D8.3 Strategy for multi-stakeholder engagement

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LIST OF ABBREVIATIONS

ACRONYM	DESCRIPTION
AUA	Agricultural University of Athens
BBEPP	Bio Base Europe Pilot Plant
BIC	Bio based Industries Consortium
CBE JU	Circular Bio-based Europe Joint Undertaking
CNR	Consiglio Nazionalle delle Ricerche
COV	Covestro Deutschland AG
D	Deliverable
DoA	Description of Action
EC	European Commission
EU	European Union
Hydrohm	Hydrohm
INEUVO	INEUVO Ltd.
Monti	Montinutra OY
M	Month
SA	Succinic acid
SIG	Steinbeis Innovation gGmbH
UGent	Universiteit Gent
WP	Work package
WS	Workshop

Publishable summary

The "Strategy for multi-stakeholder engagement" provides an overview of the stakeholder engagement activities taking place and are foreseen within WP8– "Communication, dissemination and stakeholder engagement". This document includes a strategic plan of mapping, evaluation, and definition of engagement approaches to create awareness and integrate all different types of relevant stakeholders for the development of the LUCRA solutions.

The first part of the strategy is the identification and mapping of relevant stakeholders. A first identification was carried out by the project partners and includes several stakeholder groups from associations, public bodies, industry, and science. This list will be further defined and expanded during the project lifetime. Subsequently, the identified stakeholders will be evaluated using the influence-interest grid method. To document the results of the collection and evaluation a shared table was created, which will continuously be updated by the project partners during the project duration.

Four engagement approaches were defined with target actions for each stakeholder category depending on their level of influence and interest. The first approach involves communication activities design to inform all types of audiences including those with low influence. For stakeholders with high influence but low interest advocacy activities will be necessary, encompassing actions such as one-on-one meetings and lobbying efforts. The next engagement approach is the consultation with selected stakeholders through online surveys to collect important insight on their interest, perceived gaps and challenges as well as opportunities from the LUCRA solutions. Furthermore, collaboration and co-creation activities will be undertaken with stakeholder of high relevance and interest. The aim is to lay the foundation for the demand-driven design of the LUCRA components, services, products, and business models, thereby enhancing competitiveness for all stakeholders along the value chain.

Recognizing the significance of preserving the outcomes of engagement, a systematic documentation of results will be ensured contributing to a lasting legacy of the project results. To achieve this, the results will be documented in the project deliverables D8.4 and D8.6 (Results of the co-creation workshops 1 and 2, respectively) and D8.5 (Final report on Dissemination, Communication and Stakeholder Engagement). In addition, a white paper for policymakers will be prepared, considering the main results of the stakeholder engagement outcomes.

1. Introduction

The objective of report D8.3 is to lay out the strategy, plan and actions to ensure an effective multi-stakeholder engagement along the whole circular bio-based value chain (researchers, traders, bio-based processing industries industry, technology providers, end-users, consumers, authorities and citizens) to foster the adoption and acceptance of LUCRA solutions, which is imperative to overcome main barriers when entering a new market.

The aim of LUCRA is to engage with key stakeholders in a continuous process to provide clear and trustful information and at the same time to listen to their needs and expectations and consider them in the project development and decision making. For this, a process including the following steps is planed:

- Stakeholder mapping and evaluation
- Implementation of the engagement approach
- Monitoring and evaluation
- Dissemination of the results and best practices

2.Stakeholder Mapping and Evaluation

The LUCRA partners will prepare a comprehensive mapping of all stakeholders and define indicators to examine how, why and under which circumstances these could act as a barrier or an enabler for the adoption of LUCRA potential solutions. As a first step, LUCRA partners will identify and segment the entire spectrum of stakeholders along the LUCRA value chain. After that an evaluation will be conducted to classify the stakeholder groups and determine a tailored approach for engagement. A timeline of the stakeholder engagement activities can be found in the Gannt chart in Annex 0.

2.1.   Stakeholder mapping

A first identification was already carried out by the project partners, and it is presented in Table 1. The list will be further extended by the project partners, which will use their networks and contact to further identify relevant stakeholder at regional, national, EU and international level.

Table 1 General list of stakeholders identified by project partners

Stakeholder Groups	Identified Stakeholders
Associations	**Waste/Biomass associations** ▪ International Solid Waste Association, European Biomass ▪ Industry Association **Forestry associations** ▪ European State Forest Association ▪ Forest Europe **Bio- and circular economy associations** ▪ Biobased Industries Consortium ▪ Bioeconomy Clusters ▪ Global Bioeconomy Alliances ▪ Europe's Bioeconomy Intercluster ▪ Enterprise Europe Network - Thematic Circular PP Groups clusters and Circular Economy European Circular ▪ Economy Stakeholder Platform ▪ International Advisory Council on Global Bioeconomy **Chemical industries associations** ▪ European Chemical Industry Council (Cefic) ▪ International Council of Chemical Associations
Policy, public bodies	**EU-Policymakers** ▪ EU COM and Parliament (DG Environment, DG Grow, DG Research, DG IMCO, Joint Research Centre) **Regional authorities involved in environmental/bioeconomy frameworks** ▪ Environmental Protection Agencies ▪ Municipal waste and forestry institutions ▪ Local Authorities (e.g. city councils)
	▪ Chemical, food, pharmaceutical and cosmetic companies ▪ Waste management companies ▪ Components and Materials Suppliers

Stakeholder Groups	Identified Stakeholders
Industry	■ Engineering and Technology providers ■ Certification Organization ■ Export and promotion companies
Science	■ Researchers, students and developers ■ EU Projects (e.g. Scalibur, WaysTUP!, SUSTCERT4BIOBASED, URBIOFIN, WASTE2FUNC) ■ Regional and national projects

To collect and document the information, an Excel table template has been created by SIG (see Annex 5.2**Error! Reference source not found.**) and made available on the internal collaboration platform confluence to all partners. The specification of the choices for table information was undertaken, as detailed in Table 2, see below. This will facilitate the categorization of essential information types, such as stakeholder category and economic sectors, through the utilization of predefined options.

Table 2 Specific options for the table entries

Information type	Options
Stakeholder Category	**Industry** ■ Large Enterprise ■ SME/Startup ■ Investors **Science and research** ■ Research and Technology Organisation (RTOs) ■ Technology Transfer Offices (TTOs) ■ Academic institutions **Public authorities** ■ Regional ■ National ■ EU **Civil Society** ■ NGOs ■ Other groups (e.g. consumer associations) **Other**- Associations/Clusters/Initiatives
Economic sector	■ Policy, public bodies ■ Waste/Biomass ■ Forestry ■ Bio- and circular economy ■ Chemicals ■ Food ■ Pharmaceutical ■ Cosmetic ■ Technology supply ■ Certification ■ Investment ■ Science ■ Other

Information type	Options
Geographic scope	■ Regional ■ National ■ European ■ International
Level of interest	■ Low ■ High
Level of influence	■ Low ■ High
Level of engagement	■ Communicate ■ Advocate ■ Consult ■ Collaboration/co-creation

The stakeholder mapping table will be continuously updated by SIG with the input of all project partners during the complete project timeline and revised every 6 months at the project meetings.

2.2. Evaluation

The evaluation of the identified stakeholders is important to determine the most appropriate way of prioritizing engagement and trust building efforts, tailor communication and identify potential risks and concerns. For this a widely used Influence-interest grid method was selected. This method is particularly valuable, because it allows to categorize stakeholders based on two key factors: their influence to impact the project and their level of interest in it, dividing them into four quadrants as shown in Figure 1.
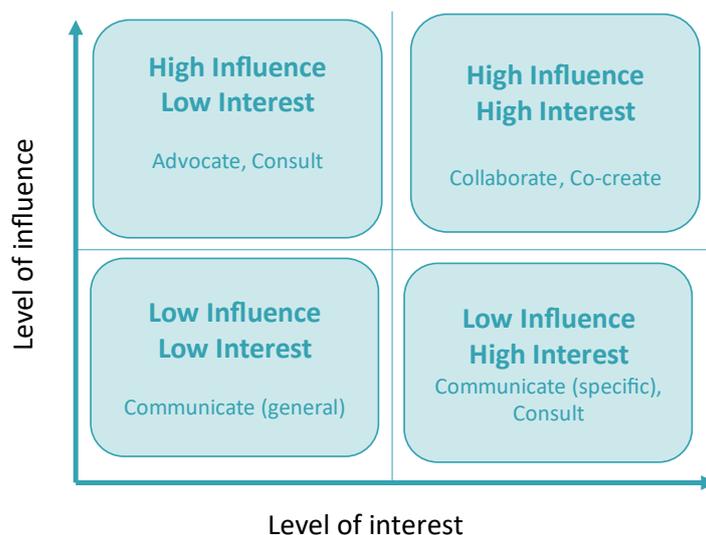
Figure 1 Influence-Interest grid methodology

This stakeholder classification helps to tailor the LUCRA strategies. For 1) High Influence/High Interest stakeholders we need to fully engage them as they can significantly influence the success of the LUCRA

solutions. In this case regular communication and collaboration are key. 2) High Influence/ Low Interest stakeholders have the ability to influence, their low interest suggests that we should first advocate for the project and then consult them. 3) Low Influence/High Interest stakeholder may not have much influence; however their high interest implies they care about the project. We will keep them informed and consider their valuable insights. 4) For the Low Influence/ Low Interest stakeholders minimal engagement is needed. However, we can keep them in the loop with general updates within the communication activities of the project.

For the evaluation process, the project partners will determine the level of influence and interest of their identified stakeholders as requested in the Excel table (see Annex 5.2**Error! Reference source not found.**). In addition, working sessions with all partners will be organized by SIG to carry out the evaluation and determine which key stakeholder groups should (or must) be strategically involved in the project.

3. Stakeholder Engagement Approach

In the LUCRA project four types of engagement approach will be carried out, depending on the stakeholder mapping and evaluation results. An overview of the approaches is shown in Table 3.

Table 3 LUCRA stakeholder engagement approaches

Engagement approach	Main Stakeholder Target	Examples of Actions
1. Communicate	All	■ Social media and LUCRA website publications ■ Newsletters
2. Advocate	High Influence/ Low Interest	■ Bilateral meetings with project partners ■ Lobbying
3. Consult	High Influence/ Low Interest Low Influence/High Interest	■ Surveys ■ Targeted interviews ■ Soliciting feedback or input on a project result ■ Consultation with advisory board
4. Collaborate and co-create	High Influence/High Interest	■ Co-creation workshops ■ Peer-to-peer learning sessions ■ Site visits

3.1. Communicate

The LUCRA communication initiatives undertaken as part of WP8 are comprehensively outlined in the "Communication and Dissemination Strategy" (Deliverable D8.1). This document provides a detailed account of the specific channels employed for communication activities, the overall communication approach adopted, and the anticipated impacts. It encompasses the project's identified target audiences, elucidating the key messages tailored for each group.

The communication activities are designed with all stakeholders as target, but they have particular importance to reach those audiences with lower influence in order to keep them informed without imposing excessive demands on their engagement. By strategically directing communication efforts to this audience, we aim to maintain transparency and inclusivity, ensuring that even stakeholders with less influence remain adequately informed about the progress and developments within the LUCRA project.

3.2. Advocate

Advocacy activities with stakeholders who possess high influence but exhibit low interest require a strategic approach to raise their awareness and generate interest. For this, the following activities will be planned and conducted by project partners:

- To provide customized information that highlight project benefits directly aligned with their priorities.
- Establishing direct, personal connections through meetings and one-on-one discussions by project partners offering exclusive opportunities for involvement.

■ To engage in lobbying efforts to create awareness and garner support, showcasing tangible project impacts and seeking feedback for continuous improvement.

By employing these strategies, the aim is to elevate the stakeholder's awareness and interest, making a compelling case for their active involvement in the project.

The project partners will collaboratively develop in dedicated meetings a comprehensive plan that outlines specific timelines and responsibilities for the advocacy activities with low interested relevant stakeholders. This plan will delineate the roles of each partner in reaching out to identified stakeholders, specifying who will contact which stakeholder and when. This strategic approach ensures a coordinated and efficient engagement strategy, aligning with the insights gained from the stakeholder mapping and evaluation process.

3.3.   Consult

Selected stakeholders will be actively engaged in consultations to gather insights on their interests, as well as identify perceived gaps, challenges and opportunities related to LUCRA solutions. To ensure a comprehensive approach, a minimum of 30 participants will answer a survey, which will be conducted online and take place at a pan-European level. The survey will be developed by all project partners with the lead of SIG and conducted in English to ensure inclusivity across our diverse partner regions. The consortium is committed to conducting a gender-sensitive analysis, emphasizing social inclusion in the process. Following the survey, the results will be discussed in a moderated workshop involving all partners.

The consulting activities are strategically planned across three campaigns during the project at M8-M11, M26-M29, and M38-M40 (see Annex 0.), which will take place before the co-creation workshops for preparation (see Section 3.4) and the finalization of the project. In addition, regular consultations with all members of the LUCRA advisory board will be prioritized, recognizing their vital role in providing valuable input and guidance throughout the project.

3.4.   Collaborate and co-create

Collaboration and co-creation activities will be carried out with stakeholders of high relevance and interest. The aim is to set the stage for the demand-driven design of the LUCRA components, services, products, and business models and in this way increase the competitiveness for all stakeholders along the value chain. The activities and content will be defined considering the results of the stakeholder mapping, evaluation and consultations.

Co-creation workshops

Two co-creation workshops, implemented during LUCRA project, will engage a diverse group of relevant stakeholders, fostering cross-fertilization of ideas from various perspectives. The selected group will represent different stakeholder types to ensure a rich exchange of insights. The methodology employs creative brainstorming, ideation sessions, gamified exercises, and prototyping, aiming to unlock the social co-benefits inherent in LUCRA. Facilitated by SIG and supported by all LUCRA project partners, the workshops will involve approximately 15-20 stakeholder participants.

Table 4 details the content and timeline of these collaborative sessions. To prepare, the LUCRA team will identify key issues (such as challenges, opportunities, and technological aspects) and present these insights to stakeholders, guiding and enriching discussions during the workshops.

Table 4 LUCRA co-creation workshops

Workshop	Content	Time
Workshop 1 (WS1)	Requirements, design conditions and priorities to meet stakeholder needs that have to be considered before the complete development of the LUCRA technology and products	Jun-Jul 2024 (M12-M13)
Workshop 2 (WS2)	Considerations for the market introduction of the LUCRA solutions including feedback on interest, willingness and ability to pay.	Nov-Dec 2024 (M29-M30)

The outcomes of the co-creation workshops will be subjected to further discussion by the project consortium through webinars in order to formulate a plan for the integration of these results into the design and development phases of the LUCRA technology. The presentation of the workshops 1 and 2 results will be made available in the project deliverables D8.4 and D8.6, respectively.

Peer-to-peer learning sessions

Peer to peer learning sessions will be organised for potential stakeholders from relevant sectors during the final stages of the project, spanning from M43 to M46, i.e. January 2027 to March 2027 (see Annex 0.) coinciding with the gathering of more detailed experience of the LUCRA solutions by the project partners. In these learning sessions, experiences, knowledge, and expertise will be shared by the participants, led by the project partners. The overarching goal of this knowledge exchange is to enhance collaboration and stimulate interest across diverse industries in the LUCRA solutions.

The preparation and scheduling of the peer-to-peer sessions will be undertaken by the LUCRA project partners, moderated by SIG. The schedule will be based on the results of stakeholder mapping and evaluation and updates will be incorporated into this strategy document. Preliminary topics for the sessions include:

■ Session 1: Biorefinery industry
■ Session 2: Cosmetic and pharmaceutical industry
■ Session 3: Automotive and packaging industry

Site visits

Three site visits will be organized at the LUCRA demonstration facilities, aligning with other engagement activities such as the second stakeholder workshop and peer-to-peer learning sessions. This strategic coupling aims to optimize the time and resources of the participants. These events will function as demonstration activities at both academic and industrial levels, facilitating the broad dissemination of project outcomes and fostering the exchange of relevant advances in the industry. The planned timeline for these visits can be found in Annex 0.

Table 5 presents the location and type of LUCRA technologies that are interesting for site visits. The specific scheduling and design of these visits will be undertaken by the project partners after the stakeholder mapping and evaluation activities and considering the progress of the technologies' developments. This information will be integrated into subsequent updates of this strategy document.

Table 5 Type and location of the LUCRA demo sites for the stakeholder visits

LUCRA Technologies	Location	Project partner
Thermal hydrolysis of the organic fraction of solid waste	Madrid, Spain	FCC MA
Enzymatic hydrolysis	Gent, Belgium	BBEPP
Pressurized hot water extraction	Turku, Finland	Montinutra
Microbial fermentation	Gent, Belgium	BBEPP
Membrane electrolysis and crystallization	Gent, Belgium	HYDRO
Production of succinic acid-based products	Leverkusen, Germany	Covestro

4. Conclusions and Outlook

A strategy has been developed to delineate the stakeholder engagement activities within Work Package 8 (WP8) of the LUCRA project. The initial step is the definition of stakeholder's groups to initiate and update the mapping and the decision to use the influence-interest method for the evaluation of diverse stakeholder groups. Specific engagement actions, tailored to the nature of each stakeholder, were outlined, accompanied by a well-structured timeline forming the basis of the action plan. In the coming months, subsequent to the completion of the initial stakeholder mapping and evaluation sessions, all project partners, guided by SIG, will refine the description of activities and conduct an update of this strategy.

Importantly, to ensure that the outcomes and results of the multi-stakeholder engagement activities remains accessible after the project completion, they will be thoroughly documented and disseminated. This includes the compilation of updated information and conclusions from all stakeholder engagement activities in Deliverable D8.5 (Final report on Dissemination, Communication and Stakeholder Engagement), scheduled for M48. Additionally, the specific results of both co-creation workshops will be systematically registered in D8.4 and D8.6, preserving the collaborative outputs of these significant sessions.

Moreover, as part of the broader project activities in Task 8.2, a white paper tailored for policymakers will be crafted. This document, informed by the stakeholder engagement activities, will delve into regulatory bottlenecks hindering innovation in the bioeconomy sector. Importantly, it will provide policymakers with an assessment framework to guide coherent policy prioritization. The integration of these outcomes into policymaker-focused deliverables underscores the broader impact and relevance of the LUCRA project in shaping the landscape of bioeconomy innovation.

5.1.   LUCRA Stakeholder Engagement Activities -Gannt Chart

	2023	2024	2025	2026	2027
Months	1–6 (J A S O N D)	7–18 (J F M A M J J A S O N D)	19–30 (J F M A M J J A S O N D)	31–42 (J F M A M J J A S O N D)	43–48 (J F M A M J)

Activities Stakeholder engagement

Activity	Scheduled months
Elaboration and update of the stakeholder engagement plan (D8.2)	5–6 (then ongoing)
Stakeholder Identification and evaluation with all project partners	7–8 (then ongoing)
Communication activities with stakeholders (in Task 8.2)	7–48
Stakeholder consulting activities (e.g. surverys, interviews)	9–10, 26–27, 38–39
Stakeholder cooperation- Co-creation workshop 1 (WS1)	12–13
Analysis of WS1 results and transfer to partners to revise LUCRA concept	13–14
Stakeholder cooperation- Co-creation workshop 2 (WS2)	29–30
Analysis of WS2 results and transfer to partners to revise LUCRA concept	30–31
Peer-to-peer learning sessions	43–45
Site visits for stakeholders	30–31, 43–45
Preparation and publishing of white paper with the results (in Task 8.2)	44–45

Deliverables

	Deliverable	Month
D8.3	Strategy for multi-stakeholder engagement	7
D8.4	Results of co-creation workshops	13
D8.5	Final report on dissemination, communication and stakeholder engagement	48
D8.6	Results of co-creation workshop 2	31

5.2. Template used for stakeholder mapping and evaluation

The template is accessible as an Excel table, and a screenshot of the table tab is provided, featuring an example illustrating specific options for the stakeholder category section.

Name of Organisation	Website	Contact Information	Country	Stakeholder category	Economic sector	Geographic scope	Level Interest	Level Influence	Level of engagement	Project activities	Comments

Dropdown options shown under Stakeholder category:
- Industry - Large Enterprise
- Industry - SME/Startup
- Industry-Investors
- Science and research- Research and Technology Organisation (RTOs)
- Science and research- Technology Transfer Offices (TTOs)
- Science and research- Academic institutions
- Public authorities- Regional
- Public authorities-National
- Public authorities-EU
- Civil Society- NGOs
- Civil society- Other groups (e.g. consumer associations)
- Other- Associations/Clusters/Initiatives