



# **DELIVERABLE 1.1**

## **CircEular stakeholder dialogue protocols and methods**

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# CircEular

## Developing circular pathways for a EU low-carbon transition

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## Executive Summary

This deliverable outlines the stakeholder mapping and engagement methods that will be applied throughout the CircEular project. The main strands of work include an extensive stakeholder mapping, suitable to address all stakeholder engagement needs of the research in the project; a set of dedicated workshops using a backcasting methodology; dedicated outreach to policy makers through policy dialogues; and ad-hoc support for research WPs (Work Packages).

While many activities are anticipated, the plans are expected to shift over the duration of the project, and for new needs to arise alongside our insights. WP1, as a service provider for the wider project, will remain flexible, continuously assess WPs' needs, map stakeholder contacts, and facilitate engagement activities as and when they are needed to support the project as a whole.

## Keywords

Stakeholder engagement; stakeholder mapping; backcasting; policy



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## Abbreviations

BHS	Building & Household Services
CircEULAR	Developing circular pathways for a EU low-carbon transition
CRM	Customer Relationship Management system
EU	European Union
WP	Work Package



# CircEULAR stakeholder dialogue protocols and methods

## 1 Introduction

This deliverable explains the stakeholder engagement in the CircEULAR project.

Stakeholder engagement is implemented in WP1, *Stakeholder Engagement and Outreach*. This WP should be understood as a service provider to the wider project, facilitating engagement and outreach as needed to complement the research carried out in the WPs. In that context, WP6 will work very closely with all other WPs. The closest relationship is between WP1 and WP6, *Circular Economy Driven Net-zero Emissions Pathways*, which will develop the narratives and pathways that will be discussed in the visioning and transition workshops arranged by WP1. WP2 (Stocks and Flows of Materials, Energy and Emissions in a European Circular Economy), WP3 (Circular Provision of Goods and Services), and WP4 (Circular Consumption) all have their individual requirements, which will be addressed on a schedule that was agreed with WPs individually, and which have also influenced the overall stakeholder strategy described here.

Alongside the WPs, the stakeholder engagement is also driven by the focus areas of the project, which cut across WPs: Digitalisation, Mobility, and Building & Household Services (BHS). Many of the stakeholder mapping and engagement activities will be aligned with the focus areas more than the WPs.

The following sections will discuss the background and motivation for stakeholder engagement in CircEULAR and the specific methods that will be implemented (section 2), the methods for identification of relevant stakeholders for CircEULAR (section 3), and the planned engagement activities, including their links to other WPs (section 4).

The overarching goal of stakeholder engagement in CircEULAR is to support the co-design of achievable, desirable, and transparent circular economy strategies with policy, industry and civil society stakeholders. More specifically, stakeholder engagement in CircEULAR is designed to enable researchers in the consortium to engage with diverse stakeholders and collaboratively (i) identify factors that help or hinder acceptance and adoption of circular consumption practices, (ii) explore barriers to circularity in business models and how they can be overcome, and (iii) to inform policy makers on modelling efforts for the inclusion of circular practices in decarbonization analysis.

Stakeholders that are engaged by the project should be diverse not only regarding their expertise and area of influence, but also regarding gender diversity. Gender balance and appropriate minority representation are the goal, but may be challenging to achieve, since women are vastly underrepresented in some of the focus areas (e.g. construction, manufacturing, transport) (Eurostat, 2021). Paying for participants' travel and accommodation cost should contribute to enabling a more diverse group of stakeholders to attend.

A variety of stakeholder engagement activities are planned throughout the lifetime of the project, which are described in this deliverable. After a preliminary mapping of relevant stakeholders at the beginning of the project (part of which has already been implemented), engagement activities fall into three broad areas:

1. Scenario engagement
2. Policy engagement
3. Outreach & network building

A brief overview of the engagement timeline is provided below.







## 2. Background & Methods

Both stakeholder engagement and future studies methodologies have been extensively used in sustainability research projects. In this section the most relevant literature and examples of such engagement are summarised, upon which the CircEULAR engagement strategy is built. The next sections will discuss how these methods informed the CircEULAR approach, how they are suitable to serve the purposes of CircEULAR, and how the approaches from the literature were combined and adapted to the needs of CircEULAR.

### 2.1 Stakeholder engagement

Engaging stakeholders in research projects on sustainability has a long tradition and proven benefits – both for stakeholders, and projects and researchers themselves. Engaging policy stakeholders especially increases the likelihood of research becoming part of their decision-making (Bracken et al., 2015). Engaging multiple stakeholders in iterative activities accelerates learning and improves decision-making by integrating more knowledge (Fazey et al., 2018).

In order to make stakeholder engagement successful, Bracken, Bulkeley and Whitman (2015) suggest: considering the differing motivations of stakeholders (e.g. interest in science, learning about a topic); enabling dialogues by translating research into their language, so stakeholders can understand it, allowing stakeholders to critique the research, and openness to learning not only for stakeholders, but also for researchers; remaining flexible in order to allow for true participation, and adapting the research through co-creation in the engagement process; and acknowledging different measures of success for the process, including benefits for the community and stakeholders.

Klenk et al. (2015) define four types of stakeholder engagement networks: Linking, Match-making, Collaborating, and Coproducing – in order of extent of the engagement. They suggest paying stakeholders, especially at the higher (collaboration and coproduction) end of the spectrum, if engaging stakeholders as ‘active agents’ is the goal. This would put stakeholders on equal footing with researchers and reduce power imbalances that could otherwise skew results.

Mielke et al. (2016) have developed a typology of stakeholder engagement for researchers, with common critiques and corresponding advice for successful engagement. They distinguish four forms of engagement: Technocratic (stakeholders are used as a source of information alongside other data; engagement is limited, and so is potential impact); Neoliberal-rational (mixture of science and advocacy, with different groups following different goals in the same process; close involvement throughout the process, but hindered by diverging goals and interests); Functionalist (engagement bridges different spheres of interest), and Democratic (stakeholders as part of scientific process, collaborative knowledge generation). They further found (Mielke et al., 2017) that *Democratic* engagement is predominant in sustainability science practice, although discrepancies remain between what researchers want to do and what is implemented. Although policy stakeholders were among the most commonly engaged stakeholder groups, policy impact was rarely seen as achieved in retrospect.

While some research suggests that stakeholder engagement should be consistent across a whole project, others suggest that different forms of engagement are better suited at different project stages. Stauffacher et al. (2008) map project stages to engagement types, switching between formal and informal methods: Informal engagement is best suited at the beginning and end, while formal engagement is more appropriate in the core phase. They also demonstrated that different stakeholder groups could be



successfully engaged in different ways: A steering group made up of senior stakeholders with official mandates, which collaborated with the team to define the direction of the project; an advisory board, consisting of a variety of industry representatives and researchers, which was consulted in the development of relevant scenarios; and a reference group, consisting of members of the public, which contributed to both brainstorming exercises at the beginning, and results discussions at the end of the project. Each group, role and engagement type were selected to enable continuous engagement throughout the project lifetime.

Schneider and Buser (2018) also find that the intensity of engagement fluctuates throughout the project timeline: Developing new knowledge on contested issues requires consistently high engagement (e.g. through co-creation); more informed stakeholders need less intense engagement (e.g. providing feedback); and awareness raising engagement grows more intense over time (e.g. successive learning). They conclude that the selection of engagement forms at different times should depend on “the form of knowledge desired, how contested the issues are, the level of actor diversity, actors’ interests, and existing collaborations between actors”.

The CHIC project (*Chicory as a multipurpose crop for dietary fibre and medicinal terpenes*) (Spök et al., 2019) also engaged stakeholders as part of Responsible Research and Innovation in Horizon Europe, with the intention to make research more relevant, and gain advice on scenarios. They focused on stakeholders in relevant areas (industry, academia, consumers), and locations, conducting consultation events, consisting of workshops and subsequent written comments, as well as interviews and focus groups to support the development of scenarios.

At the most formal end of the engagement spectrum, Lindner et al. (2021) have developed a 5-step standardisation approach to stakeholder engagement, combining co-creation and standardisation. Lindner et al. (2023) received very positive results through stakeholder engagement in standardisation processes with this approach, which also supported the implementation of solutions developed in these processes.

The form and intensity of engagement for any one project needs to be carefully selected to meet the requirements of the individual process. The decisions made for CircEULAR will be described in Section 4.

## 2.2 Scenarios

The primary method deployed in CircEULAR’s engagement activities are some variations of backcasting.

Backcasting is a technique by which desired future scenarios are envisioned, and then used to work back from the future to the present, defining what policy, social, technological or other changes need to occur in order to achieve this desired future. Backcasting as an approach can thus contribute to the goals of CircEULAR, and inform stakeholders, including policy makers, about the potential of circularity.

Dreborg (1996) describes backcasting in comparison to forecasting: Where forecasting takes current trends and projects them into the future, backcasting envisions a desired future and then casts it back to the present. It is typically “applied on long-term complex issues, involving many aspects of society as well as technological innovations and change. The focus of interest is on a perceived societal problem of great importance” (p. 814). Sustainability research is thus especially well-suited to the backcasting method, because it is a complex problem requiring major changes, going against dominant trends, defined by externalities, and with a time horizon long enough to allow for deliberate choice to implement changes – although time horizons for effectively tackling several sustainability issues are becoming shorter. It balances out some key uncertainties that make forecasting unsuitable, such as the assumption that trends are



consistent, and the impossibility to forecast future knowledge and ideas, which will change trajectories. Backcasting allows actors to discuss decisions with specific goals in mind.

Holmberg and Robert (2000) define backcasting as a method for businesses, which allows them to gain a competitive advantage by anticipating future policy changes. Businesses which plan for sustainability are enabled to avoid abrupt changes in emergency situations, or when new conditions arise at short notice. Thus, backcasting can help businesses to move from short term to long term planning. The main challenge in this context would be to make different stakeholders (potentially from different institutions or areas of expertise) work together to achieve a shared goal, which may not be perceived as the same priority for all stakeholders. Holmberg and Robert suggest non-overlapping, guiding principles as the foundation for possible futures, which focus on desired outcomes. They should aim for simplicity; validity at various scales; a shared mental framework; non-prescriptivity; upstream thinking; and working with standards.

Vergragt and Quist (2011) outline three types of futures scenarios: *What will happen*, if everything continues the way it is now. These are only relevant for short-term plans and stable systems. *What could happen* is a basic prediction of the status quo into the future and focused on medium-term plans. *What should happen* is focused on systemic changes at larger scale and used for long-term planning. Backcasting is aligned with the latter, and “does not assume that a group of experts or a group of stakeholders can develop a finalized vision of the future” (p. 749). Methodologically, backcasting approaches differ in the way experts and/or the relevant community are engaged. The authors suggest that combinations of different methods are best suited to maximise outcomes.

Bibri (2018) compares future studies methods, including backcasting, and their goals, focusing on the specific research methods. Bibri and Krogstie (2019) further develop and test this process and the guiding questions. They combine several methods into a synthesised method for backcasting, with guiding questions and suggested methods for each step. The basic process they outline includes four steps:

1. Description of the present and trend analysis,
2. Setting criteria and goals (sustainability),
3. Developing images of the future, and
4. Analysis of how to reach the images.

Hines et al. (2019) have developed the method of *Transition Scenarios*, expanding on the traditional backcasting method. Where backcasting defines a desired scenario, and then maps out milestones, obstacles, and objectives on the way to achieving the scenario, Transition Scenarios instead focus on the drivers towards those scenarios and their development, such as social values, climate change, technology, economy, etc.

Davies, Doyle and Pape (2012) assessed the efficiency of visioning workshops for learning about sustainability, by conducting workshops with diverse stakeholders (civil, public, private). Participants were identified through stakeholder mapping, including industry lists, consultants, advisors and authors of relevant reports and policy documents. Workshops were located on neutral ground to prevent biases in discussions. They consisted of presentations, followed by discussions in sub-groups with members of each stakeholder group. The brainstorming sessions led to over 100 ideas each, which were then rated and clustered by the stakeholders. The method was deemed particularly successful because it not only brought people together who otherwise would not have interacted and served the primary goal of idea development; they also encouraged both lower-order (solutions) and higher-order (conceptual) learning among participants.



Davies et al. (2015) and (Davies and Doyle (2015) further develop and test this *practice-oriented, participatory (POP) backcasting* method, with the flow shown in Figure 3. For each potential practice stakeholders identified, they were asked to consider necessary steps affecting change in policy, education & engagement, business models, research & development, in the short-, medium- and long-term.

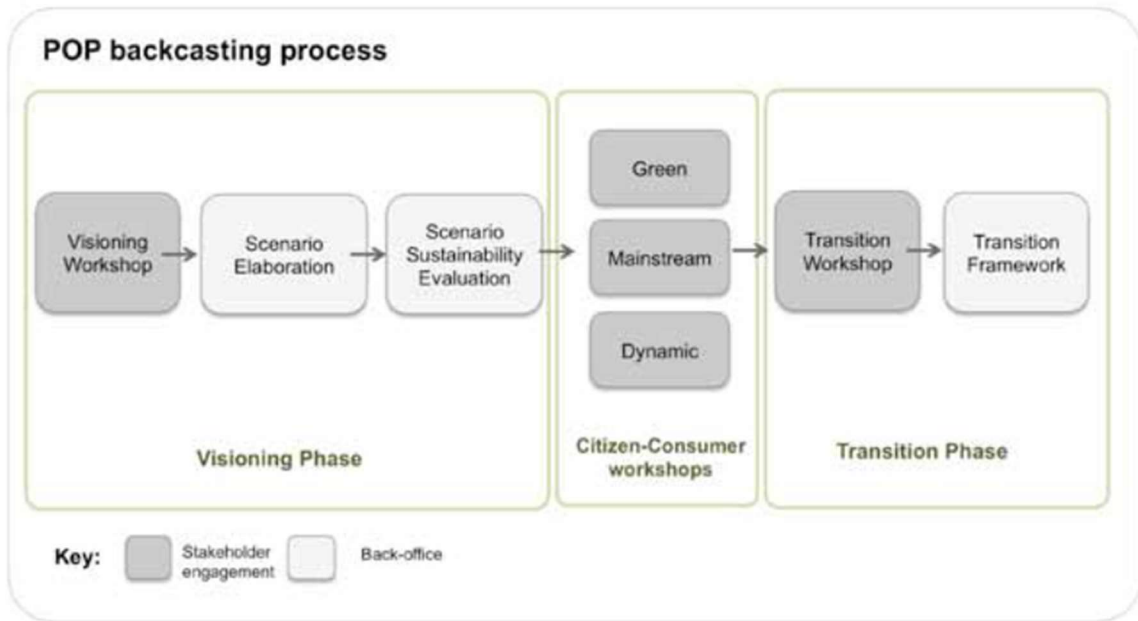


Figure 3: CONSENSUS Participatory backcasting process (Davies et al. 2015, p. 33).

POP is implemented in five phases:

1. Visioning: Generating and collecting new ideas for the topic area.
2. Scenario development: The concepts are combined into three scenarios for each subject area.
3. Sustainability evaluation: Apply an evaluation framework (here, (Seyfang, 2009) was used) to assess the potential of the scenarios to address the issue.
4. Citizen–consumer feedback: Citizens provide feedback on the proposed scenarios.
5. Transition phases: The most promising practices are selected and expanded upon in transition workshops with stakeholders & experts.

The key benefits of POP are to allow stakeholders “to be directly confronted with sustainability challenges; encourage them to think in creative ways about long-term solutions and desired future societies; stimulate creative thinking beyond the narrow confines of disciplines or existing business models; and create an opportunity for stakeholders who would not normally meet to engage in a face-to-face environment” (Davies et al., 2015, p. 4).

Alcamo (2008) further expanded the POP method into the “Story & Simulation Approach (SAS)”, which combines qualitative and quantitative backcasting scenarios, building on the strengths of both: Qualitative scenarios combine different views and are engaging, quantitative scenarios are based on numbers, more transparent, and reproducible. Their method is only suitable if mathematical modelling is possible and requires significant time and other resources.



### 3. Stakeholder identification

To identify stakeholders that CircEULAR needs to engage, an extensive, collaborative stakeholder mapping exercise was conducted, and will be continued in the next months to assure full alignment with partners' needs, which may change over time. This encompassed three phases:

1. Identify stakeholder categories & develop personas.
2. Exploring stakeholder engagement needs with WPs.
3. Stakeholder mapping based on identified engagement needs & personas.

In this section, discuss the work done to date and the methodology for future activities are discussed.

#### 3.1 Stakeholder types

The work on stakeholder identification and mapping started at the project kick off in September 2022. T6 facilitated a group discussion with the aim of refining the definition of the stakeholder groups identified at the proposal stage. More specifically, all participants were requested to list the typologies of stakeholders there were interested in engaging and for which purposes (data provision, consultation on preliminary research results, co-design, etc). Inputs were aggregated at WP/Task level and considering the three focus areas of the project (Digitalisation, Mobility, Building & Household Services (BHS)).

The results of this first interactive session were elaborated in a Miro board and analysed to identify stakeholder personas and design the next steps of the stakeholder mapping, including the development of a shared dataset of stakeholders. The initial stakeholder mapping and the stakeholder personas (both included in the Miro) were then presented and discussed at the first consortium meeting, held in April 2023. Participants identified three key stakeholder personas they wanted to engage:

- Domain experts
- Policy-/decision-makers
- Consumer associations

Different types of stakeholders need to be engaged for the diverse parts of the project, such as attending visioning and transformation workshops, providing specific feedback on insights or outputs, data provision and supporting the dissemination of the project and its results. The strategy for the latter has already been discussed in D1.5; here the stakeholder engagement specific to the insights and outputs of the project will be the focus. The specific roles envisaged for the stakeholders are:

- Domain experts
  - **Start-ups & Venture Capital firms:** Innovative businesses in the circular economy field will be able to benefit from Circular's findings, and first in line to potentially adopt new techniques. They will also be in a good position to provide feedback on insights, proposed new business models, and their potential to scale. They will be approached for more direct interactions with WPs on their results, including interviews, workshops, and other forms of engagement.
  - **Industry & established businesses:** Those who are affected by new insights, processes, and regulations will need to adapt their current modus operandi, which CircEULAR aims to inform. They will also be in a good position to provide feedback on insights, and proposed changes in processes and regulation. They will be approached for scenario workshops and direct interactions with WPs on their results, such as interviews and surveys.



- **Platforms:** Businesses that provide services for or otherwise enable circular economy and sustainable lifestyles, such as eBay, are a primary target for the insights and solutions CircEular develops and should be highly interested in both learning about and engaging with them. They will be approached to engage in scenario workshops, as well as specific engagements with WPs on individual solutions and insights, through interviews, surveys, or workshops.
- Policy makers
  - **National & EU policy makers** will benefit from CircEular’s insights and policy recommendations. They will be interested in big-picture developments and suggestions, especially where they require overarching shifts in legislation. Higher-level policy-makers will be informed about CircEular results and recommendations, and where possible, engaged in policy dialogues and other activities to support uptake of CircEular insights.
  - **Local & national policy makers** will benefit from CircEular’s insights, solutions, and policy recommendations. They will be engaged in scenario workshops, to ensure their concerns and specific challenges can be considered in the narratives and models. They may also be engaged in policy dialogue activities.
  - **Policy workers** (assistants, analyst, administrators etc.) who support policy makers with briefings and advice, as well as practical implementation of new regulations, will benefit most from CircEular’s insights and solutions, as well as the engagement process as a whole. They will be invited to scenario workshops and to work directly with WPs on specific outcomes, to provide feedback and insight, and ensure the solutions developed by the consortium meet their practical needs. They may also be engaged in policy dialogues activities.
- Consumer associations, NGOs, CSOs
  - **Citizens & their representatives** will be affected by any new products, policy recommendations, or system changes that CircEular will propose. Specific interest groups will also benefit from exchange with other stakeholders, and the opportunity to contribute their views and priorities in our work. Representatives will be invited to scenario and narrative workshops, as well as direct engagement with WPs and researchers on topics in their respective fields of interest.

### 3.2 Stakeholder exploration

At the project meeting in April 2023, a spreadsheet was shared with all consortium partners, and the structure of the database and the process for its population was agreed. To encourage the population of the database, calls with individual WPs were organised to assess their specific engagement needs, the related timing, as well as existing contacts. Between September and October 2023, three dedicated calls with contributors to WPs 3, 4 and 6 were held. An overview of these conversations is provided in Table 1 below:

*Table 1: Overview of stakeholder engagement needs assessment calls*

Date	Call focus
2023-09-29	WP3&4 <ul style="list-style-type: none"> <li>● CMCC: 3D-printing</li> <li>● Empa: Repurposing of building materials</li> <li>● INEGI: Circular cities</li> </ul>



2023-09-29	WP3&4 <ul style="list-style-type: none"><li>• RUG: Digitalisation &amp; second-hand online trading</li></ul>
2023-10-17	WP3/4&6 <ul style="list-style-type: none"><li>• IIASA: Narratives &amp; scenarios</li><li>• INEGI: Housing &amp; transport</li></ul>

Throughout the calls with the WPs, five key questions were discussed:

- Which stakeholders do they want to engage?
- When do they want to engage them?
- Do they have specific people in mind?
- What other requirements do they have?
- What support do they need?

To capture the results, the Miro board started in after the kick off was further populated, summarising the needs of each WP (see Figure 4 below).

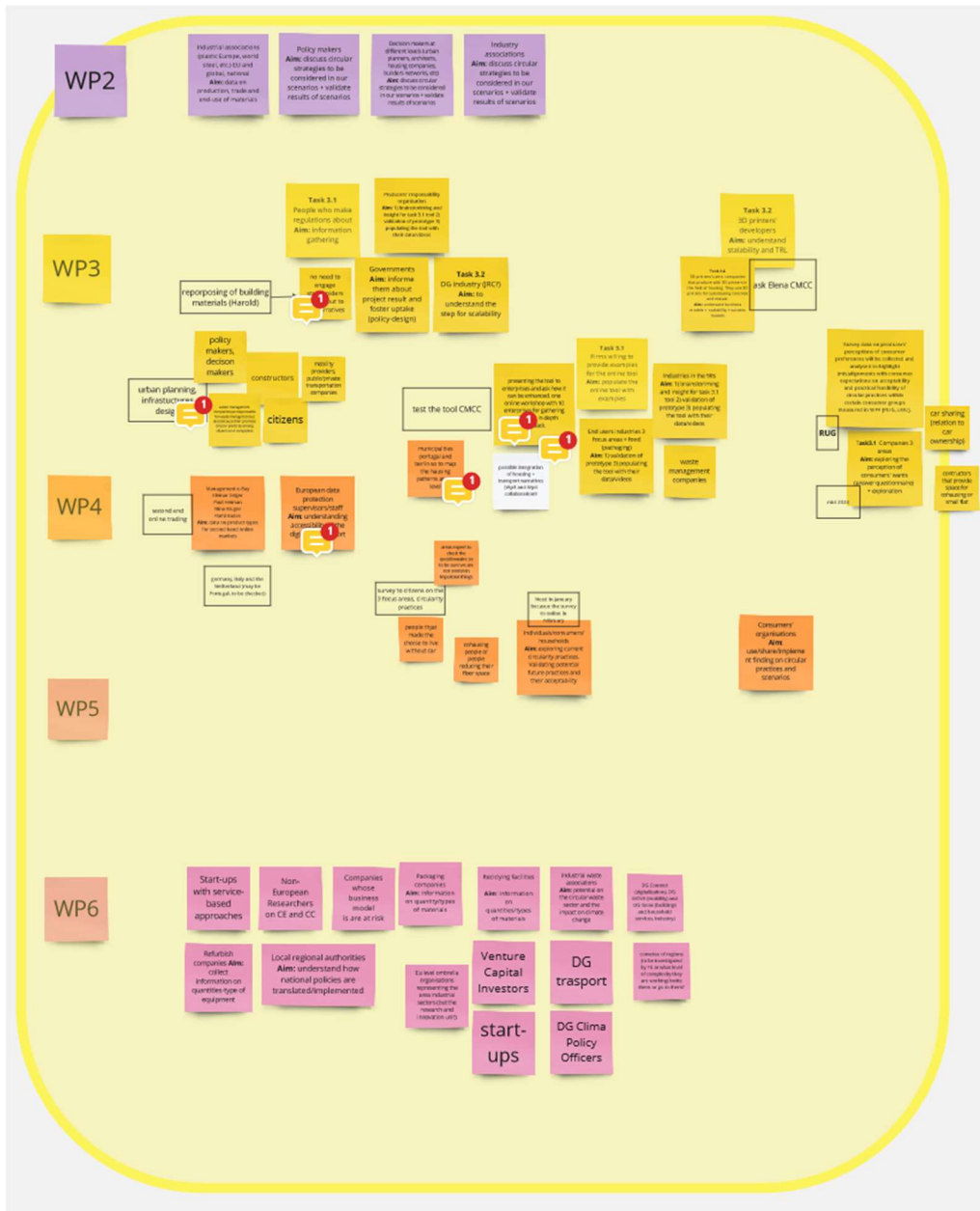


Figure 4: Snapshot of the stakeholder mapping Miro board

During this process, it was found that partners’ needs overlap across WPs as well as focus areas, so our needs assessment now maps both, for better visibility. The calls, in conjunction with a variety of conversations within the consortium and further email exchanges, led to this preliminary stakeholder engagement needs assessment:

Table 2: Overview of WPs needs for stakeholder engagement to date

WP / Task	Focus Area	Stakeholder type	Timeline	Engagement type
1	Digitalisation, Mobility, BHS	Domain experts Policy makers Consumer associations	M18-19	Interviews to identify key challenges and opportunities in circularity and begin snowball mapping.





3.1	Digitalisation, Mobility, BHS	9R industry Local authorities	M21	Test online tool to help identify circular, climate-mitigating strategies
3.1	Digitalisation, Mobility, BHS	9R industry Local authorities	M40	Workshops / focus groups to test the tool
4	Digitalisation, Mobility, BHS	Second-hand online platforms	M15-22	Interviews; feedback on & beta test of planned survey
4	Mobility, BHS	Local authorities Constructors & material providers Consumers / citizens Public service providers (transport, waste)	M21-27	Feedback & validation of results
4	Mobility, DHS	Local authorities	Y4	Insight for housing & mobility narratives
6	Digitalisation, Mobility, BHS	Start-ups, VC firms	Y2	Feedback on circular business models & scaling
6	Digitalisation, Mobility, BHS	Domain experts Policy makers Consumer associations	M18	Visioning workshop attendance
6	Digitalisation, Mobility, BHS	Domain experts Policy makers Consumer associations	Y3	Transformation workshop attendance
6	Digitalisation, Mobility, BHS	Policy makers	Y4	High-level feedback on policy recommendations

Partners' needs fall broadly into two categories: (1) Finding suitable stakeholders and (2) support in engaging stakeholders to achieve specific goals. Not every partner needs support in both these tasks. Therefore, flexible support will be provided to enable partners to find and/or enable them to engage stakeholders relevant to their subject areas as appropriate and required. Given both the topical overlap and diverse needs, one overarching stakeholder mapping was developed and will be further populated (see below), and then the stakeholder engagement support for each area will be customise. Continuous work with partners, e.g. through regular check-ins in consortium meetings or emails, will help to understand their changing needs regarding the stakeholders they want to engage and the methods with which they want to engage them. Hence, the above outline is just a first step; the stakeholder engagement support is expected to expand and change as the project and partners' insights develop.

### 3.3 Stakeholder mapping

The CircEular stakeholder mapping follows a simple, yet established methodology, based on the process outlines in Section 2. It includes five steps:

1. Network mapping within the consortium
2. General search for stakeholders based on focus areas
3. Specific search for stakeholders based on relevant regulations & institutions (in EU27+3)
4. Snowball sampling from preliminary stakeholders to expand network
5. Specific search for stakeholders based on established WP requirements
6. Specific search for stakeholders based on ad-hoc WP needs

Steps 1 and 2 have already been completed. Partners were engaged directly to understand their needs and any existing contacts. One key result of these conversations – aside from the defined needs outlined above – was that partners already have many established contacts that suit their specific needs (e.g. second-hand



online platforms in WP3). For these stakeholders, it was noted that needs were already met, and stakeholders were not mapped in detail, as no central support is required, which meets good practice of personal data sparsity (do not share what is not required). However it was also noted that some of these contacts might be relevant for scenario workshops at a later stage and partners may be asked to facilitate invitations at that time. This initial list also includes the advisory board of the project, as described in D7.1.

Beyond specific contacts from partners, a general search for stakeholders in the focus areas (Digitalisation, Mobility, BHS) was conducted to understand key reference points and institutions, which has resulted in a first set of 20 institutions. Combined with the currently ongoing work in step 3, identifying further key contacts from published reports and regulation, this initial list of stakeholders will be approached to kickstart our engagement process and snowball sampling – collecting recommendations for further contacts from stakeholders who are already engaging with us (step 4).

Step 5 is also currently in progress, based on the completed WP needs assessments; some of the contacts identified here may also form part of the snowball sample.

The last step will be implemented as and when those ad-hoc needs arise throughout the project lifetime; indeed, a first mapping was already conducted for industry and professional contacts in the building and architecture sector as requested by one partner that needed an EU-mapping of this kind of organisation for distributing a survey.

As mentioned, the preliminary stakeholder mapping was conducted using an excel file on the projects' SharePoint, including a variety of details about each stakeholder, such as their organisation, relevant WPs, activities and focus areas, but also (where available) personal details like their email address and gender. The latter is important because we aim to collect diverse insights from and achieve gender balance in the engagement. Although the target industries for engagement are male-dominated (Eurostat, 2021), it is hoped that a more balanced sample can be achieved through both snowballing and identifying more diverse stakeholders in the community, as well as reaching out to organisations that are likely to have more diverse representatives, such as consumer organisations and NGOs. Where CircEular reach out to organisations as opposed to individuals, the need to put together a diverse group of attendees for workshops especially will be highlighted, to try and encourage organisations to facilitate contact with suitable women from their staff where this is possible.

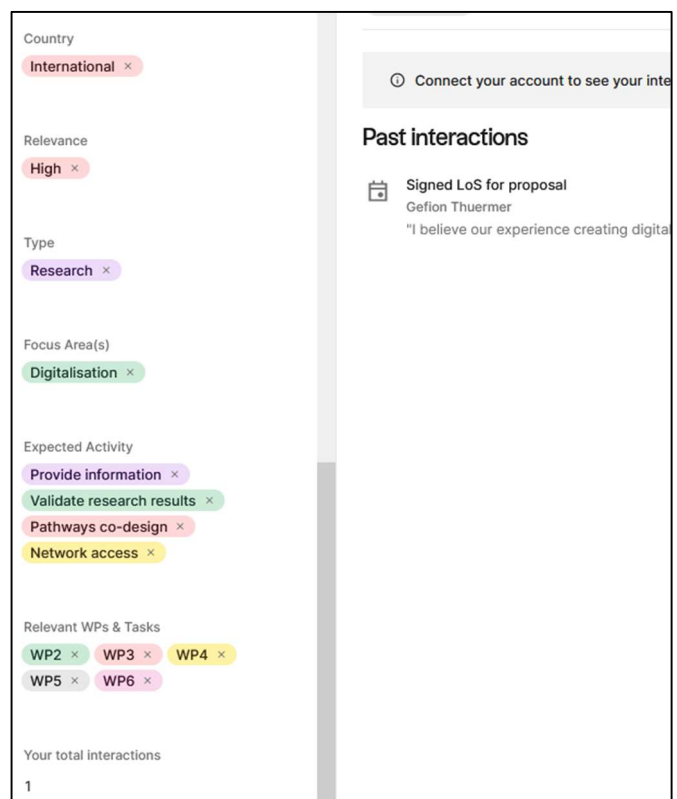


Figure 5: Screenshot of a folk.app CRM contact and interaction

All the data from the initial Excel file has been moved to an online CRM (Customer Relationship Management system), to allow more flexibility in tracking details and interactions, and more collaborative database maintenance. The CRM (folk.app) allows us to not only keep track of the organisations and



individuals that have been mapped, including a variety of classifications (Type of organisation, relevant focus area and WP, anticipated engagement activities), but also engagement activities or attempts undertaken to date. This will be particularly useful once multiple partners and WPs will seek to contact stakeholders for different purposes and will allow us to balance the requests and communications we send to any one stakeholder. An example of what such tracking will look like is provided in the screenshot in Figure 5.



## 4. Stakeholder activities

CircEular will engage stakeholders in a variety of ways, as will be explained in more detail in this section. Such engagement will improve the quality of our research and its outcomes, and also lay the groundwork for adoption of results (Bracken et al., 2015).

Stakeholders will be engaged in both formal and informal settings (Stauffacher et al., 2008), though without institutionalisation of committees. Informal engagement is used at the beginning and interim phases of the project, where stakeholders will be interviewed, and asked for feedback in conversations and surveys. More formal participation is envisaged in the scenario workshops in year 2 and 3 and the policy dialogues in year 4, where stakeholders will be invited to contribute to the narratives of desired circular economy futures and provide feedback to policy briefs/recommendations. Different types of stakeholders will be engaged in different ways, as outlines in Section 3.1.

A *matchmaking* process (Klenk et al., 2015) will be applied, with consortium-internal researchers consulting knowledge users and gaining their feedback and recommendations. This will not require extensive investment from stakeholders, and thus the envisaged engagement does not require payments; everyone who does engage is most likely to do this as part of their existing roles (i.e. in industry, civil society, or policy). *Linking* (Klenk et al., 2015) will also be applied, in the form of targeted dissemination of results to selected stakeholder groups, thus ensuring insights that are created are picked up by stakeholders who can make use of them (this is explained in more detail in D1.5, communication plan). In all this, it is anticipated that the engaged stakeholders will already be well aware of the overarching problem space, and hence require less intense engagement and be able to dip in and out without continuous engagement (Schneider and Buser, 2018).

Following Mielke et al. (2016), CircEular's engagement falls between the *Neoliberal-rational* and the *Democratic* type: Stakeholders are integrated into the scientific process, and their inputs seriously considered, while stakeholders are selected for relevance, and it is assessed which of their contributions are most meaningful for CircEular's work.

Following the template of other projects before us (Davies et al., 2015; Spök et al., 2019), we have selected a variety of stakeholder types and engagement forms to meet the projects' needs, as we outline below.

### 4.1 Scenario engagement

A fairly traditional backcasting method will be implemented, combined with the stakeholder engagement techniques described above. The primary stakeholder groups will include (as outlined in section 3), domain experts, policy makers/workers, and consumer associations. The process Bibri (2018) outline will be followed, and built upon regarding their guiding questions to run visioning and transition workshops. The scenarios that are discussed in these workshops will be developed and refined, and final analysis will be conducted by WP6. Hence, this deliverable only outlines the stakeholder engagement part of this work, specifically the visioning and transition workshops.

Three visioning and transition workshops will be run, one for each focus area. All workshops will be held in the same location on the same day to limit the demands on stakeholders' time. Opportunities are currently being explored to combine the workshops with industry events, or in collaboration with related projects (CIRCOMOD, PRISMA and others), to ensure maximum outputs.



All workshops will build heavily on the findings of Davies et al. (2012) and Davies and Doyle (2015), and implement *practice-oriented, participatory backcasting*. Relevant stakeholders will be identified through the ongoing stakeholder mapping, as outlined in section 3; workshops will be run where possible on neutral ground, to prevent power imbalances or biases in discussions; and a focus on the development of ideas and solutions will be encouraged, while also enabling participants to learn about the topics not only from CircEular, but also from each other. Stakeholders will be engaged in visioning and transition workshops. While Davies and Doyle (2015) suggest separate citizen-consumer workshops, it is planned instead to engage consumer associations in the main workshops alongside other stakeholders, as this multi-stakeholder approach will be enriching for both them and CircEular.

In an adaptation of Hines' et al. (2019) *Transition Scenarios*, the focus will not only be on milestones and obstacles, but also on exploring the drivers for scenarios. Working with stakeholders on the question "*What will drive development towards these scenarios?*" will provide important insights for the further development of the scenarios and their analysis.

Lastly, following Alcamo (2008), qualitative scenarios and quantitative models will be combined – the methods and results of this approach will be discussed in more detail in the deliverables of WP 5.

The first round of workshops will be arranged in February 2024. The goal is to engage 15 stakeholders in each workshop, though the specific stakeholders may change, as different stakeholders will be relevant to and interested in attending workshops for Digitalisation, Mobility, and Buildings & Household Services. Stakeholders will be identified through the mapping described in section 3, and invited to attend in January 2024 the latest, to allow sufficient time to plan their attendance. In all workshops, it is planned to invite domain experts (industry, start-ups, established businesses, platforms), local and national policy makers and policy workers, as well as consumer representatives from the different categories described in section 3.1. While the suitability of attendees' expertise will be of highest importance, diversity and gender balance, as well as appropriate representation of minorities, remain a focus as well.

Each visioning workshop will follow the same structure:

1. Welcome by the facilitators (two team members of T6)
2. Presentation by the project team (WP6) of the work and narratives to date
3. Discussion of narratives and feedback form stakeholders, including Bibri and Krogstie's (2019) questions:
  - What are the demands (terms of reference) for the future vision?
  - How does the future sustainable socio-technical system and need fulfilment look like?
  - How is the future vision different from the existing socio-technical systems?
  - What is the rationale for developing the future vision?
  - Which sustainability problems, issues, and challenges have been solved or mitigated by meeting the stated objectives and thus achieving the specified targets and goals?
  - Which advanced technologies and their novel applications have been used in the future vision?
4. Conclusion

Depending on the specific attending stakeholders, the discussions may be held in smaller groups, or in the plenary. All sessions will be facilitated by T6 and colleagues from WP6 with insight into the scenario work. The result of the visioning workshops will be co-created, draft scenarios.

Following the workshop, WP6 will continue their refinement and development of these scenarios, up to the *Transition workshops*, which are planned for November 2024.



The transition workshops will be arranged similar to the visioning workshops, inviting the same group of stakeholders, but expanding it to allow for any drop-outs, and to involve further expertise as required. The workshops will follow the same basic structure:

1. Welcome by the facilitators (two team members of T6)
2. Presentation by the project team (WP6) of the work to date and refined scenarios.
3. Discussion following Bibri's (2018) questions:
  - What technological changes are necessary for achieving the future vision?
  - What cultural and behavioural changes are necessary?
  - What structural, institutional, and regulatory changes are necessary?
  - How have necessary changes been realized and what stakeholder (groups) are necessary?
  - Is it possible to define milestones for the identified technological, cultural, and structural changes when looking back from the vision?
4. Conclusion

Depending on the specific attending stakeholders, the discussions may be held in smaller groups, or in the plenary. All sessions will be facilitated by T6 and colleagues from WP6 with insight into the scenarios and research. The result of the transition workshops will be co-created pathways towards the scenarios that were first drafted in the visioning workshops. They will be used for further modelling and research in WPs 2-6, and in outreach activities, including the policy dialogues described below.

## 4.2 Research outlook validation

In addition to the structured process of backcasting workshops, WP1 will support the research WPs with their specific needs, as described in Table 2.

This will begin in November 2023 by reaching out to selected key stakeholders and inviting them for interviews, conducted by T6. The goal of the interviews is to understand the stakeholders' views on the methods, tools and protocols for successful implementation of a circular economy strategy and identify possible obstacles to their implementation at scale, and also garner referrals to relevant additional stakeholders.

Following this initial engagement, the targeted stakeholder mapping will be concluded, and contact between WPs and relevant stakeholders for their respective activities will be facilitated. If needed, WÜ6 will work with partners to understand in detail the stakeholders they want to engage and what the desired outcomes are, and then develop engagement activities with them to address those needs. WPs will be supported in the selection of the most suitable methods, and facilitate both contacts to stakeholders, and the interactions with them, as required. It is envisaged that this will include a range of activities, such as interviews, workshops, focus groups, or more generic outreach campaigns. T6 will support the outreach to stakeholders and can provide support such as facilitation at events or in calls, and the WP teams will provide the scientific content and questions for stakeholders.

Opportunities where the consortium gathers, such as our monthly calls, will be used to update the stakeholder engagement needs, and identify newly arisen requirements in an ongoing process, as shown in Figure 1.



### 4.3 Policy dialogues & recommendations

The last, structured stakeholder engagement activity will be the *Policy Dialogues*. These are planned at the end of the project (M42-48) and form the culmination of the projects' insights. Before the dialogues themselves will be hosted, an online event will be run, to which all mapped policy makers (both policy-makers and policy-workers, as described in Section 3) will be invited. At this event, foreseen for M40, the policy makers will be introduced to the project and its results, and the draft policy recommendations. After the event, the draft recommendations will be shared with policy makers for the respective focus areas, and they will be invited to comment, critique, or make suggestions to improve them. The online event and the results of this online consultation will be used to prepare the policy dialogue workshops. The specific planning of the events will commence once the WPs have drafted their final outputs.

It is planned to host three dialogue events with policy stakeholders, one for each of the focus areas. The goal of the events will be to discuss and refine recommendations and implications of our insights, challenges and opportunities. The implications of our work with stakeholders will be discussed in order to define and refine broadly applicable policy recommendations. These will then be communicated to broader audiences in all stakeholder groups, though focusing on those engaged in policy. Specific events, such as the Data & Policy conferences, will be sought to ensure that the broadest and most suitable audience is reached.

It is planned to arrange these dialogues at suitable events in the policy sphere, or alongside other events of CircEULAR or related projects. The specific method for these events will be developed in more detail closer to the time, as it will be highly dependent on the insights the project has developed, and the most suitable way of engaging policy makers with those results. It is envisaged that the dialogues take the form of panel discussions or event workshops, or another format that allows us to present insights, and gain practical feedback from policy makers and workers. Following Mielke et al. (2016), it is planned to engage policy stakeholders in suitable activities to ensure that they can effectively contribute.

Lastly, it is planned to share the refined policy recommendations with all stakeholders who engaged in the process, to encourage uptake of the results.

In addition to the targeted engagement activities outlined in this deliverable, a targeted dissemination campaign will be implemented, including attending events, posting news articles, and engaging stakeholders on social media, in order to disseminate our results and insights to relevant target audiences, which will to some degree overlap with the stakeholders we actively engage. It is also anticipated that the stakeholders engaged with the project directly will support the dissemination of the results into their respective networks. The details of this outreach and dissemination are described in D1.5.



## 5 Conclusion

This deliverable has outlined the stakeholder mapping and engagement methods that will be applied throughout the CircEular project. The main strands of work include an extensive stakeholder mapping, suitable to address all stakeholder engagement needs of the research in the project; a set of dedicated workshops using a backcasting methodology; dedicated outreach to policy makers through policy dialogues; and ad-hoc support for research WPs.

While many activities have been anticipated and planned already, it is expected that the plans will shift over the duration as the project, and for new needs to arise alongside our insights. In that, the key activity for WP1 – in a role as a service provider for the wider project – is to remain flexible, continuously assess and track both needs and stakeholder contacts, address the research WPs needs and facilitate engagement activities as and when they are needed to support the project as a whole.





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