press Releases and Kits
  - Collaterals: Flyers, Banners, Posters
  - Events and Workshops
  - Presentations
  - Infographics
  - Datasets and insights

The HRB service delivery team recommends

- To **continue the collaboration** between project and to carry out recommendations in this report, the HRB team strongly advises the group to **apply for HRB Service 1 Module B *Helping projects from the portfolio to design and execute a portfolio dissemination plan***. The service will provide direct support to the Project Group to carry out joint dissemination activities including effort from the HRB experts to do this. By working collectively, the projects can leverage each other's results and networks to increase impact. This can also sustain the group at an initial stage and could be the springboard for continued collaboration. We suggest that the lead project ALIGNED makes the application on behalf of the Project Group. Please note that when making the application you should apply as "A Project Group" and not as "An individual project" on the application form.
- The Project Group should consider the recommendations in the document and HRB experts will be more than happy to advise on the application. In Module B there is time and a call dedicated to discussing the right way forward and to agree on a dissemination plan together.

Annex 1 Dissemination networks

Based on the analysis of target stakeholders, the HRB service delivery team identified a dissemination network with around 50 contacts and related social media channels identified across the stakeholder groups to start engaging with. This can serve as an important basis for future dissemination activities.

Besides this, the EC recently published a "Social media guide for EU-funded R&I projects" listing several social media pages and profiles to follow and engage with. The guide is available at http://ec.europa.eu/research/participants/data/ref/h2020/other/grants_manual/amga/soc-med-guide_en.pdf

Nr	Entity	Website	LinkedIn	X (Formerly Twitter)
1	European Platform on LCA| EPLCA	https://eplca.jrc.ec.europa.eu/	N/A	N/A
2	Cluster Bioeconomy DE	https://www.bmbf.de/bmbf/en/home/home_node.html	N/A	https://x.com/BMBF_Bund/
3	Cluster SPRING	https://www.clusterspring.it/	https://www.linkedin.com/company/clusterspring/	https://x.com/cluster_spring
4	Circular Bio-based Europe Joint Undertaking (CBE YU)	https://www.cbe.europa.eu/	https://www.linkedin.com/company/cbe-ju/	https://x.com/CBE_JU
5	Bioeconomy for Change	https://www.bioeconomyforchange.eu/en/	https://www.linkedin.com/company/bioeconomyforchange/	https://x.com/B4C_eu
6	European Bioeconomy network	https://eubionet.eu/	https://www.linkedin.com/groups/8793586/	https://x.com/EuBioNet1
7	Bio Future Platform	https://biofutureplatform.org/	N/A	https://x.com/biofuture_
8	ETIP Bioenergy	https://www.etipbioenergy.eu/	https://x.com/ETIP_Bioenergy	https://www.linkedin.com/company/etipbioenergy/
9	Bio EAST	https://bioeast.eu/	https://www.linkedin.com/company/bioeast-bioeastsup/	https://x.com/bioeastsup

10	APRE (Agenzia per la promozione della ricerca europea)	https://apre.it/en/homepage/	https://www.linkedin.com/company/apre-agenzia-promozione-ricerca-europea/	https://x.com/apre_it
11	Cluster of Bioenergy and Environment of Western Macedonia	https://clube.gr/en/	https://www.linkedin.com/company/clube-cluster-of-bioeconomy-and-environment-of-western-macedonia/	https://x.com/Cluster_CluBE
12	BioFuel Region	https://biofuelregion.se/	https://www.linkedin.com/company/biofuel-region/	N/A
13	Europa Bio	https://www.europabio.org/	https://www.linkedin.com/company/europabio/?originalSubdomain=be	https://x.com/EuropaBio
14	European Aquaculture Technology and Innovation Platform	https://eatip.eu/	N/A	https://x.com/EATIP_eu
15	Regional Cluster Organization Paper Province (PP) in Värmland	https://paperprovince.com/en/	N/A	N/A
16	European Cluster Collaboration Platform (ECCP)	https://clustercollaboration.eu/	https://www.linkedin.com/company/european-cluster-collaboration-platform-eccp/	https://x.com/Clusters_EU
17	Fraunhofer - Gesellschaft	https://www.fraunhofer.de/	https://www.linkedin.com/company/fraunhofer-gesellschaft/?originalSubdomain=de	https://x.com/fraunhofer
18	AssoBiotec – Federchimica	https://assobiotec.federchimica.it/	https://www.linkedin.com/showcase/assobiotec/	https://x.com/AssobiotecNews

19	CARIPLO Factory	https://www.cariplofactory.it/	https://www.linkedin.com/company/cariplo-factory/	https://x.com/CariploFactory
20	OpenBioeconomy Lab	https://openbioeconomy.org/	https://www.linkedin.com/company/openbioeconomy/	https://x.com/openbioeconomy
21	Deutsches Biomasseforschungszentrum gemeinnützige GmbH (DBFZ)	https://www.dbfz.de/en/	https://www.linkedin.com/company/dbfz/	https://x.com/dbfz_de?lang=de
22	Eurac Research	https://www.eurac.edu/it	https://www.linkedin.com/company/euracresearch/	https://x.com/eurac
23	High Tech Campus Eindhoven	https://www.thisiseindhoven.com/nl	N/A	N/A
24	EIP 21	https://eip21.eu/	N/A	N/A
25	BIC- Bioeconomy Platform	https://www.bioeconomy-regions.eu/home/dashboard	N/A	N/A
26	Food and Bio Cluster Denmark	https://www.foodbiocluster.dk/	https://www.linkedin.com/company/food-bio-cluster-denmark/?viewAsMember=true	N/A
27	CLIB 2021 Cluster	https://www.clib-cluster.de/de/	https://www.linkedin.com/company/clib-cluster/	https://x.com/clibcluster
28	AXELERA	https://www.axelera.org/fr	https://www.linkedin.com/company/axelera/?originalSubdomain=fr	https://x.com/axelera_pole
29	AGRI Sud-Ovest Innovation	https://agrisudouest.com/	N/A	N/A
30	XYLO FUTUR	https://xylofutur.fr/	N/A	N/A

31	Circular Biobased Delta	https://circularbioba seddelta.nl/	https://www.linkedin. com/company/biobas eddelta/	https://x.com/biobaseddelta
32	Northwest Bioeconomy Hub	https://nwbioecon omyhub.ie/	N/A	N/A
33	Circular Bioeconomy Cluster Southwest	https://cbcsw.ie/	https://www.linkedin. com/company/circular -bioeconomy-cluster- south-west/	https://x.com/CBC_SW
34	Flanders Biobased valley	https://flanders.bio /en	https://www.linkedin. com/company/flander sbio/	https://x.com/flandersbio
35	Bio-based Industries Consortium	https://biconsortiu m.eu/	https://www.linkedin. com/company/biobas ed-industries- consortium/	https://x.com/biconsortium
36	Bioeconomy Cluster Builder	https://www.bioec onomybuilder.com /	https://www.linkedin. com/company/bioeco nomy-cluster-builder/	https://x.com/TheBCBProjec t
37	Finnish bioeconomy cluster FIBIC Oy	N/A	https://www.linkedin. com/company/finnish- bioeconomy-cluster- fibic-oy/about/	N/A
38	Bioeconomy Austria	https://www.bioec onomy-austria.at/	https://www.linkedin. com/company/bioeco nomy-austria/	N/A
39	Latvian Food Bioeconomy Cluster	http://www.vidze me.lv/en/latvian_f ood_bioeconomy_c luster_lfbc	https://www.linkedin. com/company/latvian- high-added-value-and- healthy-food-cluster/	N/A
40	CLIC Innovation Oy	https://clicinnovati on.fi/	https://www.linkedin. com/company/clic- innovation-oy/	https://x.com/CLICInnovatio n
41	HempCluB	https://hempclubp roject.com/	https://www.linkedin. com/company/hempcl ub/	N/A

42	Lombardy Green Chemistry Cluster	https://www.chimicaverdelombardia.it/en/	N/A	N/A
43	Consorzio Italbiotec	https://www.italbiotec.it/	https://www.linkedin.com/company/italbiotec/	https://x.com/italbiotec
44	CzecHemp	https://www.czechemp.cz/	https://www.linkedin.com/company/czechemp/	https://x.com/CzecHemp
45	PRODUTECH	http://www.produtech.org/	N/A	N/A
46	IBC Finland	https://www.ibcfinland.fi/	https://www.linkedin.com/company/ibcfinland/	N/A
47	STEP – Innovation Hub	https://www.steptechpark.com/	https://www.linkedin.com/company/step-sb/?viewAsMember=true	N/A
48	Como Next – Innovation Hub	https://www.comonext.it/	https://www.linkedin.com/company/comonext-innovation-hub/	N/A
49	BIOPLAT	https://bioplat.org/	https://www.linkedin.com/company/bioplat/	https://x.com/bioplat
50	Fraunhofer Innovation Platform for Advanced Manufacturing at the University of Twente	https://fip.utwente.nl/	https://www.linkedin.com/company/fraunhofer-innovation-platform-at-the-university-of-twente/	https://x.com/FIP_AM_UT

Annex 2 Project questionnaire responses

At the start of Module A, all participating projects are requested to complete a questionnaire. All responses can be found at this link:
https://workspace.horizonresultsbooster.eu/groups/11423/materials-outreach

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www.horizonresultbooster.eu

HORIZON RESULTS BOOSTER

An initiative of the European Commission