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# Report of Stakeholder Interaction in LOCALISED

D8.5

Tobias Gralke, Bernd Hezel

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# List of Abbreviations

| | |
|---|---|
| BCN | City of Barcelona, Agenda 2030 Department |
| CAST | Climate Action Strategiser |
| CMCC | Euro-Mediterranean Center on Climate Change (CMCC), RFF-CMCC European Institute on Economics and the Environment (EIEE) |
| CMF | Climate Media Factory |
| CoM | Covenant of Mayors |
| D | Deliverable |
| EURESFO | European Urban Resilience Forum |
| FZJ | Forschungszentrum Jülich |
| IMP | Szewalski Institute of Fluid-Flow Machinery, Polish Academy of Science |
| IREC | Catalonia Institute for Energy Research |
| LSBMC | LOCALISED Sustainable Business Model Canvas |
| M | Project Month |
| MAGGS | Metropolitan Area Gdańsk-Gdynia-Sopot |
| NZBC | Net-Zero Business Consultant |
| ÖGUT | Österreichische Gesellschaft für Umwelt und Technik |
| PIK | Potsdam Institute for Climate Impact Research |
| SDG | Sustainable Development Goal |
| SECAP | Sustainable Energy and Climate Action Plans |
| SOI | SDG-oriented Indicator |
| T | Task |
| T6 | T6 Ecosystems srl |
| UT | Universiteit Twente |
| UIV | Urban Innovation Vienna |
| VCT | Vienna Climate Teams |
| VIE | City of Vienna, Department for Energy Planning |

# Executive Summary

This deliverable summarises the different phases, formats, and results of the LOCALISED stakeholder interaction process until May 2025. Complementing earlier reporting in D8.1 and D8.4, it outlines how various interactions with three stakeholder groups—the "wise" (experts and advisory figures), the "users" (future tool adopters), and the "community of interest" (broader multipliers)—has helped shape and validate the project tools, namely the Climate Action Strategiser (CAST), the Net-Zero Business Consultant (NZBC), the LOCALISED Sustainable Business Model Canvas (LSBMC), and the Citizen Engager (CE).

This version has been updated in November 2025 based on recommendations from the final review.

Throughout the project, stakeholder interaction was carried out both decentralised and centrally coordinated across three main phases: initial consultations on user's data needs and tool concepts, co-design workshops and testing sessions to refine functionality and usability, and wider dissemination and community-building to encourage uptake and long-term impact. This constant feedback and co-design loop, while non-linear and iterative in nature, has significantly been contributing to the robustness, usability, and legitimacy of LOCALISED outputs beyond the project's formal end.

The deliverable covers in detail multiple workshops, interviews, case studies, surveys, and other formats involving stakeholders from municipalities, businesses, civil society, and international networks and traces the implementation of the collected inputs–while also reflecting on challenges and difficulties in co-designing tools in international, multi-layered, multi-partner, and multi-stakeholder project settings.

**Key learnings from the stakeholder interaction process include:**

- Continuous, iterative engagement is essential, as stakeholder interaction cannot be a one-off step; feedback loops between needs assessment, co-design, and dissemination proved critical for tool relevance.
- Tools must be institutionally embedded to support internal coordination, external communication with decision-makers, and alignment with national/EU reporting frameworks.
- Support structures such as onboarding materials, tutorials, helpdesks, and training are indispensable prerequisites for effective tool adoption; powerful features alone are insufficient.
- Flexibility and context-sensitivity matter, as tools must accommodate varied planning contexts, administrative realities, and data maturity levels through modular design.

- Transparency builds trust, and clear documentation of data sources, assumptions, and modelling logic is critical for user confidence, particularly for complex tools like the CAST.
- Visualisation enhances communication, and the CAST's visual presentation of complex information was consistently praised, though layered, role-specific pathways are needed to avoid information overload.
- Inclusive citizen engagement requires tailored approaches, including early involvement of multipliers, low-threshold outreach, and tailored communication to engage diverse groups effectively.

# 1 Introduction

One integral part of LOCALISED has been the systematic interaction with different stakeholders to understand the questions and needs of the end users of the project's outputs and services. This deliverable reports on how this stakeholder interaction process—methodologically established in D8.1 and initially reported on in D8.4—has been implemented from the beginning of the project until the end of May 2025, four months before its end. It shows how these interactions have shaped the development of the project's tools, and what overarching insights and learnings may be drawn for future research and implementation efforts in similar contexts.

The LOCALISED stakeholder interaction process was structured around three main phases and stakeholder groups: first, exploratory conversations with expert stakeholders ("wise") to identify key user needs and expectations for the planned tools; second, deep-dive co-design engagements with future users of the tools ("users"), including multiple workshops, prototyping exercises, and case study collaborations; and third, outreach to broader networks and multipliers ("community of interest") to test the tools in real-world environments and build a base for dissemination and long-term uptake.

Each of these phases involved a mixture of centralised and decentralised efforts. Project partners coordinated interviews, testing activities, and participation in relevant networks and events based on both methodological planning and situative opportunities.

For the CAST, this process spanned all three stakeholder interaction phases and included a series of expert interviews (Ch. 2.2), two workshops with a dedicated focus group of practitioners (Ch. 2.3), and mid- to late-stage testing and replication activities (Ch 2.4).

For the CE, development was mostly informed and shaped by the Vienna Climate Teams (VCT) participatory budgeting initiative, with extensive evaluation and stakeholder input at each phase of the VCT project (2.2.3), and by testing the tool with LOCALISED's local partner authorities over various citizen engagement events (Ch. 2.3.4).

For the NZBC and the LSBMC, feedback was collected through sector-specific interviews, hands-on testing with companies in key sectors, and public workshops and webinars.

Together, these interactions helped LOCALISED ensure that the resulting tools are not only scientifically sound and technically functional but also understandable, relevant, and actionable for those on the ground.

While co-design has become a commonly used concept and a standard requirement in many EU-funded projects, less is known about how it actually plays

out in practice—especially in complex, international multi-partner projects such as LOCALISED: How is co-design actually *done* when multiple timelines, roles, and languages are involved? How does the need to be transparent and responsive to external stakeholders impact internal processes, tool architecture, and delivery timelines? What benefits can such co-design processes have and what tensions, frictions, and challenges do they generate? These are only some of the questions that emerged over the years in which the LOCALISED stakeholder interaction process has been set up, implemented, and now finally reported and evaluated.

The deliverable will not be able to answer them extensively, but rather document the process, with detailed accounts of interaction activities, thematic insights, and methodological reflections that may still guide future efforts in user-driven climate planning tool development.

# 2 Three Phases of Stakeholder Interaction

This chapter will give a summary of the many different stakeholder interactions that have been conducted by the project partners between June 2023 (M21) and May 2025 (M44). Interactions that took place before June 2023 were reported and evaluated in LOCALISED Deliverable 8.4 (Gralke et al. 2023) and will only be summarised briefly here for the sake of giving a full picture. Interactions that will take place after May 2025 are already indicated in this Deliverable to the extent that they have been planned.

The following subchapter will start with a recap of the stakeholder interaction methodology used in LOCALISED and then walk through the three interaction phases as they have been conducted in the last two years. Figure 1 shows the overall schedule of the stakeholder interaction process as originally planned in D8.1, highlighting the different phases of the interactions, along with their contribution to specific deliverables.

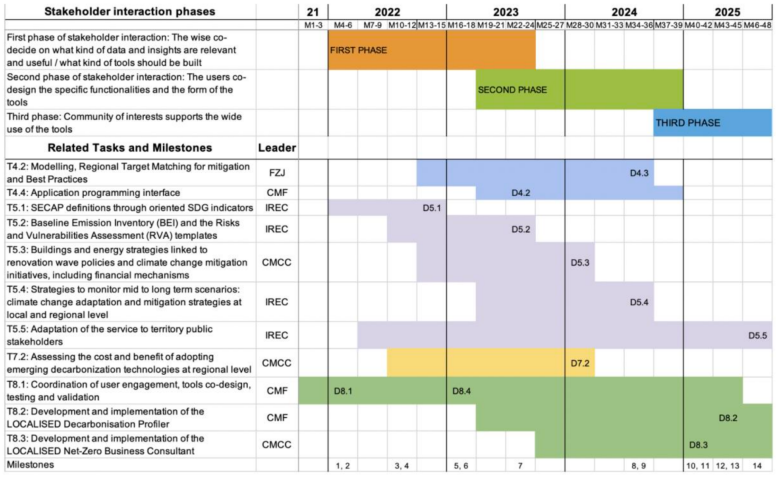


**Figure 1: Overall schedule of the stakeholder interaction process (D8.1)**

## *2.1 Recap: Methodology & Mapping*

As established in the methodology defined in LOCALISED Deliverable 8.1 (Hezel et al. 2022), stakeholder interactions had been planned at three different stages of the project, to:

1. Provide info about data and insights the stakeholders need for the considered transformation process, and which types of tools are suited to deliver these;
2. Help co-designing forms and functionalities of the tools;
3. Support sharing the tools and promoting their use.

Three stakeholder categories had been identified to work towards these goals:

1. the "wise" group, composed of people whose expertise and knowledge about local decarbonisation procedures and adaptation planning is fundamental to understanding the kind of tools to design;
2. the "users" group, which are potential adopters of the tools who are helpful in co-designing the web application;
3. the "community of interest" group, comprising all people that may be interested in LOCALISED results and outputs (including the previous two groups) and including potential multipliers.

As reported and reflected in D8.4, a stakeholder mapping has been set up to identify relevant interviewees: a matrix was developed, containing a set of important organisational and individual details about the stakeholders to be contacted, as well as indications about the LOCALISED partner supposed to contact them. The matrix has been shared in a password-protected PIK cloud folder which can be accessed by the LOCALISED partners only, thus complying with the GDPR regulation and data protection policies. Throughout the project, the stakeholder mapping served as a basis for identifying and approaching relevant interviewees, but also for identifying gaps and approaching additional stakeholders.

## *2.2 Interaction Phase 1: What kind of tool(s)?*

In the first interaction phase (M4-24), the LOCALISED partners mainly focused on interacting with stakeholders from the wise group to learn what kind of data and insights would be most relevant and useful in the transformation processes the project considers and what kind of tools should be built for delivering them (to speak in a tool metaphor: do we need pliers, a hammer or a hatchet?) The

In the stakeholder mapping, 74 contacts had initially been identified belonging to the wise category, mainly external stakeholders, with few associated partners and Advisory Board members (see D8.4 for more details). For the first interactions, the LOCALISED partners mostly chose their interviewees individually from the

mapping. These initial, decentralised interactions were then complemented by CMF with a series of additional, more centralised interviews concerning the CAST and other targeted interaction towards the CE (conducted by ÖGUT) and towards the NZBC (conducted by CMCC).

### *2.2.1 Initial Insights from Phase 1 (as reported in D8.4)*

As reported in D8.4, the main insights from the initial, more decentralised stakeholder interactions with the wise group can be grouped into three categories:

- *Tool concept & features: what should future users be able to do with the CAST and with the NZBC?* Insights in this category were helpful to develop a better understanding of specific decarbonisation challenges and needs of different stakeholders (e.g., in regional transport and local businesses). They also helped verify and improve some major conceptual components and features that the LOCALISED tools will implement (e.g., SOIs and benchmarking with equivalent regions and cities).
- *Networking & early dissemination: who will use and share the tools, and for what kinds of purposes?* Insights in this category helped verify the general relevance of the LOCALISED tools & data for specific stakeholder groups and to find concrete occasions and ways to start reaching out to them early in the process (e.g., by arousing interest in the data-sharing platform and by discussing the possibility of making LOCALISED results available in larger networks).
- *Other project outputs:* Interacting with the wise group was also helpful regarding parts of LOCALISED that do not directly concern the tool design and dissemination (e.g., the data sharing platform, the SOIs, or the Vienna Climate Teams (VCT) case study setup). This again showed the importance of learning from interactions that cannot be directly translated into the tool functionality or design (as mentioned in D8.1).

As concluded in D8.4, these results and insights had already been informing the research on the project's different topics on many levels. However, they also reflected the interaction procedure up to this point, which had mainly been relying on autonomous and early-process interactions by the different WPs, based on the initial stakeholder mapping.

From there on, the focus of the remaining months of stakeholder interaction phase 1 has been to integrate these initial insights, distill more general questions from them, such as how the contributions of different work packages could best become a relevant product for our users, and streamline the process in view of interaction phase 2 (co-designing forms and functionalities of the tools). This had already started in the form of two working groups, each with researchers from different WPs, aiming at thinking about the tool development from users' perspectives. The first working group, led by CMF, focused on connecting work processes over the different tool features, their backend side (what is concretely needed from the

model?), and their frontend implementation. The other working group, led by ÖGUT and UT, focused on questions of how so-called soft dimensions (e.g., matters of social equity, acceptance, etc.) could be integrated into the CAST's backend and frontend, i.e., attached to decarbonisation and adaptation measures and respective instruments, as additional criteria for optimisation and/or decision making.

### *2.2.2 Additional Wise Interactions concerning the CAST*

In evaluating the initial, more decentralised interactions with the wise group from phase 1, the need to discuss some more overarching questions concerning the CAST design had become clear. Thus, CMF selected a group of wise stakeholders from the mapping to hold a series of additional interviews in August/September 2023.

These stakeholders belonged to the following organisations: Urban Innovation Vienna, Climate Adaptation Services, Resilient Cities Network, C40, Finnish Environment Institute, ICLEI, Barcelona Regional, Agència d'Energia de Barcelona, Ajuntament de Barcelona.

From these interviews, two main topic areas emerged for the further design of the CAST:

- *The political embedding of the CAST:* Does the tool only serve to support the development of plans—something that primarily addresses external expectations—or does it also foster internal dialogue (e.g., through a year-long, bottom-up workshop series)? How, if at all, can it help bridge the often-observed gap between the cumulative decarbonisation effects of individual measures and the more ambitious, overarching climate goals? It became clear that CAST needed to support specific political and coordination processes both within public administrations and across sectors—challenges that cannot be addressed through technical solutions alone. One idea, for example, was to highlight the co-benefits of decarbonisation, including cost estimates, in order to help understaffed departments make stronger political arguments for certain measures.
- *Tool sustainability/the future relevance of the CAST for its users:* Many interviewees supported the idea of identifying topics and events at the national or regional level that cities already had to address, and using these as entry points for communicating and disseminating CAST—for example, the municipal heating transition in Germany. Some suggested incorporating additional optimisation dimensions, such as biodiversity or political feasibility. Others pointed out the disconnect between European-level platforms and the tools actually used in practice. They suggested it could be an effective distribution strategy to integrate the CAST into national portals, intercity networks, or consultancies and research institutes—even if these actors often prefer to use their own tools.

In parallel to these more centralised interactions with the wise group concerning the CAST design, some project partners interacted further with additional actors regarding their specific work packages. These interactions have been taking place until only recently, indicating the ongoing relevance of engaging with the wise group during the other interaction phases.

- *Interaction by the project management team (WP1):* The project management team issued invitations to all project meetings, with one Advisory Board (AB) member participating in the project meeting in Vienna (October 2024). The project management team has also been contributing to the organization of the European Urban Resilience Forum (EURESFO) in 2024 and 2025, in coordination with ICLEI, which supported the project's role as co-organizer. Participation from one AB member is also anticipated at the European Climate Change Adaptation Conference 2025 in Rimini. Follow-up actions are planned to encourage broader involvement of the AB in dissemination activities. Overall engagement from the AB has been limited, potentially due to the absence of dedicated meetings. Nonetheless, at least one AB member has shown active involvement, including participation in the test run for the review meeting scheduled for November 2024. Further, our IIASA member has actively supported the process around the "Citizen Engager" and has also reviewed the Deliverable 6.3 (submission May 2025).
- *Interaction for concretising, implementing, and monitoring local decarbonisation plans (WP5):* From July 2023 to February 2024, WP5-leading project partner IREC held several exchanges with the Joint Research Centre of the European Commission on questions of SECAP reporting and potential improvements. As the main results, the list of SDG-oriented Indicators (SOIs) was ameliorated, and the SECAP related project tools were harmonised with the existing framework at the EU level. In June 2024, IREC discussed their SOI definition with ICLEI – Local Governments for Sustainability. As an outcome, it was agreed to identify possible collaborations with the Covenant of Mayors for knowledge exchanges and dissemination. In the first quarter of 2025, IREC exchanged with "ARCA: ARtificial intelligence platform to prevent Climate change natural hazArds" on emission reporting at the national level in Spain. The EUCalc information was benchmarked with other similar methodologies, and collaborations for dissemination and replication were discussed.

### *2.2.3 Stakeholder Interactions towards the CE*

The aim of T6.3 has been to develop guidelines that support local and regional decision makers as well as civil servants in co-creating climate actions, policies and strategies together with their citizens. The task's main output, the CE (D6.3), was published under the responsibility of ÖGUT in May 2025 (M44). Stakeholder interactions for developing the CE have involved actors from both the wise and

the user group. For the sake of comprehensibility, however, they are all reported in this subchapter.

As part of evaluating the 2023 pilot year of the "Vienna Climate Teams" (VCT) participatory budgeting project, ÖGUT conducted extensive stakeholder interactions that directly informed the first draft of the CE. In the first quarter of 2024, ÖGUT then had several exchanges with the Advisory Board member Susanne Hanger-Kopp to receive and discuss feedback on the first draft of D6.3 and potential next steps in testing and developing it further.

The VCT project, implemented across three city districts, invited citizens to co-develop climate-relevant local initiatives through multiple project phases—ranging from idea submission to project implementation. Each phase was accompanied by surveys, workshops, participatory observations, and targeted interviews by the City of Vienna (VIE), their external evaluation partner Urban Innovation Vienna (UIV), and ÖGUT.

In the idea submission phase of the VCT project, outreach efforts included 16 public events between April and May 2023 (e.g., Klima-Cafés, park engagements, and festivals) designed to mobilize citizens and collect local project ideas. In addition, four online surveys were conducted—two targeting participants from 2023 initiatives (idea submitters and commenters/likers, with 156 and 24 responses, respectively) and two targeting participants from the 2022 pilot (74 and 5 responses, respectively). These surveys primarily gathered socio-demographic data and participant feedback, such as whether they felt adequately informed and supported during the process. Surveys were designed and analyzed by VIE and UIV, with ÖGUT contributing to LOCALISED-specific questions and receiving the raw data for further analysis within T6.3.

In a second phase of the VCT project (not evaluated in detail within LOCALISED), the handed in ideas of the first project phase were evaluated by experts (i.e., civil servants of different administrative departments of VIE); ideas that were realistic, feasible and within the budget were selected for the third project phase.

The third VCT phase ("Co-Creation") then involved evaluating and further developing feasible citizen proposals in collaboration with civil servants and local politicians. This included three open-format street workshops ("Grätzlwerkstätten") and three co-creation labs ("Projektwerkstätten") between August and September 2024, involving approximately 167 participants in total. Feedback was collected through an online ex-ante survey (35 responses) and a printed ex-post survey (59 responses). These were supplemented by participatory observations during the three co-creation labs, conducted by UIV and ÖGUT, with shared observation frameworks and documentation.

In the fourth phase ("Citizen Jury"), randomly selected jury members met to select

final projects in October and November 2024. This included a joint kick-off event with approximately 60–70 participants and three weekend jury sessions with around 60 participants in total. An ex-ante printed survey was conducted during the kick-off (71 responses), and an ex-post survey was distributed after the jury weekends (57 responses). ÖGUT also conducted participatory observations at two jury weekends and the kickoff. These observations and surveys yielded insights into deliberation dynamics, the effectiveness of support materials, and jury members' experiences with the process.

The fifth VCT phase is concerned with the implementation of the chosen projects over the following two years. To reflect on the follow-up and implementation phases of the first two project pilots, a focus interview with Katharina Schwarzfurtner-Lutnik (VIE) took place in November2024, in which insights were collected on main lessons learned and barriers faced during the pilot phases as well as changes undertaken for improving and further tailoring the third process cycle of the VCT.

To get further insights into the VCT process and draw important lessons learned for the first draft of the CE, several additional focus interviews were conducted, five of these directly within LOCALISED between November 2023 and January 2024:

- one interview (UIV & ÖGUT) with involved civil servants (five interviewees of five administrative departments of the city of Vienna) who emphasized cross-departmental learning and the role of leadership in facilitating engagement;
- one interview (UIV & ÖGUT) with local politicians (two interviewees of two different districts) who highlighted the importance of transparency and early planning;
- one interview (ÖGUT) with two representatives of the involved facilitation & communication agencies (1 member from "StadtLand", one member from "non-conform") who stressed the value of low-threshold outreach methods, co-creation formats, and clear process communication;
- one interview (ÖGUT) with involved multipliers ( three participants of three different organisations mostly representatives of NGOs or similar, who helped to reach out to specific target groups, e.g. vulnerable groups of society) who called for earlier and more thorough integration into project planning;
- one interview (ÖGUT) with the VCT project lead (one person) who shared key conditions for success, including strategic anchoring in city regulations and seizing "windows of opportunity."

Three further focus interviews were conducted by UIV in June 2023, and the aggregated results were shared with ÖGUT within T6.3. These included one interview with multipliers, one with representatives of the facilitation and communication agencies, and one with local politicians from the three participating

districts. The aggregated findings contained feedback on the engagement process in general, the cooperation with the multipliers, and mobilisation of target groups, including used material, methods, formats, and events. Key insights included: (i) the importance of involving multipliers as early as possible in the project timeline to allow integration into their annual planning; (ii) the need to begin conversations with hard-to-reach groups by focusing on their daily lives before linking to the engagement topic; and (iii) the usefulness of tangible tools—such as large printed street-view maps of the district—as effective icebreakers to initiate dialogue with these communities.

Other VCT-related stakeholder interactions included an exchange with researchers from the GetCoheSive project (13th Jan 2024), who contributed strategies for involving homeless people in participatory processes, and two evaluation workshops in December 2023 and January 2024: one with Viennese civil servants, the VCT project lead, and ÖGUT; another one with representatives from ÖGUT, VIE, and UIV, focused on sharing ÖGUT's evaluation of the VCT pilot phases, focusing on how to reach out and engage with vulnerable groups.

### *2.2.4 Interactions with Businesses towards NZBC and LSBMC*

To effectively engage businesses in decarbonising Europe, LOCALISED also provides targeted information on emerging mitigation and adaptation technologies in key economic sectors, including tools, instruments, and incentives to address negative impacts. To translate model results into actionable guidance and tailored business recommendations for these particular stakeholders, WP7 has been dedicated to develop the NZBC and the LSBMC (which provides a structured methodology to analyse current business models, highlight areas for improvement, and propose measures and instruments for small- and mid-sized enterprises).

The NZBC development has been based, i.a., on a business vulnerability survey which aimed at assessing the sensitivity and resilience of EU businesses to climate change and decarbonisation pathways through the creation of a composite subjective vulnerability index. The survey, coordinated by CMCC in T7.1, was initially co-designed in a workshop (co-hosted with Assalombarda) with seven business representatives from the Lombardy region and based on follow-up interviews with other business organisations. The survey also aimed at identifying emerging end-user solutions together with business stakeholders and the survey participants to inform the work in T7.2.

With the help of the LOCALISED consortium, the survey was disseminated broadly across the agriculture, transport, and buildings sectors, and the data collected were analysed to inform both the broader research outputs and the functionalities of the NZBC. The survey received 2 answers from Austrian participants, two from German participants, three from Italian participants, 24 from Polish participants, and 14 from Spanish/Catalan participants. The resulting framework was applied

at the EU level across all NUTS-2 regions, allowing for a detailed and regionally differentiated understanding of vulnerabilities in the manufacturing, agriculture, and transport sectors. The outputs were used to generate a harmonised vulnerability, exposure, and risk profile for businesses, which now underpins D7.1 and D7.2.

The insights on emerging technologies similarly informed the work on a harmonised database in the three sectors of manufacturing, agriculture, and transportation.
The survey results, the decarbonisation risk framework developed in T7.1, and the decarbonisation technology database developed in T7.2 have then been fed into the NZBC as part of T8.3, in close collaboration by CMCC and CMF. The tool has been designed as an interactive platform that presents key findings in a user-friendly format. It features region- and sector-specific heatmaps, numerical risk values, and access to real-world case studies. Businesses are also given the opportunity to complete the vulnerability self-assessment directly through the tool, enabling them to benchmark their resilience and exposure relative to others in their region and sector.

In March 2024, IREC also exchanged with researchers at the University of Lisbon (Católica Lisbon) regarding the first draft of the LSBMC. The conversation helped to obtain further information on the developed methodology to classify businesses based on their sustainability level. The knowledge provided was integrated into the first draft of the LSBMC to improve its capacity and locate the businesses rapidly on a sustainability map.

## *2.3 Interaction Phase 2: Co-Designing the tool(s)*

As per definition in D8.1, the second stakeholder group consists of potential future users of the LOCALISED tools, i.e., members of administrations of small and middle-sized cities/regions and of businesses, as well as people who work directly with decarbonisation and/or adaptation whose function in their host organisation is to take care of the planning and implementation of such measures and projects.

For co-designing the CAST, the aim of stakeholder interaction phase 2 was thus to find and work with people from public administrations and public technical bodies, but also from consultancies and sectoral associations (as they are the ones more interested on "large-scale" planning and management), that are responsible for urban planning, energy planning, transport planning, especially those facing limited resources or lacking information.
For co-designing the NZBC, the aim of stakeholder interaction phase 2 was to find and engage with a group of business representatives covering the sectoral and geographical diversity within the EU industries (e.g., most Assolombarda member companies represent the manufacturing sector in western/northern Europe, while BEEC's cluster include small and medium size bioenergy companies in eastern Europe).

The CE was tested in a number of engagement activities and events in cooperation with the project's local partner authorities as well as through additional case studies. By incorporating lessons learned from different regional perspectives, diverse levels of experiences, different stages in the policy cycle, and a variety of vulnerable groups, the CE has been designed to be adapted and tailored to the different needs and prospects of local authorities.

### *2.3.1 First CAST Focus Group Workshop (22nd November 2023)*

As laid out in D8.1, the co-design of the CAST has been supposed to be based on three main structural pillars: a focus group of relevant stakeholders to be held with a series of deep-dive workshops a wider test audience to test and validate the CAST in more quantitative terms and to prefigure the third stakeholder group (community of interest), and an internal task force to digest and implement the stakeholder input in concrete terms.

As a first step, the focus group was formed towards the first workshop and, before the second workshop, expanded to close some of the previous gaps in terms of representation. The main challenge at this stage was to convince a larger group of actual future users to commit to a longer engagement as part of the focus group. The recruiting process followed a decentralised approach in which relevant stakeholders were first identified in the mapping and then contacted by the project partner with the closest personal and/or professional ties to them. This rather decentralised recruiting approach was necessary to build on the existing relationships with relevant stakeholders, but also significantly slowed down the process. Agreeing on a date for the first focus group workshop among the confirmed participants posed another challenge. Therefore, the focus group was kicked-off with five participants in the first workshop and then was later extended to seven participants for the second workshop. Due to the ongoing relevance of interaction with wise stakeholders, two people were included in the group that could bridge stakeholder group 1 and 2 due to their professional profile.

The first focus group workshop (online) was then held to evaluate and discuss the basic structure and functionality of the CAST, its relevance to municipal planning processes, and its potential to support cross-departmental and multi-stakeholder collaboration in local and regional climate action planning. The five participants were members of the Environmental Office of the Region of Carinthia (Austria), the Climate Representative's office of the district Friedrichshain-Kreuzberg (Berlin/Germany), València Clima i Energia (Spain), the Mediterranean Cities Network, and a freelance consultant for municipalities (Poland).

The workshop introduced a first click-dummy version of the CAST and was structured around two interactive sessions. In the first, participants were invited to explore the click-dummy on their own to assess the envisioned user interface, tool structure, and general experience. The second session focused on reflecting

how the tool could integrate into real-world municipal workflows and facilitate interaction with colleagues, decision-makers, and other stakeholders. Initial reactions to the tool were broadly positive. Participants praised the CAST for its integrative approach, the interactivity of its interface, and its potential to visualise cross-sectoral relationships and cost implications of climate measures. They especially appreciated its potential to link climate measures with instruments, a functionality they found missing in most existing tools. Visual appeal was rated moderately high (around 7 out of 10), though some participants felt uncertain about navigation or found that not all features were intuitively located. Suggestions for improvement included clearer onboarding guidance and transparency around how the tool generates recommendations—especially when referencing examples from other regions. As one participant noted, "If I tell my mayor we saw something in Sicily, she would say 'OK, but why Sicily and why is it important for us?'"

One of the most discussed topics was the potential use of the CAST for monitoring purposes. In Berlin, for instance, monitoring was seen as crucial not only for evaluating the impact of measures but also for fulfilling reporting requirements in funding applications. One participant explained, "When we apply for a project, we have to give some quantifications of the reductions… but it's almost impossible to know, for example, the reduction of transport volume, because smaller side streets aren't covered in any model—and they represent 20 to 30% of traffic." In contrast, the Region of Carinthia indicated they would not use the CAST directly for monitoring, but they saw potential for it to serve as a best-practice model in the context of developing common indicators for Austrian regional monitoring.

The topic of cross-departmental collaboration generated mixed perspectives. Some saw the CAST as a valuable platform for internal coordination and scenario presentation, but not necessarily a shared working environment. One participant reflected, "Five years ago, I would have used the tool to present scenarios to other departments—but I don't think I would have let them use it directly. I needed to stay in control of the narrative." Others welcomed the idea of a more interactive platform: "As a climate officer, I depend on other departments. So it's good to have one shared platform. That's really efficient."

Still, caution was expressed about overestimating the digital engagement capacities of municipalities. A participant managing climate efforts across 17 municipalities noted, "We have an intranet, but nobody uses it for interaction. They just download documents." Instead, the real value was seen in improving the way data is presented—enabling users to personalise outputs and communicate effectively in cross-departmental meetings or political discussions. Administrative support for smaller municipalities also emerged as a key use case, particularly in regions where basic climate data is lacking. "There are communities that keep asking what their greenhouse gas data says, but the database doesn't even exist. So, if the CAST can serve this group, that's a big help," said one participant.

In addition to these discussions, the workshop produced a number of practical suggestions to guide the further CAST design. Among many others, these included offering sector-specific insights and export options for tailored consultation processes, and enabling interactive exploration of optimisation dimensions—such as comparing levels of public bus electrification against emissions and cost targets. Users also expressed a desire to follow different paths through the tool depending on their roles (e.g., researcher vs. municipal officer), compare results with existing strategic plans such as SUMPs or SECAPs, and understand how decarbonisation yields co-benefits like reduced healthcare costs. Participants further proposed enriching the tool with features for multi-criteria decision analysis, and linking to funding opportunities. Some advocated for a soft launch approach, where the tool could be first tested in pilot cities and gradually expanded based on insights from real-world applications. Others encouraged alignment with existing frameworks such as the Cities Climate Transition Framework (C40) to ensure compatibility with global standards.

In summary, the first focus group workshop confirmed that the CAST would be capable of addressing real needs in local and regional climate action planning, offering a promising tool for integrated decision-making, interdepartmental coordination, and stakeholder engagement. At the same time, it became clear that the further design would have to focus on balancing usability with complexity, offering transparency, customisation, and context-sensitive outputs that reflect the diversity of local realities.

### *2.3.2 Second CAST Focus Group Workshop (26th April 2024)*

For the second workshop (online), two more stakeholders were added to the focus group. This was done to grow the focus group in general but also to add the specific perspectives of very small municipalities and of metropolitan areas. The seven participants were members of the Environmental Office of the Region of Carinthia (Austria), the Climate Representatives' offices of the district Friedrichshain-Kreuzberg (Berlin/Germany) and Gleisdorf (Austria), València Clima i Energia (Spain), Àrea Metropolitana de Barcelona (Catalunya/Spain), the Mediterranean Cities Network, and a freelance consultant for municipalities (Poland).

The workshop aimed to assess the current state of development of the CAST and to deepen the discussion around its positioning within the professional context of its prospective users. Unlike the first workshop, this session relied on a combination of mockups and alpha-version spotlights rather than live tool interaction, which allowed for a more conceptual discussion about functionality, integration, and potential use cases. The workshop also touched on the conceptualisation and state of the CE, though it was not a primary focus.

Participants provided encouraging feedback about the tool's development trajectory. They noted significant progress since their last engagement,

particularly in terms of the user interface design and overall structure. The integration of the SECAP/CoM framework was well received, as was the inclusion of stakeholder and citizen engagement components—features that many participants considered valuable for real-world application. The decision to build the CAST as a web-based application rather than as installable software was seen as particularly smart, given the often-slow institutional approval processes for new software tools. The CAST's ability to simulate projected measure effects was highlighted as a rare strength compared to existing commercial services.

In an initial feedback round, participants reflected on how the CAST aligns with their professional needs and daily workflows. They appreciated that the tool's design reflected a typical climate planning process, especially the inclusion of a planning process-related menu. However, they also raised key questions about the relevance and adaptability of the tool. For instance, many asked whether exporting outputs into alternative reporting formats—such as CDP—would be possible, stressing that cities and regions work under different regulatory frameworks. The SDGs were confirmed as relevant in most participants' work, though their importance varied by context. In Carinthia, for example, nearly all projects link to the SDGs via the "Sustainability Coalition," while in Berlin's districts they play a more indirect role, often in relation to human rights or global development rather than local climate planning. Participants agreed that qualitative alignment with the SDGs—e.g., simply indicating which measures support which goals—would be sufficient.

The following group discussion then centered around three provocative theses. First, that the CAST would be more powerful and useful than any other current tool on the market once completed. This was met with cautious optimism: participants agreed the tool was on the right track, particularly in offering visualisation, interactivity, and transparency around measures. However, they stressed that to have a lasting impact, the CAST would need to be accompanied by professional services—training, tutorials, help desks, or in-person workshops. Without this kind of embedded support, users may struggle to adopt the tool effectively over the long term, especially in smaller municipalities or under-resourced teams.

The second thesis suggested that many municipalities rely more heavily on frameworks other than SECAPs—such as climate model regions in Austria or the Agenda 2030 in the Mediterranean—and that the tool must reflect this reality. This was strongly echoed by participants from Austria, who explained that while SECAPs are not widely used there, the CAST could still provide much-needed scientific support when municipalities collaborate in regional initiatives. For Poland, by contrast, SECAPs were highlighted as a central framework, though implementation was still in its early stages. Across contexts, participants stressed the need for flexibility: The CAST should not be locked into a single reporting standard, but should allow exports in various formats, including PDFs and editable text documents, to meet diverse administrative and political requirements.

A third thesis proposed that the CAST's success would depend on accompanying services. This idea resonated deeply with the group. Participants underlined that even the best tool could fail if it isn't matched with hands-on guidance. One participant put it simply: "Tools and platforms need to foresee an accompanying service, or cities will get lost quite soon." Another added that administrations usually don't operate based on abstract strategy but need tools that offer concrete, immediate value. Thus, it became clear that, to be truly impactful, the CAST would have to not only help users identify and plan effective measures, but also reveal knowledge gaps and point to broader levers of influence—even when these lie outside the direct jurisdiction of a local government. For example, if data suggests that emissions from privately owned housing are a major obstacle, a district might work to influence property owners through partnerships or incentives, even if it cannot act directly.

Several draft tool features also prompted focused discussion. Regarding the visioning and strategising components, participants stressed the need to clarify that drafting a vision (as part of the SECAP process) within the tool would be optional and had no bearing on the model's output. Some found "strategy" to be a strong and appropriate term, while others suggested changing "measure set" to "solution" to better resonate with local politicians and decision-makers. It was also recommended to explain the distinction between "measures" and "instruments", possibly in the tool's introductory screens.

The intended matchmaking and benchmarking functionalities were seen as useful but context-sensitive. Austrian participants noted a general reluctance toward inter-municipal benchmarking, fearing it might result in less state support. However, comparison frameworks tied to awards or recognition were seen as more palatable. Overall, the idea of comparing municipalities was accepted in principle, but participants agreed it should focus on contextual similarities (e.g., preconditions) rather than performance-based competition.
On monitoring, participants proposed a practical solution: let users enter actual data two years after planning and then see how it compares to the original target path, with suggestions for necessary adjustments. Even a simple Excel-like table showing gaps between goals and outcomes would be a step forward.

The CAST's potential to support political communication was also discussed. Several participants proposed developing a one-pager feature that would help summarise and compare measure sets or scenarios—an asset when engaging local politicians or stakeholders. Ideally, this could take several forms: real-time emissions graph changes based on selected measures; a graph comparing two selected scenarios; or a list summarising differences between options.

A number of further suggestions emerged throughout the discussion. Participants supported enabling users to publish selected tool outputs online, including climate risks and vulnerabilities like forest fires and wind events, and linking the platform to national funding databases. Supramunicipal actors, such as the Province of

Barcelona, were also flagged as key stakeholders, particularly as they often offer training or coordination services to smaller municipalities. Participants suggested testing the tool with technical staff in Mediterranean and Carinthian municipalities, and looking into the City Calc project for implementation data that could enrich the CAST's measure library. The CAST's potential unique selling point was identified with offering structured, visualised access to complex climate planning processes and making them understandable to a wide range of stakeholders, from technical experts to elected officials. While many technicians may already possess the underlying data, the CAST's potential strength lies in aggregating and communicating that information clearly. Particularly for smaller municipalities, it could become an indispensable tool for data provision, coordination, and strategic planning.

In sum, this second workshop reaffirmed that the CAST was well positioned to potentially fill critical gaps in the climate planning landscape. Participants praised its thoughtful design and appreciated responsiveness to their previous feedback. They also highlighted, however, that actual success would ultimately depend on maintaining a user-driven approach and ensuring that support structures are in place to help municipalities not just access the tool—but apply it meaningfully in the complex realities of local climate governance.

Additionally, the last part of the workshop was dedicated to the CE, which was briefly presented to the participants followed by a discussion with focus on their experience with citizen engagement, their feedback on the CE, and proposals on its integration with the CAST. The local authority participants described their diverse experiences with citizen engagement activities and provided positive feedback on the content of the CE, particularly with its focus on vulnerable groups. They specifically mentioned the need to have multipliers in this specific target group and highlighted their frustration because the real needs of vulnerable citizens often couldn't be solved by the municipality in the short or long term. In terms of the CE's format, they believed that it would be useful both as a document, for the ones who are responsible for citizen engagement, and that parts of it should be integrated into the CAST directly. The Polish representative mentioned that this type of guide would be very new and thus useful for the Polish context. The participants' feedback on the integration of the CE/CAST integration was that a) it is nice that co-creation with citizens will be part of the CAST, b) they believed that incorporating the citizens and stakeholder contribution into the CAST can be a unique selling proposition (USP), c) it would be beneficial if graphics of the CAST data can be downloaded for co-creating further with citizens, and d) it needs to be easy to understand. All feedback was collected and has been taken into consideration during the final elaboration of the CE as well as from the working group integrating the CE into the CAST. Some specific examples of follow up actions include the additional content incorporation in the CE on how to identify other relevant stakeholders, integration of further (easy forms) of getting feedback from the citizens, inclusion of the CE in the CAST both as a separate

document but also directly in parts of the CAST. Figure 2 shows an overview of the two focus group workshops:

| | **1st Workshop (Nov 2023)** | **2nd Workshop (Apr 2024)** |
|---|---|---|
| **Participants** | 5 stakeholders from local/regional authorities and networks | Expanded to 7, including small municipalities and metropolitan areas |
| **Format** | Interactions with a click-dummy demo version | Mockups, alpha-version spotlights and conceptual discussion |
| **Purpose** | Assess basic structure, usability, and integration potential | Review progress, explore real-world integration and CE component |
| **Key Strengths** | Interactivity, cross-sector links, visualisation of costs/measures | Simulation features, web-based design, alignment with planning workflows |
| **Other insights** | improvement needed in terms of navigation, onboarding, data and recommendation transparency<br><br>CAST shows strong potential, must balance usability and complexity<br><br>Mixed views on collaborative use; seen as presentation tool more than shared platform<br><br>Need for clear outputs to support decision-making | CE welcomed; should be simple, integrated, and support vulnerable group engagement<br><br>Strong consensus on need for training, helpdesk, and ongoing support<br><br>Success depends on flexibility, support, and clear communication of value<br><br>Demand for visual summaries, scenario comparisons, one-pagers |

**Figure 2: Overview of the two CAST focus group workshops**

### *2.3.3 CAST Working Groups to implement the Stakeholders' Inputs*

Between the focus group workshops two meetings of the internal task force took place to digest and discuss the inputs from the additional wise interviews and the first focus group workshop, initiated and coordinated by CMF (12th and 19th January 2024). Other project partners involved were FZJ, PIK, UT, IREC, and ÖGUT. In addition to the concrete stakeholder input, some more overarching questions were also discussed, such as: Given the separation of mitigation and

adaptation, how should we handle measures that contribute to mitigation and adaptation? To what extent can we nudge political processes in the administrations? What is our standard output format and what specific formats beyond SECAPs do we want to make possible? Do we want to integrate other optimisation dimensions? To what extent do we want to allow users to build on their existing data? In April 2024, the task force also discussed the start of the planning process-related menu bar.

The further design and implementation work was then split into task-specific working groups since this provided a more efficient working structure. One of these working groups (June 2024 - March 2025) consisted of CMF and ÖGUT and worked on integrating the CE into the CAST. One of the main outcomes of this working group was to add another chapter to the CE that addresses the co-creation of overarching strategies on the local and regional level–a potential USP of the CAST–not just the co-created implementation of individual measures.

A second group (November 2024 - April 2025) consisted of CMF, UT, IREC, FZJ, and PIK and worked on defining concrete use cases for the CAST, based on insights from all previous stakeholder interactions. These use cases (i.e., *who will be able to do what with the tool?*) were supposed to guide the final stage of the CAST design and development and also serve the tool dissemination. They might also be used and validated in the final round of stakeholder interaction, for instance in the upcoming testing.

A third group consisted of CMF, FZJ, and PIK and worked on, i.a., making the bi-directionality demands operational. Users are now able to change baseline emission and other input pathways (EUCalc) data, change the Eurostat data used, change the measure parameters and they are even able to prevent or prescribe the use of specific measures when the MIDAS model runs the optimisation.

A fourth group consisted of CMF and IREC and worked on the visualisations of the data that go into the SECAP Excel file and a simple monitoring feature.

### *2.3.4 CE Case Studies*

Based on the first draft of the CE, ÖGUT conducted three case studies together with the LOCALISED partner municipalities Barcelona (BCN), Metropolitan Area Gdańsk Gdynia Sopot (MAGGS), and Vienna (VIE) between April and November 2024. Two additional case studies were analysed to learn more about citizen engagement in the field of climate action. One case study in Austria evaluating a co-creative climate conference at St Stefan-Afiesl and the other from a consultation on the Energy Transition of the Mickiewicza Housing Cooperative in Sopot, Poland. The aim of all the case studies was to test and refine the CE through real-world participatory engagements with diverse groups. All case studies, their results and lessons learned were integrated into the final version of the CE.

The first case study, led by BCN between April and July 2024, focused on "Active Listening Sessions" with citizens from seven different target groups. A total of nine sessions were held, involving 42 adults (30 women and 12 men) and 38 children. The target groups included elderly people, women, individuals from diverse ethnic and language backgrounds, people with health disabilities, homeless individuals, users of Energy Advice Points (related to energy poverty), and children aged 3 to 8. One survey was administered to the 42 adult participants, partly at the beginning and partly at the end of their sessions. Additionally, participatory observations were conducted by IREC at three sessions. Two focus interviews involving the City of Barcelona, the BCN participation department, IREC, and external facilitators, were held to evaluate the sessions in July and in November 2024.

The second case study took place as part of the VCT project that started in autumn 2024. Initial citizen engagement consisted of three kickoff events in three districts, with a total of 130 participants (held on 19, 23, and 24 September 2024). In November 2024, three newly designed co-creative workshops with citizens, civil servants, local politicians and multipliers (representatives of different institutions working with vulnerable groups) took place. They were evaluated via survey and participatory observation. Two additional focus interviews took place in November 2024, reflecting on (1) the changes in and lessons learned from the first project phase "Ideas Collection Phase" which took place in September and October 2024 and (2) the still ongoing two years of implementation phases of the two pilot cycles.

The third case study, conducted in cooperation with MAGGS, was the Climate Meeting-Public Consultation for a Green Future event, an engagement activity with elderly citizens to provide information and discuss crucial issues with them. It took place in October 2024 with a total of 16 participants. A follow up online workshop with local civil servants and politicians took place in November with 53 participants where the engagement activity with the seniors was showcased. The co-creative data-based "Climate Conference: For a good Climate, now and in the future!" with citizens, local politicians & civil servants to agree on CO2-reduction actions, which took place in rural St. Stefan-Afiesl in Austria in October 2024, served as an additional case study. The event had 44 participants and was evaluated via survey.

The final case study, conducted in cooperation with the EU project SUSTENANCE, focused on the decarbonisation consultation of the Housing Association Mickiewicza in Poland. This involved residents of five buildings (77 flats each). A consultation workshop was held on 19th September 2024 with 17 participants, followed by a survey completed at the end of the session. A participatory observation was conducted by IMP on the same day, and a follow-up focus interview with project partners was held on 8th October 2024.

### *2.3.5 User Feedback on the LSBMC*

Following the development of the first LSBMC draft in September 2024, a series of targeted further stakeholder interactions were conducted to evaluate the tool's functionality, relevance, and usability across key sectors. This included both sector-specific interviews and hands-on testing sessions with companies from the transport, construction, agriculture, and manufacturing sectors. These activities (reported in more detail in D7.3) were designed to ensure the tool's practical value for specific business stakeholders.

Three sector interviews were conducted with companies from Italy, Poland, and Germany. These included a medium-sized manufacturing company in Italy interested in low-emission transition strategies; a large Polish automotive and manufacturing enterprise already familiar with the business model canvas and exploring long-term decarbonisation planning; and a German company active in both manufacturing and transport, seeking to balance emissions reduction with operational efficiency. Each one-hour interview served to introduce the LSBMC framework and gather feedback on its fit for company needs, while also capturing barriers, good practices, and initial reactions to its taxonomy-based assessment and sustainability planning approach.

In parallel, hands-on testing sessions were held with three Spanish companies from the transport, agriculture, and construction sectors. Each company participated in two sessions of two hours. The first meeting was dedicated to gathering company-specific information to complete the LSBMC analysis, while the second focused on presenting and validating the results. Outputs included a visual PDF overview of the completed business canvas and a tailored document with recommendations, measures, and useful resources. A follow-up survey collected detailed feedback from participants on their experience.
The feedback gathered from interviews and testing confirmed the LSBMC tool's relevance, particularly its structured approach to sustainability reporting, its alignment with the SDGs, and its practical utility for companies initiating their decarbonisation journey. The self-assessment taxonomy, with its qualitative dimensions and triangular visualisation, was seen as a helpful feature—especially for smaller businesses with limited data availability. The canvas format, inspired by the traditional business model canvas, was praised for its clarity by medium and large companies already familiar with such frameworks, though smaller businesses noted a need for more guidance to engage with it.

Participants in the hands-on sessions reported that the process significantly enhanced their strategic awareness. All companies agreed that the exercise helped them identify their current positioning, climate vulnerabilities, and potential decarbonisation pathways. The tool encouraged reflection on business decision-making processes and was regarded as an effective first step in shaping long-term sustainability strategies. Companies also expressed a strong interest in following

the future development of the LOCALISED project and learning more about sector-specific updates.

Suggestions for improvement focused on expanding the tool's accessibility and depth. Participants recommended broadening the database of sustainability measures to include actions related to circularity, behavioural change, and social issues like labour conditions. Several companies, especially consultancies, noted the benefit of being able to add their own library of measures alongside the LOCALISED database to streamline internal workflows. Suggestions also included integrating visual links to the Greenhouse Gas Protocol scopes (1, 2, and 3), enhancing the visualisation of measure interdependencies within the canvas, and refining the taxonomy graphic for better clarity. Smaller companies called for stronger expert support or guidance materials to help interpret the tool's outputs and terminology.

Overall, the feedback confirmed that the LSBMC is a promising and well-received tool that supports strategic sustainability planning across diverse sectors. The testing provided clear evidence of its value in fostering organisational awareness, aligning actions with SDGs, and guiding the integration of climate-focused measures into core business strategies.

## *2.4 Interaction Phase 3: Community of Interest*

The main idea behind the third stakeholder group and the corresponding interaction phase has been that the LOCALISED project would have a greater impact if its results, outputs, and tools were widely disseminated and used. As laid out in D8.1, the approach to support this distribution has been to involve and engage with both relevant individuals and organisations that have a wide reach among potential users and other stakeholders.

This community of interest can thus contain (1) interested scientists and researchers from academic institutions and research centres aiming to tackle large-scale scientific or societal problems for which existing approaches, methods and technologies are underdeveloped,and who are using the published results and datasets for further research; (2) European institutions which are coordinating knowledge platforms in the field; (3) Networks of cities and regions at national or European level, through which we can arrive to futures users; (4) Business associations at national and European levels.

The building of and outreach to this community of interest overlaps in many ways with the communication, dissemination and exploitation activities in WP9.

### *2.4.1 EURESFO Workshop in Valencia (27th June 2024)*

Following CMF's and T6's participation in the organising committee of the European Urban Resilience Forum 2024 in Valencia, CMF, ÖGUT, IREC, PIK, and T6 attended three events of the Valencia Cities Climate Week from 25th-28th June 2024

including a stakeholder workshop and a marketplace stand at the EURESFO main venue.

The EURESFO workshop marked a new phase in the CAST co-design process: for the first time, participants were able to directly interact with an early pre-alpha version of the tool. While the version presented still had significant limitations—most notably, the absence of the adaptation section and data/modeling issues—it offered a meaningful step forward from earlier sessions, where only mockups or spotlights were available. The workshop also included a presentation and discussion of the CE.

Chaired by Tobias Gralke (CMF) and Maxie Riemenschneider (ÖGUT), the session featured expert insights from Elena Lacort Maza (Àrea Metropolitana de Barcelona), Ramon Canal Oliveras (BCN), and focus group member Fabian Reitemeier (Friedrichshain-Kreuzberg, Berlin. It was structured around interactive presentations, small group discussions, and multi-format feedback collection—including Mentimeter surveys, paper mockups, and manual notes taken by four small group hosts from within the project consortium.
In total, 53 participants joined the session, including local and regional civil servants as well as researchers and other interested persons, spanning all three stakeholder groups. Figure 3 shows the participants' national and professional backgrounds as they were surveyed and shared via Mentimeter at the beginning of the workshop session.

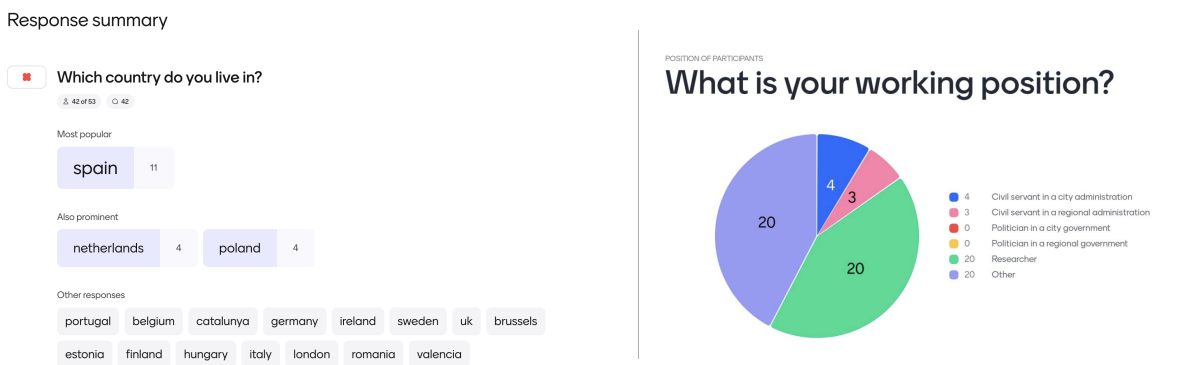


**Figure 3: EURESFO workshop participants (Mentimeter screenshots)**

Compared to the earlier focus group workshops, this session revealed a more granular level of critique, reflecting participants' direct engagement with the further developed tool. There was considerable verbal enthusiasm in the room, particularly around the ability to begin planning without having complete local datasets—a recurring barrier in many municipalities. Participants valued the sheer quantity of data the CAST aims to make accessible, as well as its capacity to support SECAP development while simultaneously indicating how local actions might align with the SDGs. The envisioned monitoring function also continued to

resonate, particularly for overburdened local teams lacking long-term staff continuity—a need previously articulated in the second workshop already.

At the same time, more detailed interaction brought to the surface a number of concerns and usability challenges. A central theme—consistent with previous sessions—was the importance of transparency and trust in the underlying data. Several participants expressed discomfort with the idea of planning based on data they did not directly produce or validate. This raised again the need, voiced in both previous workshops, for clear metadata, source attribution, and explanation of calculation methodologies. Participants wanted to know not just where numbers came from, but why certain measures were recommended, what assumptions were built into the modeling, and how often data would be updated. Another recurring topic was usability and learning support. While the interface was praised for its ambition, many participants found the experience overwhelming. With such a dense volume of information, participants said the tool would be difficult to navigate without prior training. Several emphasized the need for onboarding tools—ranging from a glossary of terms (especially to distinguish concepts like "measure" and "instrument") to more comprehensive support like tutorial videos, FAQs, or pop-up explanations embedded directly in the interface. This reinforces the earlier workshop consensus that the CAST must be accompanied by a robust service layer: no matter how powerful the tool, it won't reach its potential without guided onboarding and use-case-specific training.

Participants also flagged storytelling and framing as areas needing attention. The academic naming of some measures created barriers to understanding, especially for political or cross-sectoral communication. Suggestions were made to make measure names more accessible and to add validating user stories, success case references, or testimonials—features that would support both credibility and persuasiveness of the tool.

The tool's visualisation features also came under scrutiny. Some graphics were confusing or lacked clarity, and the current emissions graph did not display values unless users hovered their mouse—a detail that confused many. Participants suggested making key graphs clickable, enabling users to drill down into sector-specific views or compare timelines more easily. They also asked for the ability to overlay combined co-benefits, for example, how a combination of mobility and housing measures might result in compound gains for health or biodiversity. This builds on ideas from the first workshop, where participants stressed the need to visualise co-benefits (and their cost savings) to better convince decision-makers.

On a technical level, several inconsistencies were pointed out. For example, in one demo case, the total emissions figure for Pirkanmaa, Finland, appeared to diverge between the dashboard and the emissions graph—leading to questions about data integrity and the logic of future emissions trajectories. Others noted that some suggested measures couldn't be implemented at the municipal level, pointing to

the need to clearly indicate relevant stakeholders, administrative responsibilities, and multilevel governance implications.

While many of these critiques echoed concerns from earlier sessions, they were now expressed with greater specificity—indicating a growing investment from participants in the tool's development. At the same time, a few new dimensions of feedback emerged. One was the call to compare different scenario drafts more fluidly—whether by toggling optimization settings and seeing real-time changes, by overlaying emissions graphs, or by providing a summary table of differences between selected pathways. Another was the wish to upload local data using structured templates, much like those used in SECAP submissions, thereby allowing the CAST to function both as a standalone solution and as a complement to ongoing local planning efforts.

In terms of regional relevance, feedback also aligned with prior findings. Participants from Austria reiterated that SECAPs are not the dominant planning framework, suggesting CAST should support alternative formats and planning contexts (e.g., climate model regions). Others from Southern Europe emphasized the challenge of integrating SECAPs with other existing plans, including urban mobility and 2030 Agenda strategies. Once again, the point was made that the CAST would need to remain flexible and modular: able to offer full planning capacity for cities starting from scratch, while also plugging into existing processes for those with plans already underway.

The EURESFO workshop thus reaffirmed that the CAST is tackling a real and urgent need, but also underscored the high expectations users have when it comes to reliability, usability, and relevance. The transition from design sketches to an increasingly functional tool brought into sharper focus the demands that would be placed on the tool in the months ahead.

One of the goals of the workshop was also to discuss and get feedback on the first draft of the CE. Feedback was collected via Mentimeter and manually by ÖGUT during the small group session. As there were only 7 civil servants and no politicians out of 47 participants, the results were unfortunately not very representative of the CE´s target group. However, the CE's wider target group includes anyone who works with citizen engagement and/or is interested in this topic. From the audience, approximately 46% of the respondents had little to no experience in citizen engagement and around 15% of the respondents had middle to high experience. In relation to the participants' beliefs on citizen engagement, most of the aspects mentioned go in line with the content of the CE. As the CE is in English, participants were asked whether this would be an issue for local authorities. Given their feedback, most civil servants and local politicians should be able to read and understand the CE in English. During a small working group on citizen engagement, participants were given time to share their experiences and discuss the challenges they face with citizen engagement and possible actions to solve them. This was followed by a collection of success stories and open

questions and then participants had the opportunity to learn from our local project partner from Barcelona, a forerunner in citizen engagement. A number of shared challenges were discussed and collected such as on the great differences between the ideas of the citizens and the actual implementation, that citizens often want short term results, the encountered engagement fatigue, that citizens don't feel that they are the actors of a solution, the delicate issue of identifying citizens as vulnerable, on the difficulties to reach out to vulnerable groups, on the importance to provide information as key to successful citizen engagement as citizens lack information, on how to address climate deniers, etc.

Figure 4 summarises the EURESFO workshop in its different aspects:

| | |
|---|---|
| **Tool Version** | First hands-on interaction with a pre-alpha version; adaptation features still missing |
| **Key Strengths** | Ability to plan with incomplete data; support for SECAPs and SDG alignment; broad data accessibility |
| **Main Challenges** | Need for data transparency, trust in sources, and clear methodologies |
| **Usability Feedback** | Tool seen as overwhelming; strong need for onboarding, glossary, tutorials, and in-tool help |
| **Interface Critique** | Graphs unclear or unresponsive; visual clarity and interactivity need improvement |
| **Framing Issues** | Academic language confusing for non-experts; call for plain wording, user stories, and success examples |
| **Technical Issues** | Data inconsistencies and unclear responsibility for some measures highlighted |
| **Citizen Engager** | Feedback limited due to small sample; English format generally acceptable; key challenges identified: info gaps, trust, short-termism, fatigue, vulnerable group access |
| **Overall Insight** | CAST meets urgent needs but must improve usability, clarity, and training to ensure effective uptake |

**Figure 4: Summary of the EURESFO workshop**

### *2.4.2 Testing the CAST*

As laid out in D8.1, testing can be an effective stakeholder interaction activity to not only assess a tool's field usability but to also engage a community of potential users and spark excitement about the product. Initially, this testing was supposed to happen in the first quarter of 2025, with a close-to-final version of the CAST.

Due to enduring difficulties with the data quality, however, the testing had to be postponed several times, since inviting a wider test audience to feedback on an incomplete and faulty tool was seen to be counterproductive. The testing is thus now expected to take place at the end of June 2025, after this final stakeholder interaction report, presumably spanning a two-week period. The testing will still help to disseminate the tool, and its results will still be integrated into the final CAST version.

The testing will take the form of an online survey targeting up to 200 stakeholders from all three stakeholder groups, but mainly users. The survey, designed to take approximately 45 minutes, will include general questions on user experience as well as scenario-based use case testing. Different versions of the questionnaire will be provided, depending on respondents' planning contexts—for example, whether or not they are working within a SECAP framework. The primary objective of the survey is not to identify technical bugs, but rather to collect input on which features are most useful, where additional guidance is needed, and how the tool can best support users in their practical planning work.
A draft questionnaire has already been developed, drawing on insights from earlier surveys and smaller testings, and has been discussed with LOCALISED project partners. Further adjustments are planned to fine-tune the instrument. The consortium partners have been asked to gather relevant contacts from their local networks, and several participants have already confirmed their involvement—particularly those who had committed to the initial testing date already, such as representatives from Polish municipalities and climate departments. The aim is to involve testers from a diverse range of countries, including Austria, Poland, Spain, Germany, Italy, and Greece, with a target of at least 10 participants per country. To support outreach and participation, a dedicated social media campaign will also be launched to advertise the testing phase. Outreach to potential participants has already started, either by email or in the form of face-to-face exchanges, such as in a conversation between IREC and the NUTS-3-level Tarragona (Catalonia) administration to present the LOCALISED project and invite to the testing.

### *2.4.3 Replication & Upscaling Events*

With the approaching end of the project and the increasing completion of the LOCALISED tools, the project partners have been engaging and will continue to do so in a series of replication and upscaling events that serve building and growing the community of interest.

As part of the ongoing development and upscaling of the NZBC and the LSBCM, several further stakeholder interactions were conducted in early and mid-2025, including a hybrid Business Decarbonisation Workshop held in Milan on 6$^{th}$ March 2025 in cooperation with Assolombarda. This event brought together business stakeholders and LOCALISED partners to explore the practical application of the NZBC tools. Several company-specific engagements followed, focusing on tool testing, surveys, and best practice interviews:

- Leidel-Kracht (Köln, Germany) completed the full NZBC testing process—including the business survey, best practice interview, and LSBCM Canvas—receiving positive feedback and expressing strong interest in continued use.
- Mario Frigerio SPA (Molteno, Italy) also completed the full testing cycle. Despite time constraints, the session was rated as successful, with good feedback and interest in the tool, particularly related to gaining sustainability recognition.
- Porro SPA (Montesolaro, Italy) participated in a vulnerability assessment via the extended version of the business survey. As a company already engaged in carbon accounting with Bocconi University, their feedback was considered insightful, and they showed interest in integrating lifecycle thinking.
- Fabbrica D'Aniello (Terlizzi, Italy) and Caradonna Logistics STL (Bari, Italy) completed the business survey only, with no follow-up engagement to date.
- Unioncamere Veneto (Venice, Italy) facilitated wider visibility by agreeing to share information about the LOCALISED project in their biweekly newsletter, though the actual impact of this dissemination remains uncertain.

On 6th May 2025, ÖGUT hosted an interactive workshop titled *"Co-designed Tools to Support Local Climate Strategies"* at the ACT NOW Mayors Conference held at Vienna's City Hall (Rathaus). The session introduced the CAST and the CE and, in addition, featured insights from Alfred Mayr, Mayor of St. Stefan-Afiesl in Upper Austria, who shared practical lessons learned from co-creating local climate strategies with citizens.

The workshop attracted a diverse audience of local leaders and practitioners, who had the opportunity to explore the latest version of the CAST—scheduled for release in summer 2025—and to engage in a direct dialogue with Mayor Mayr. The ACT NOW Mayors Conference, where ÖGUT served as a Content and Networking Partner, was organized in cooperation with the City of Vienna as part of the European Capital of Democracy 2025 program and its Democracy Year initiative.

To gather initial user impressions, a short survey on the impact and usability of the CAST was distributed during the workshop, receiving 7 responses out of approximately 10 participants. Key takeaways included the importance of allocating sufficient time for storytelling and contextualising the tool before introducing its functionalities. Participants, once again, expressed particular interest in data accuracy and the sources behind it, and noted that some features—such as DACS (Direct Air Capture and Storage)—could be perceived as sensitive or controversial. The feedback also highlighted the varied needs of different audience groups: while local administrators tended to prefer simplified versions of the tool, consultants were more interested in technical details. The hands-on format, with multiple laptops available for small-group demonstrations, was well received and proved effective in addressing varied levels of expertise. It was suggested that future workshops could benefit from segmenting the audience

and offering more tailored demonstrations to suit their specific interests. Overall, the session confirmed strong interest in the tools and the value of co-creation in local climate action.

A series of upcoming further upscaling events is planned to promote the LOCALISED tools across Europe in mid to late 2025. The CAST will be presented at the Net-Zero Tech Forum in Barcelona (4–5th June 2025) in the form of a dedicated workshop, and at the 5th Forum of Polish Cities in Warsaw (17–18th September 2025) through an information stand. Additional CAST-focused webinars are in preparation, including sessions in Austria (September 2025), the MAGGS area (end of June 2025), Spain, and Germany. For the NZBC and the LSBMC, key events include a webinar in Spain (27th May 2025), a CMCC-hosted webinar on 30 May 2025, and further national webinars in Austria (September 2025) and Germany. These events aim to introduce the tools to new stakeholder groups, gather feedback, and explore opportunities for broader adoption in diverse regional contexts.

# 3 Overarching Insights and Learnings

The here-reported, multi-layered stakeholder interaction process in the course of the LOCALISED project has been yielding several overarching insights and learnings that have fundamentally been shaping the design, functionality, and dissemination of the project's tools, namely the Climate Action Strategiser (CAST), the Citizen Engager (CE), the Net-Zero Business Consultant (NZBC), and the Sustainable Business Model Canvas (LSBMC).

One of the most important cross-cutting lessons is the critical value, but also the insoluble complexity of continuous, multi-stage engagement in international multi-partner and multi-stakeholder contexts. Rather than treating stakeholder input as a one-off consultative step, LOCALISED evolved its engagement through three distinct, yet overlapping phases—exploratory, co-design, and dissemination/testing—each building on and informing the insights from other phases. Early interactions helped identify core needs and expectations, while later phases ensured the tools remained grounded in practical realities and could be integrated into existing workflows. However, it became also clear that the three interaction phases (and their corresponding stakeholder groups) did less form a linear step-by-step process, but rather an iterative structure that all project partners individually as well as the consortium as a whole could rely on for the different tasks and subtasks, always based on situative needs in developing the different tools. In this sense, interactions with the different stakeholder groups also changed their character and scope. Interviews with both the wise and the user group, for instance, were more specific the further developed the tools. While this flexibility between different stakeholder groups and formats, as well as between centralised and decentralised interaction, allowed for a dynamic and iterative, yet still continuous and coherent stakeholder engagement process, it

has also been challenging from a coordination and implementation perspective. Acknowledging and integrating all the different perspectives, expectations, and interests as well as different knowledge and temporal logics across national and disciplinary boundaries; navigating project-external participation, consortium-internal interdependencies, and design-related decision making has thus been defining the co-design and development work for all project partners responsible for one or more of the LOCALISED tools. Regarding the CAST, it's been particularly challenging to balance the coordination of stakeholder interaction on the one side with project-internal time schedules and development delays (e.g., in the backend) on the other.

Content-wise, stakeholders repeatedly emphasised the need for tools that are not just technically sound but politically and institutionally embedded. Across municipalities and sectors, users sought tools that could aid internal coordination, support external communication (especially with elected officials), and complement national or EU-level reporting frameworks. Flexibility emerged as a key demand—the CAST and the NZBC needed to accommodate varied planning contexts (e.g. SECAP vs. alternative reporting formats), administrative realities, and data maturity levels. This confirmed that context sensitivity and modular design are prerequisites for widespread adoption. The integration of "soft" dimensions—such as social equity, political feasibility, and public acceptance—was another recurring theme. These aspects were not seen as secondary but as vital decision-making criteria, and stakeholders urged that tools reflect these dimensions either as optimisation filters or by offering at least qualitative insights.

Another major insight was that powerful tools require equally strong support structures. Stakeholders in all phases pointed out that no matter how sophisticated the interface or underlying data, the tool's impact would be limited without onboarding support, training materials, and guidance for interpretation and use. This learning reinforced the importance of pairing tools with services such as helpdesks, tutorials, and user-specific walkthroughs. Similarly, the interaction process indicated that scaling and dissemination are most effective when embedded in existing ecosystems. Stakeholders advised integration with familiar platforms, networks, and policy frameworks to ensure uptake, whether through regional climate alliances, national portals, or sectoral associations.

A clear and recurring demand was for transparency in data sources, assumptions, and modeling logic. Stakeholders expressed reluctance to act on outputs they could not verify or explain to others. Ensuring traceability of recommendations and providing clear metadata and source documentation became a central requirement for building trust in the tools—especially the CAST, which relies on complex modeling and multiple data layers.

Another insight was the value of visualisation and storytelling. Participants consistently praised the CAST's ability to simplify and present complex information

visually, making it easier to communicate strategies, compare scenarios, and engage non-expert stakeholders. However, they also cautioned against overloading users with information, and stressed the need for layered, role-specific pathways through the tools—helping different users (e.g. policymakers, technical staff, citizens) find what's most relevant for them. Stakeholder interaction towards the CE particularly demonstrated the power and challenges of co-creation processes and have been integrated in the corresponding deliverable. Its development has been informed not only by the structure and outcomes of the VCT process but also by reflections on what enables inclusive, transparent, and effective citizen participation in climate-related decision-making. Lessons from the Vienna Climate Teams project and the case studies in the LOCALISED partner municipalities highlighted, for instance, that early involvement of multipliers, low-threshold outreach, and tailored communication are key for engaging diverse groups effectively.

# 4 Additional Feedback from the Online Survey

An online Climate Action Strategiser usability and functionality testing was conducted between mid-July and the end of August 2025 using the professional tool LimeSurvey. The survey was sent to approximately 100 recipients and included 29 questions.

31 of those recipients opened the survey, 15 submitted partial responses, and 9 completed it in full. The following analysis focuses on these 9 complete responses.

The relatively low completion rate can likely be attributed to two factors: first, the survey required respondents to actively use the CAST tool to complete specific tasks, with most participants who finished the questionnaire taking more than 30 minutes to do so; second, the survey period coincided with the summer holiday season across Europe, which may have limited availability and engagement.

Despite the low number of participants, the feedback provides valuable insights since the respondents closely match the target users of the tool: for a majority (5), creating a SECAP is part of their professional responsibilities. A majority also had 8 or more years of experience in climate/sustainability work.

The question "What is the biggest challenge when it comes to climate action planning?" was answered with "Data collection and analysis" by 3 respondents and with "Stakeholder engagement" by 2.

As with the other stakeholder interactions, the picture was affected by technical deficiencies (5 respondents were not able to successfully complete the task while only one was able to download the Excel file), which have since been rectified (see below).

"I was able to find the 'exporting SECAP' button but clicking the button did not lead to a functioning download."

"Problems in loading data for NUTS3 level, system crashes. The tool functionalities should load faster. At present, every time I click on a button, it takes at least 5 minutes to load."

Most respondents found the climate action measures somewhat unclear. Example comment: "Two actions for reducing emissions for the city I clicked on with a strong emission reduction measure were: exiting coal and exiting gas power plants. I was surprised to see that both actions were associated with no cost bar (while switching from gas to e.g. hydrogen is quite cost intensive in my understanding)."

As with the other stakeholder interactions, more guidance was requested on how to use different functions.

On the question "What functionalities are you missing?", 5 out of 9 selected "Tutorial or guided walkthrough". One respondent commented that they would like to see "more recent data" than the default 2020 baseline.

"I think if you do not have instructions before using the tool, it is very hard to understand how the tool works."

Two users stated "This tool would help in convincing decision-makers to support climate action." One respondent commented: "The stakeholders I encounter need quite detailed information on a) cost and b) effects. In other words, a truly accurate comparison of how many euros are spent on which measures and what emission savings they bring. This is primarily to enable comparisons to be made—are €10 million spent on electric buses better for emission reductions than €10 million spent on building insulation? Here, I had the impression that the tool makes many exciting suggestions. However, it did not examine the cost-benefit side in sufficient detail for me to find it useful in direct discussions. But perhaps I did not understand the tool well enough."

Most respondents are considering recommending the tool to others; only one person stated that it is unlikely that they would recommend it.

There was also agreement that the tool is helpful for discussing SECAPs with stakeholders.

In terms of quality, the SECAPs were rated as usable by the participants who managed to open them.

When asked "At what point(s) did you feel most frustrated or confused?", mainly technical issues and a lack of guidance were mentioned and criticised. One person commented: "Somehow to make the startpage even more dummyproof. The product delivers serious material for professional use, but to start to use it, is the 'mountain to climb'."

When asked "Which specific feature was most useful to you?", one person responded: "I find it impressive to see how much information on a wide variety of topics is gathered in one place. I find the sum total of information more exciting than a single aspect alone."

# 5 Measures reflecting feedback in the CAST

Not all feedback could be taken into account, especially since much of it goes beyond the scope of the project. This applies, for example, to the embedding of the tools in specific context-specific i.e. administrative environments. Other aspects, such as incorporating social equity, political feasibility, and public acceptance, were provided as qualitative insights by other project results, but cannot be processed to an extent that would allow them to be represented as optimisation filters.

Nevertheless, a lot of feedback was considered during the development process of the tools and especially during the finalisation of the tools. During the evaluation of the tool, technical shortcomings and a lack of guidance led to most negative assessments. Nevertheless, results such as SECAPS were evaluated positively and the usefulness of the tool as a means of discourse with stakeholders was confirmed.

We responded to these comments by

- Adding a landing page with a general overview including different videos highlighting various aspects of the CAST and the knowledge behind
- Adding a comprehensive Guide including a screencast to orientate users how to find i.e. download the SECAP option and many more functions of the tool
- Inform users about the estimated 5 minutes time to export the SECAP next to the „Export SECAP" button
- We have completed the information provided on individual features of the tool so that guidance is available throughout the tool.

# 6 Conclusion

In summary, the LOCALISED stakeholder interaction process has been underscoring that usability, legitimacy, and impact are products of continuous stakeholder outreach, collaboration, and adaptability to diverse contexts. Looking back from the near future after the project, many of the collective insights will have been foundational not only to the technical development of the CAST, the CE, the NZBC, and the LSBMC, but also to their real-world relevance and their potential for long-term uptake.

What became particularly clear over the course of this process was the importance of maintaining flexibility across stakeholder groups, formats, and tool development stages. Rather than progressing in a strictly linear fashion, the three stakeholder interaction phases unfolded iteratively, creating feedback loops between exploratory needs assessment, co-design activities, and real-world dissemination. This required close coordination between project partners and sometimes posed practical challenges, especially in balancing stakeholder expectations with internal development timelines and technical constraints. Looking forward, stakeholder feedback has also highlighted that tools like the CAST and the NZBC must be embedded in broader service environments: onboarding guides, tutorials, training sessions, and institutional partnerships will thus be critical to ensuring the tools are not just downloaded or explored, but actually used.

While this deliverable concludes the LOCALISED stakeholder interaction process, there are a few further steps that remain to be taken. One of these is the CAST online testing campaign, set to involve a diverse cross-section of stakeholders from across Europe. Initially planned for an earlier date, this testing had to be postponed due to backend and data quality issues but will still play a key role in validating the tool's final features and guiding its implementation strategy. Another step to be taken will be a third round of interaction with the CAST focus group members which had also to be postponed due to the delayed tool development. As stated in D8.1, one important element of good stakeholder interaction practice is informing stakeholders about what happened with their critique, suggestions, and recommendations within the consortium. Therefore, feedback on specific interactions will be given to the focus group members, even if their contributions couldn't be considered.

Finally, the remaining replication and upscaling events until September 2025 will also uphold stakeholder engagement, build and grow the "community of interest", and thus make sure that the project's tools are well-positioned to remain useful and influential beyond the formal end of LOCALISED—supporting cities, regions, and businesses across Europe in their socio-ecological transitions towards net-zero on the local level.

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