



CO-SUSTAIN

Pathways for CO-creation between local authorities
and collective actions for a SUSTAINable transition

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Deliberation processes of the CO-SUSTAIN case studies

Deliverable 3.1. **DRAFT**



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DEC	Websites, patents filing, press & media actions, videos, etc.	
DATA	Data sets, microdata, etc.	
DMP	Data management plan	
ETHICS	Deliverables related to ethics issues	
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OTHER	Software, technical diagram, algorithms, models, etc.	
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PROJECT ABSTRACT

In Western democracies, traditional institutional participation is on the decline while non-institutional participation has been increasing. Non-institutional participation for the climate transition often relies on a prefigurative approach, thus creating spaces to incubate alternative ideas and novel forms of political participation (niches). Empowering these forms of political participation to encourage niche innovations will provoke the radical yet necessary changes in the socio-technical system for a climate transition. The CO-SUSTAIN project seeks to address this opportunity for a democratic climate transition, by defining and testing new democratic pathways enabling local policymakers to support various and novel forms of political participation and empowering citizens to act for a sustainable transition.

To develop a better understanding of political participation linked to environmental, political and societal imperatives, CO-SUSTAIN will study 19 historic examples in 6 different European countries for each of the latent and manifest forms of political participation underlined by Ekman and Amnå: involvement, civic engagement, formal political participation, and activism. It will use institutional ethnography and system mapping to understand the dynamics of the participation and its management, thus delivering best practices to stimulate and support political participation around these imperatives. These best practices will serve to define interventions for solution co-creation in 6 case studies, one for each form of political participation: involvement through Spanish energy communities (Alpujarra and La Tráguera), civic engagement through Food Solidarity in Turin (Italy), manifest political participation through participatory processes promoted by the government in Northern Europe (Annelinna District case study in Tartu, Estonia and, the small modular reactor case study in Espoo, Finland) and activism through the WESTBAHN PARK.LIVE initiative in Vienna (Austria). The outputs and outcomes of the deliberations will be assessed to draw conclusions for more democratic climate policymaking across Europe.

EXECUTIVE SUMMARY

The CO-SUSTAIN project seeks to empower a democratic climate transition. To achieve this, CO-SUSTAIN aims to move beyond a simple opposition between top-down and bottom-up participation by defining and testing new democratic pathways through which policymakers can support diverse and emerging forms of political participation and empower citizens to contribute actively to sustainability transition.

Deliverable 3.1 presents the implementation and preliminary outputs of such deliberative processes conducted in six case studies in five different countries (Italy, Finland, Estonia, Austria, and Spain) to investigate the conditions underlying different forms of political participation, the potential of social innovation to be expanded, and the capacity of democratic governance to address climate challenges by mobilizing, engaging, and interacting with citizens.

The methodology for the case studies has been designed and finalized in a dedicated Deliverable 2.4 (Frolova et al. 2025). Before the deliberative panels, each case study conducted contextual and stakeholder analysis to identify appropriate actors, institutional conditions, and opportunities for change. Participatory System Mapping (PSM), Causal Loop Diagrams (CLDs), and Theory of Change (ToC) provided the main methodological framework for the CO-SUSTAIN deliberative process. The process consisted of four events: a kick-off meeting and three deliberative panels.

Deliverable 3.1 presents participants involved, and outputs generated by the case studies. Attendance at some of the events was lower than originally planned. Small participation numbers created both limitations and advantages. Sometimes it restricted the range and scope of perspectives, but then in some cases it also provided ample speaking time and gave room to intense discussions. Levels of participation of niche and regime level actors influenced the discussions and resulting processes. Case studies that had bridging actors connected to both community initiatives and institutional structures were better able to bring together different levels of perspectives and helped promote co-created solutions.

Theory of Change helped the case studies translate identified leverage points from the system mapping exercises to more concrete pathways for actions. Pathways vary considerably between the case studies but demonstrate that common methodological framework enabled participants to move from mapping system dynamics to leverage points and then towards concrete actions. The theme that occurred was the significance of collaboration and bridging between different actors and governance. Several cases proposed that efforts should be made to create spaces for coordination, co-design or dialogue.

Deliverable 3.1 provides both a record of the participatory part of process and a foundation for the next analytical stages of the CO-SUSTAIN project.

ABBREVIATIONS

Table 1: list of abbreviations

Abbreviation	Definition
ACM	Catalan Association of Municipalities
CAI	Collective Action Initiatives
CCCB	Barcelona Centre for Contemporary Culture
CLD	Causal loop diagram
CO-SUSTAIN	Pathways for CO-creation between local authorities and collective actions for a SUSTAINable transition
DP	Deliberation Panel
EC /ECs	Energy Community/Energy Communities
EPAH	Energy Poverty Advisory Hub
EU	European Union
IAF	Impact Assessment Framework
ICAEN	Catalan Network of Energy Transition Offices
ILP	Popular Legislative Initiative
KoM	Kick off Meeting
LP	Leverage Point
MACBA	Barcelona Museum of Contemporary Art
MEAE	The Finnish Ministry of Economic Affairs and Employment
MLP	Multi-Level Perspective
NGO	Non-governmental organisation
NPP	Nuclear power plant
OECOOP	Osona Energia Cooperativa (Second-tier cooperative supporting local energy communities and cooperative energy initiatives in the Osona Region)
PSM	Participatory System Mapping
SG	Serious games
SMR	Small Modular Reactor

STUK	Radiation and Nuclear Safety Authority in Finland
ToC	Theory of Change
UGT	General Workers' Union
VTT	Technical Research Centre of Finland
WP	Work Package

1 INTRODUCTION

The CO-SUSTAIN project seeks to empower a democratic climate transition. To achieve this, CO-SUSTAIN aims to move beyond a simple opposition between top-down and bottom-up participation by defining and testing new democratic pathways through which policymakers can support diverse and emerging forms of political participation and empower citizens to contribute actively to sustainability transition. The project considers both institutional forms of engagement such as participatory processes initiated by public authorities, and non-institutional forms, including civic engagements, community initiatives, energy communities, and social movements. By examining these different forms of participation together, CO-SUSTAIN seeks to provide a comprehensive understanding of how citizens, public authorities, and other stakeholders can interact to address climate-related challenges. To achieve such objective, CO-SUSTAIN research process has been structured into two main phases:

Phase 1 - Historical Examples aimed at better understanding of political participation linked to environmental, political and societal imperatives covering both latent and manifest forms of political participation (see Deliverable 2.2). Phase 1 delivered practices to stimulate and support political participation around the aforementioned imperatives, and served to define interventions for solution co-creation in Phase 2.

Phase 2 - Case Studies aimed at integrating understanding of the dynamics and promote the identification of shared problems and solutions to the issues at stake and to the challenge of making CAIs and institutions co-producing policies. Phase 2 allows CO-SUSTAIN to assess the environmental, social, and economic outputs and implications of the new pathways.

While Phase 1 was based on desk analysis and interviews, Phase 2 is based on the implementation of a participatory approach aimed at involving the different local actors in a three-step deliberative process

Deliverable 3.1 presents the implementation and preliminary outputs of such deliberative processes conducted in the CO-SUSTAIN case studies. There were a total of six case studies in five different countries (IT, FI, EE, AT, ES) to investigate the conditions underlying different forms of political participation, the potential of social innovation to be expanded, and the capacity of democratic governance to address climate challenges by mobilizing, engaging, and interacting with citizens. Particular attention was given to how participatory initiatives influence the wider system and how governance structures, institutional arrangements, and external opportunities either enable or constrain their development.

The methodology for the case studies has been designed and finalized in a dedicated deliverable D2.4 (Frolova et al. 2025). Before the deliberative panels, each case study conducted contextual and stakeholder analysis to identify appropriate actors, institutional conditions, and opportunities for change. These analyses drew on interviews, policy documents, research literature, communication materials, and other case-specific sources. Stakeholder analysis methods were developed to support the inclusion of citizens, local authorities, civil society organisations, and other relevant actors, with particular consideration given to vulnerable and underrepresented groups, and other relevant actors, with particular consideration given to vulnerable and underrepresented groups.

Participatory System Mapping (PSM), Causal Loop Diagrams (CLDs), and Theory of Change (ToC) provided the main methodological framework for the deliberative process. System mapping was used to identify



dynamics of political participation, examine how participatory initiatives were perceived to influence their wider systems, and identify factors that affected these initiatives or created opportunities for change. CLDs made causal relationships, feedback processes, and emerging system dynamics more explicit, thereby supporting the identification of relevant variables and leverage points. The deliberative process distinguished between an outer dimension, involving policymakers and other institutional stakeholders, and an inner dimension, involving citizens, members of initiatives, and NGO's. Panels 1 and 2 used the participatory system mapping to develop shared understanding of the local institutional environment and dynamics of participation. In Panel 3, the results of these perspectives were brought together to identify shared leverage points and co-design potential actions and solutions. The Theory of Change approach supported participants in defining desired long-term outcomes and working backwards to identify the activities, resources, contextual conditions, and short-term outcomes needed to achieve them.

The resulting visions, system maps, leverage point, action and emerging pathways to change were subsequently reviewed with external experts. This validation stage provided an opportunity to assess implementation of processes, principal outputs, methodological challenges, and to identify areas requiring further refinement.

The structure of D3.1 is as follows. In Section 2 we present the theoretical framework and methodology and in Section 3 the six case studies. Section 4 focuses on the process of case studies. Results are presented in Section 5 and the conclusions in Section 6.

2 THEORETICAL FRAMEWORK AND METHODOLOGY

2.1 Theoretical framework

In order to pursue the CO-SUSTAIN project's objective to "Define and test new democratic pathways enabling local policymakers to support various and novel forms of political participation and empowering citizens to act for a sustainable transition" (CO-SUSTAIN 2023), the case studies drew from the theoretical frameworks of collective action research (CAI), socio-technical transition, multi-level perspective (MLP) and the political participation typology by Ekman and Amnå (2012).

Collective action research has guided both the research of the historical examples and the case studies. Collective action can be defined as action taken by individuals or group to pursue a common goal (Gregg et al., 2020, 2). In CO-SUSTAIN case studies, the focus is on collective action initiatives as the basis for the research: what kind of collective action took place, by whom, and what kind of innovations might emerge.

In addition to collective action, the **theory of change** guided the case study research. The theory of change describes how a project can produce long-term change and helps to produce a map to reach a desired outcome (Armitage et al 2019; Krasny 2020 15, 19). The theory of change was used especially in the third deliberation panel to illustrate the roadmap of collective action needed to reach a shared vision of improved participation for a sustainable future in the context of the case studies.

To describe and capture the steps of the collective action, **socio-technical transition and multilevel perspective (MLP)**, were used as a framework to understand socio-technical transitions (Hubert et al 2025, 28). These theoretical perspectives were used to understand the developments of the CAIs and the larger socio-technical systems as they develop over time. The MLP theory divides systems into three categories: *landscape, regime and niche*. Landscape refers to the larger surrounding systems and social tendencies, regime refers to existing systems and niches represent new ideas. (Geels 2002, 1263, 1272) Multilevel perspective describes the interaction between these three levels and how windows of opportunities can arise for the niches to enter and have effect on the regime levels and thus, thus create change in the system (Hubert et al 2025, 28).

The four CO-SUSTAIN case studies represent one of each **Ekman's typology of political participation**: involvement (CS#1: Spanish energy communities), civic engagement (CS#2: Food Solidarity in Turin, T3.3), manifest political participation (CS#3: Participatory processes promoted by the government in Northern Europe, T3.4) and activism (CS#4 activism, Westbahnhof Area (AT)). The case studies build on the theoretical understandings gained of latent and manifest participation in the 19 historical examples. Ekman divided participation into latent and manifest participation. Latent participation refers to action that either inspires (involvement) or everyday choices (engagement). Manifest participation refers to direct political action, such as formal political participation through existing institutional methods of participation. (Ekman & Amnå 2012, 292.) Additionally, Ekman defines activism as manifest political participation. All four types of participation can either be individual or collective. Using this template creates a thorough understanding of the types of political participation that takes place in relation to climate imperative and sustainability.

Together, these theoretical aspects formed the framework of analysis for the case studies: how and what kind of collective action, political participation and socio-technical change can take place in the context of climate imperative.

2.2 Methodology

This section describes the methodological framework applied across the six case studies as designed in D2.4 (Frolova et al. 2025). The CO-SUSTAIN deliberative process combines four complementary methods (Participatory System Mapping, informed by the Multi-Level Perspective; a role-playing method grounded in Serious Games; and Theory of Change, deployed across a sequence of three Deliberation Panels (DP1–DP3). The following subsections describe each building block in turn: The preparatory activities such as: the identification and engagement of stakeholders (2.2.1) and of vulnerable groups (2.2.2); and the deliberation process: the participatory system mapping and the Multi-Level Perspective (2.2.3); the role game (2.2.4) and the Theory of Change (2.2.5); how these methods were integrated (2.2.6) and operationalized in the panels (2.2.7); the observation protocol (2.2.8); and the ethical review and methodological refinement (2.2.9). Each subsection was drafted by the partner leading the respective methodological component.

2.2.1 Identification of stakeholders (UNITO)

Aiming to engage a broad range of stakeholders and foster a high level of participation in the co-creation of sustainable solutions across six different case studies, Task 3.1 involved conducting a context and stakeholder analysis prior to the CO-SUSTAIN deliberative process. Context and stakeholders analysis represent qualitative research approach designed to map the socio-political, institutional, and territorial landscape of each case study, with three primary objectives: (i) to identify and characterize the full spectrum of actors relevant to the system under investigation; (ii) to understand the political, economic, and cultural factors structuring the context in which the deliberative process will unfold (including power asymmetries, governance arrangements, historical trajectories, and key fault lines of conflict or cooperation); and (iii) to generate the knowledge required for the Participatory System Mapping exercises conducted in Tasks 3.2 to 3.5, ensuring that the CLDs are anchored in empirically grounded contextual understanding rather than researcher assumptions.

The mapping of stakeholders was carried out using the analytical framework of the Multi-Level Perspective (MLP) (Geels, 2002, 2005). This approach made it possible to distinguish between actors associated with the niche, including groups, organisations and grassroots bodies characterized by relatively informal and dynamic structures. In contrast, regime actors represent entities operating within the institutional, regulatory and governance areas, which are more firmly established within the existing processes and practices of the systems under investigation. In some cases, the niche and the regime represent neighboring worlds, with certain actors situated at the crossroads of both spheres. Consequently, both the definition of the system's boundaries and the classification of actors into the two categories under investigation were determined by the researchers, based in part on information gathered through the following research design:

- 1) systematic documentary analysis of policy documents, institutional reports, organisational leaflets, press releases, and academic literature, provided the structural and historical baseline for each case study context;
- 2) semi-structured interviews with key players with long-standing experience;
- 3) snowball sampling extended the stakeholder network iteratively from initial key informants to secondary contacts, guaranteeing coverage of actors who were not initially included in the sample, particularly relevant to involve vulnerable categories in the deliberation process.

These initial analytical activities contributed to the achievement of Milestone 3 (M22) through the development of a stakeholder database, including a list of participants and their contact details.

At the same time, the stakeholder identification process and the deliberative process were designed to address some of the most common challenges associated with participatory approaches, such as self-selection bias and the difficulty of engaging vulnerable and typically underrepresented groups who are often excluded from, or remain distant from, participatory processes (Boas, 2024; García-Espín, 2025). These include, for example, older adults, undocumented individuals, people experiencing homelessness, individuals facing language barriers, as well as those who struggle to reconcile participation with work and other personal commitments (Gallegos et al., 2023). At the same time, the involvement of these groups may pose risks in terms of the conduct of the decision-making process, due to possible imbalances in participation (owing to language barriers, lack of experience or confidence), which could create potential points of friction amongst participants.

To facilitate participation and reduce these barriers, the CO-SUSTAIN project also provided financial compensation in the form of a daily allowance (amounting to EUR 50 in Italy, Spain, and Estonia; and EUR 60 in Finland and Austria), explicitly designed to remove financial barriers to participation, including travel, childcare and opportunity costs.

Similarly, in each case study, accessibility surveys were conducted during the KoM to identify potential barriers and difficulties in accessing and participating in the round-table discussions, thereby gathering crucial information for fine-tuning subsequent events.

2.2.2 Vulnerability, identification of vulnerable groups (LUT)

The CO-SUSTAIN case studies aspired to include understanding of impacts of the case study specific subject matter on disadvantaged and vulnerable groups in the project. To address this goal, a theoretical framework was established to identify, describe and categorize the relevant vulnerable groups for each case study. First, definition of vulnerable groups was established following Sovacool's (2021) definition which describes these vulnerable groups as:

“particular individuals, households, communities, or other groups of people are exposed to possible damage from climate projects. Vulnerability here is not only shaped by exposure and the extent of human capabilities, it is also shaped by social relations and the reproduction of ethnicity, class, caste, gender and heritage.” (Sovacool, 2021).

To operationalize this theoretical understanding, the CO-SUSTAIN project used Sovacool's (2021) political ecology framework (see Sovacool et al. 2015), which categorizes vulnerability based on four processes of *Enclosure (Economical)*, *Exclusion (Political)*, *Encroachment (Ecological)*, and *Entrenchment (Social)*, as ways in which different vulnerable groups experience economic, political, ecological, and social impacts in climate change mitigation (Sovacool, 2021, p. 2-4).

Economical (Enclosure) refers to the transfer of public or communal resources into private ownership or state control. Examples of this could include forced displacement and resettlement, dispossession of communities, loss of access to natural resources or land, and privatization of these commons and

resources. Vulnerable stakeholders impacted by this economical enclosure could for example include communities such as Indigenous people and farmers of the land, as well as poor or disadvantaged communities living near the impacted area.

Political (Exclusion) refers to often political processes that treat unfairly and deny stakeholders participation, recognition, or fair representation in the decision-making. Exclusion includes lack of consultation or consent, marginalization of certain groups in policy or planning processes, and discriminatory legal, governmental or institutional frameworks. Vulnerable stakeholders that often are impacted by exclusion are women, ethnic minorities, disabled individuals, rural poor and other marginalized stakeholder groups.

Ecological (Encroachment) refers to environmental degradation, destruction, or disruption of ecosystems due to different mitigation projects. Examples of these impacts could include pollution, habitat destruction, biodiversity loss, resource extraction (e.g., mining, deforestation) and disruption of ecosystems. Vulnerable stakeholders that experience ecological encroachment often are non-human species, especially endangered fauna and flora of environmentally sensitive sites. Through these impacts of entrenchment to ecosystems other impacted groups are local communities, fishers, conservationists and future generations.

Social (Entrenchment) refers to processes that deepen existing inequalities or vulnerabilities within societies. Impact of entrenchment is experienced in unequal distribution of benefits and harms, reinforcement of elite power or wealth, and as increased burden on already marginalized groups. Example of stakeholders and/or their related representatives: Urban poor, wage laborers, women, children and the elderly.

Together these processes, previously identified in climate change mitigation literature, form a multidimensional approach, envisioning both processes and sub-processes that are related to power relations and vulnerabilities (e.g., unjust patterns of colonialism, racism, patriarchy, militarization and structural violence). Some of these vulnerable groups can be recognised due to their status of historical or structural marginalization and yet, many still lack recognition in the governance and planning procedures. As this framework of Sovacool et al. (2015, 2021) suggests, it is also important to understand that these categories are interconnected, as vulnerabilities often are, and represent them as intersectional and rooted in historical conditions. Different vulnerable groups may experience one or more of these four impacts, and all of the different groups have limited capacities to adapt or respond to these different processes.

The purpose of this operationalization of Sovacool et al. (2015, 2021) framework of political ecology is to help each case study to conceptualize the different dimensions of vulnerability and what different factors could cause vulnerability in each case study context. This approach was used as an analytical starting point to form a tentative list of vulnerable groups impacted by case study initiatives and to invite those groups or their representatives to take part in the deliberation process.

2.2.3 Participatory system mapping and Multi-Level Perspective integration (BOKU)

Participatory System Mapping (PSM) is a qualitative systems-based method used in CO-SUSTAIN to examine the dynamics of political participation across the case studies. More explicitly, we used Causal

Loop Diagrams (CLDs), a tool of systems thinking and system dynamics (Sterman 2000). CLDs formed the core analytical tool of the first two panels in each case study. Their value lies not only in listing relevant factors, but in making explicit how these factors interact. This means it is made visible how key factors, relationships, and feedback processes shape the dynamics of political participation and processes over time. Steps of participatory system mapping include i) the identification of the relevant historical reference behaviour patterns over time that are representative of the systems' development, ii) elicitation of relevant factors, iii) drawing causal connections between them iv) identify the dynamics arising from the connections between factors that create the historical reference behaviours. Finally, these system maps can be used to identify leverage points, which are points of intervention within the system where targeted interventions may have the potential to improve the system (Meadows 1999).

In the context of CO-SUSTAIN, PSM supported a structured exploration of both latent and manifest forms of political participation and helped identify the conditions that enable or constrain participatory dynamics at the niche and regime levels as conceptualized within the Multi-Level Perspective (MLP) (Geels 2002, 2011, 2019). Within this framing, civic initiatives and movements can be understood as developments at the niche level, while public institutions and governance arrangements represent the regime level. Participatory system mapping was therefore used to capture the variables that represent the dynamics within initiatives, as well as the broader regime-level conditions that shape their emergence, development, and societal effects.

PSM in CO-SUSTAIN was designed as a deliberative and participant-driven process. While the original project design foresaw the preparation of system maps by project partners before the panels, in practice only draft maps were developed internally as preparation but they were not used as direct inputs during the panel discussions. This decision was taken to preserve a fully participant-driven approach. Rather than asking participants to validate or revise pre-constructed representations, facilitators supported them in collectively identifying the relevant system elements and causal relations. This helped ensure that the maps reflected participants' own understandings, experiences, and interpretations of the systems in question.

The PSM method was applied across Panels 1 and 2 in each case study, with a differentiated focus. In one panel, participatory system mapping was conducted with decision-makers and other relevant institutional actors. This panel focused on the regime-level dimensions surrounding the case study topic, including governance processes, institutional settings, policy environments, and external drivers influencing participation. Through facilitated discussion, participants identified the main factors shaping the broader system and mapped the causal relationships between them. The outcome was a qualitative system map representing the regime-level dynamics relevant to political participation in the specific case.

In the other panel, participatory system mapping was conducted with members of the 'Collective Action Initiative' (CAI). Here, the focus shifted to the niche-level dynamics of the initiative itself. Participants explored the factors influencing, for example, mobilization, internal organisation, collaboration, conflict, learning, legitimacy, and sustainability of participation within the initiative. Also in this panel, the mapping process aimed to produce a shared understanding of the main system elements and their interrelations, resulting in a qualitative system map of the initiative's internal dynamics and processes.

Taken together, the two panels generated complementary perspectives on each case study. One panel captured the external, institutional, and systemic context in which political participation takes place, while the other captured the internal dynamics of collective action and initiative development. The use of CLDs across both panels allowed project partners to examine feedback structures within each domain and, importantly, to consider the relations between them by linking the niche-level with broader regime-level dynamics.

The outputs from Panels 1 and 2 were subsequently brought together in Panel 3. In advance of Panel 3, the two causal loop diagrams were merged. This step enabled a cross-level analysis of how internal initiative dynamics (niche-level) and external regime-level dynamics interact. The merged system maps were then used to identify leverage points. In this way, PSM did not only serve as a descriptive method, but also as an analytical and reflexive tool for identifying pathways for transformation.

Overall, participatory system mapping in CO-SUSTAIN provided means of co-producing system knowledge with case study participants rather than imposing an externally defined analytical model. By applying systems thinking and deliberative engagement through CLDs, it was possible to capture the complexity of political participation across levels and actor groups. The process created a shared language for discussing system structures, feedback effects, constraints, and opportunities, thereby contributing both to case-specific analysis and to comparative reflection across the project.

How to read a Causal Loop Diagrams (CLD's)

Causal loop diagrams are used to reveal the feedback structure of systems. Schaffernicht (2010) refers to CLDs as “qualitative diagramming language for representing feedback-driven systems”. Within a CLD, all variables inside the system's boundaries are mapped. Causal links between factors are depicted by arrows. These links can have positive (+) or negative (-) polarity, referred to as link polarities. Positive or negative links describe the causal relationship between variables. A positive link is one in which the causing variable and affected variable change in the same direction. Hence, an increase in the cause leads to an increase in the effect, and a decrease in the cause leads to a decrease in the effect. A negative link shows that the two variables change in opposite directions: an increase in the cause leads to a decrease in the effect, and a decrease in the cause leads to an increase in the effect.

2.2.4 Role game (UGR)

The role-playing method developed for Deliberation Panel III (DPIII) is grounded in the theoretical foundations of Serious Games (SG), Theory of Change (ToC), and deliberative participation. Within the framework of the CO-SUSTAIN project, the method was designed as a bridge between the work carried out during Deliberation Panels I and II and the identification of pathways for socio-technical changes. In particular, it helps to translate the leverage points and outcomes identified through PSM and ToC into concrete activities, outputs, and inputs that can produce change in a specific context of each CAI.

The design of the method is based on key principles of SG. SG are structured activities that combine significant objectives, such as learning, communication, experimentation, and decision support, with elements of play. Unlike activities designed primarily for entertainment, SG allow participants to work through complex problems in a setting where different choices can be tried without real-world consequences. They reduce the complexity of real situations to a manageable form while retaining the

relationships and tensions that matter for the problem being addressed. This way participants can examine how different elements of a system influence one another, consider the perspectives of other actors, and see what may happen when particular decisions are made. This makes it possible to discuss and compare possible interventions and to learn from both the decisions taken and their consequences.

A main feature of the role-playing method is perspective-taking. Participants are asked to take on perspectives different from their own and consider the interests, priorities and limitations of other stakeholders. As in role-based SG, this gives them an opportunity to look at the problem from a position they would not normally occupy. By doing so, they may question some of their initial assumptions and gain a better understanding of why other actors respond differently to the same situation, including what they see as opportunities or obstacles within the socio-technical system.

The method aligns with the participatory and reflective characteristics of ToC. Instead of being focused only on desired outcomes, participants are encouraged to adapt systemic thinking on how change may occur, identifying activities that can help achieve the outcomes and vision defined earlier in the process, and then consider the outputs and resources needed to put these activities into practice. In this way, the role-playing exercise helps participants make explicit connections between proposed actions and the changes they are expected to produce.

Deliberation continues after the role-playing exercise. The activities proposed from the perspective of the fictional stakeholders are brought back to the whole group, where participants discuss them from their actual positions and decide which ones are relevant and feasible. This step allows ideas that emerged during the role-play to be reconsidered in light of participants' own knowledge and experience. Different proposals and viewpoints can then be compared, revised or combined before the group agrees on the actions to take forward.

The role-playing method is a participatory game-method designed to identify, discuss, and select activities capable of supporting socio-technical system change. More specifically, it aims to help participants generate actionable interventions associated with specific outcomes derived from leverage points previously identified through PSM and ToC exercises. In addition to identifying activities, the method supports the collective identification of their potential outputs and required inputs.

The method is structured in two stages. The first stage focuses on cross-sector role-playing and activity identification. Participants are assigned to stakeholder groups that differ from their real-life sectors. Then, they are asked to adopt the perspectives, motivations, priorities, and constraints associated with the assigned groups. Stakeholder groups typically represent public administration, external actors, and local actors, although these categories can be adapted to specific case-study contexts. Participants work within their assigned groups to identify, discuss, and select activities that could be implemented to contribute to a predefined outcome associated with a leverage point. Through facilitated discussion and collective selection processes, each group gets a small set of proposed activities representing the perspective of the assigned stakeholder group.

Role profiles are a key part of the method. Each participant adopts a fictional role based on a stakeholder category different from their own. The purpose is not to replicate the exact characteristics of real-world actors, but rather to distance participants from their existing positions in order to encourage perspective-taking, while retaining sufficient contextual realism to ensure that the proposed activities remain relevant.

This balance between abstraction and contextualization encourages creativity without losing sight of practical applicability.

The second stage is based on a plenary reflection process. First, participants return to their real-world positions and then collectively review the activities identified and selected during the role-playing exercise. The transition from fictional to real-world perspectives is an essential methodological component. It introduces a reflexive dimension that enables participants to critically assess ideas generated under different stakeholder viewpoints. Rather than considering proposals only from the perspective of their assigned role, participants are encouraged to think about their wider implications for the socio-technical system.

During this second stage, participants collectively review, clarify, merge, and sequence activities. The activities are then linked to the previously defined outcomes and the shared vision developed through the ToC process. Participants then identify the direct outputs of each activity, and the inputs needed for its implementation. Outputs can take different forms, such as products, services, agreements, programmes, or infrastructure elements, while inputs can include financial resources, human capacities, institutional support, infrastructure, or technical expertise. Through this process, participants develop a clear intervention pathway connecting the activities, outputs, outcomes, and required resources.

The role-playing method has several distinctive features. It encourages participants to explore perspectives different from their own by temporarily taking on the role of other actors. Participants then return to their real-world positions to reflect on and reassess the proposed activities. The method also brings together perspectives from public administration, external organisations, and local communities, helping to capture the diversity of views within the system. At the same time, it maintains a system-level perspective by linking the proposed activities to outcomes associated with identified leverage points in the socio-technical system.

Overall, the method brings together the exploratory qualities of SG, the analytical structure of ToC, and the collective reasoning fostered through deliberative participation. By doing so, it provides a structured yet flexible mechanism through which stakeholders can collaboratively identify intervention pathways, enhance mutual understanding, and contribute to the co-creation of feasible and context-sensitive strategies for socio-technical transformation.

2.2.5 Theory of Change (UNITO)

A Theory of Change (ToC) is a planning and evaluation tool designed to link interventions and actions with their corresponding outputs, outcomes and long-term impacts (Rogers, 2014). The CO-SUSTAIN ToC has been designed to also shed light on the assumptions underlying these connections, gained through direct experience and involvement, to understand not only *what* a programme does but also *how* and *why* those activities are expected to produce change in a specific context, under specific conditions.

In the context of CO-SUSTAIN, the ToC was used for three functions simultaneously:

- 1) as an analytical tool to evaluate and implement the inputs resulting from a deliberative process by creating a causal and systemic narrative;
- 2) as a co-production tool that legitimizes the process outputs by grounding them in participants' own vision and action proposals;



- 3) as a communication and policy instrument translating the insights from the PSM into policy insights and concrete interventions

The CO-SUSTAIN ToC construction methodology is distinguished from conventional ToC approaches in three major elements. First, the ToC is not designed *ex ante* by the research teams and validated by the stakeholders; rather it is co-designed with participants during an iterative and mutual learning process.

Second, the ToC is empirically grounded through the Merged Causal Loop Diagram (CLD) produced through the Participatory System Mapping sessions of DP1 and DP2. The separation of the two deliberation panels was not intended to reflect a hierarchical distinction; rather, it provided an analytical strategy for examining the distinctive characteristics of each level and the interactions between them.

Third, the ToC is organised around the Meadows (1999) hierarchy of leverage points, shedding light and enabling prioritization of different levels of intervention in the system. The ToC design unfolded across a structured sequence of methodological elements within the Third Deliberative Panel (DP3). In each case study, this sequence comprised: (i) explanation to participants of the Merged CLD co-produced during DP1 and DP2, using interactive tools (Kumu) to visualize and enable collective engagement with the systemic analysis; (ii) a guided vision-construction exercise inviting participants to articulate the desired future state of the food or energy solidarity system ('How would you like [the system] to look like in an ideal future?'), generating a shared normative horizon anchoring the ToC in participants' collective aspirations; (iii) collective identification and prioritization of leverage points from a pre-selected set presented by the research team, enabling participants to determine the strategic focus of the ToC's action domain; (iv) a role-play simulation, with participants personifying different actors' perspectives belonging to three different groups (i.e., public administration, external actors, local actors) each of which was assigned a leverage point, with the aim of generating concrete, situated action proposals grounded in the strategic logic of each actor type; and (v) a concluding plenary session using the digital collaborative platform Miro for real-time collective clustering and thematic organisation of the working group proposals, producing the action domains and INPUTS → ACTIVITIES → OUTPUTS → OUTCOMES → IMPACT/VISION structure of the final ToC.

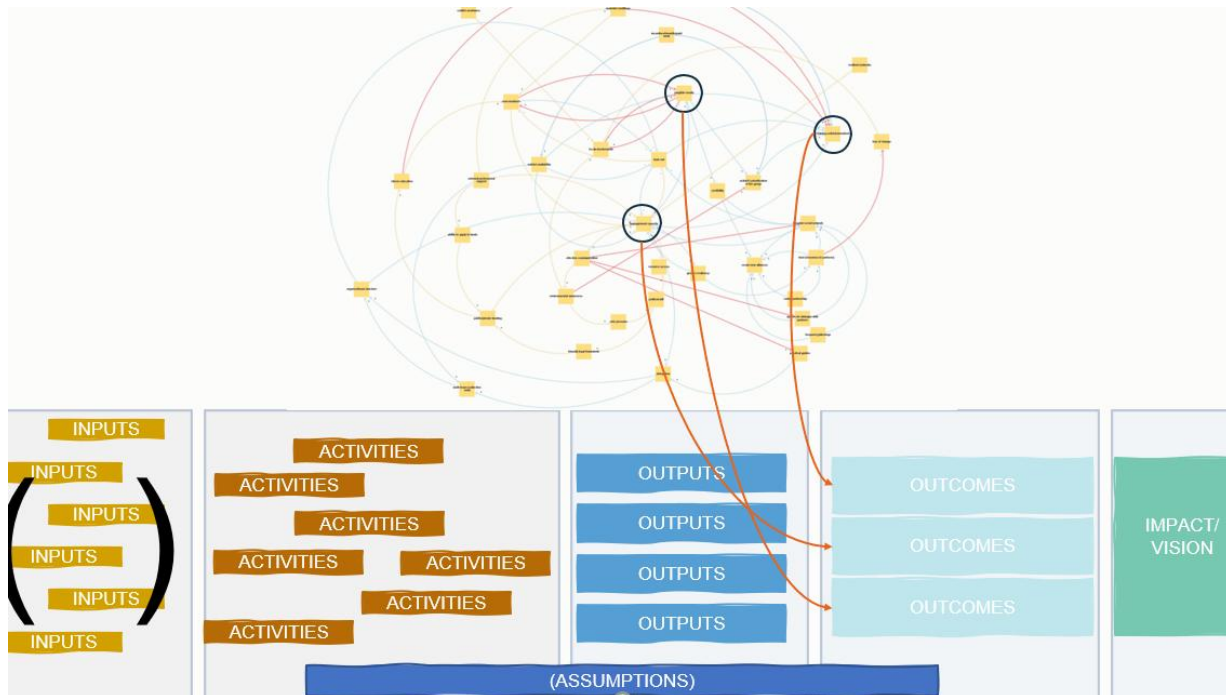


Figure 2.2-1: Theory of Change

The resulting ToC architecture follows a five-level hierarchy. First of all, *Inputs* encompass the material, human, informational, logistic as well as relational resources mobilized by the system's actors. *Activities* describe the concrete actions and processes through which inputs are transformed, including both ongoing practices from the niche and the new governance and co-design processes proposed by participants. *Outputs* are tangible and concrete products that come from the activities, e.g., co-governance and monitoring systems, training programmes or new professional roles. *Outcomes* capture the long-term changes in actor behaviour, institutional arrangements and systemic dynamics, which are coming from the implementation of outputs. *Impact/Vision* describes the long-term societal transformation that the system aims to produce, as articulated collectively by participants during the vision-construction exercise.

By grounding the ToC in the collective co-production of the CLD, we have empirically anchored the hypotheses and reflections of the ToC through system dynamics analysis, whilst at the same time fostering greater participants engagement, building relationships of trust amongst them and facilitating collective learning processes. This ensures internal consistency between the diagnosis of system dynamics and the proposed pathways for change, avoiding the common ToC failure of proposing interventions that do not engage the structural mechanisms producing the problem. One of the main limitations encountered during the co-design of the ToC lies within the timeframe allotted to this activity which was condensed into DP3. Another challenge encountered was constant participation. In fact, some stakeholders who had participated in the previous deliberative panels could not attend DP3. Consequently, in addition to a reduced level of representativeness, the process may have experienced some discontinuities, partly because several of the proposals put forward during the system mapping phase were no longer represented by the stakeholders who had originally suggested them during DP1 & DP2.

To mitigate this limitation, the outputs of the Theory of Change were validated beyond the deliberative process itself through a dedicated validation workshop, as documented in Section 5 of each case study contribution.

2.2.5.1 Method integration

For Panels I and II, Participatory System Mapping using Causal Loop Diagrams (CLDs) represented the primary method applied, serving mainly to establish a shared language and a joint understanding of the system(s) and the dynamics at play. Through the identification of key variables and causal relationships, the participants built CLDs that made feedback loops, and therefore reinforcing and balancing dynamics explicit. In this way, the maps functioned as boundary objects (Star and Griesemer 1989), supporting dialogue among stakeholders and making implicit assumptions about system behaviour visible and open to discussion. The CLDs from Panels I and II were subsequently merged into a consolidated systems map, which, later in Panel III, provided a common reference point and highlighted core dynamics and potential leverage points for intervention.

For Panel III, the partners developed a coherent multimethod framework by integrating System Mapping (CLDs), Serious Games (SG) and Theory of Change (ToC). The merged CLDs from Panels I and II formed the foundation and starting point of this framework, rendering system dynamics and potential intervention points explicit and visible. Building on the CLDs, participants articulated how specific variables and feedback influence desired outcomes and identified leverage points, locations in the system where relatively small shifts could produce substantial change. This step linked the diagnostic function of CLDs with the design of possible actions, focusing attention on those parts of the system where interventions might have a significant impact.

In the second half of Panel III, the integration of Serious Games and Theory of Change was made explicit. Participants were invited to shift roles when considering the required inputs, activities, and potential outputs, allowing them to examine the emerging intervention logic from multiple stakeholder perspectives. Previously identified leverage points from the merged CLD were first translated into desired outcomes. Participants then considered, from these different perspectives, which inputs, activities, and outputs would be needed to achieve those outcomes, thereby developing a draft Theory of Change. In the final step, the underlying assumptions and enabling conditions were discussed. Through this role-based, game-mediated exploration, participants could experience how interventions targeting specific leverage points might unfold in the wider system, including possible side effects and feedback.

2.2.5.2 Structure of the Panels

The Deliberative process was structured in 3 consecutive Panels, with a preliminary Kick-Off meeting. For the complete process, the main methodological guidelines were provided through D2.4 (Frolova et al. 2025), integrated by more operational instructions (see Annex 1). Furthermore, colleagues from BOKU University also provided facilitation guidelines and training for all partners in the lead up of the deliberative process phase to help facilitators create an inclusive, productive, and engaging environment for participants.

2.2.5.3 Kick-off Meeting

Although not explicitly referenced in the Grant Agreement, the Kick-Off Meeting (KoM) constituted a critical initial step in consolidating preparatory activities and establishing the conditions for the subsequent Deliberation Process. It effectively marked the formal launch of the deliberative process within each case study, providing a structured setting in which participants could meet, begin to build trust, and become acquainted with the aims and organisation of the CO-SUSTAIN project and the deliberative process in which they would participate. More broadly, the KoM served to align expectations, elicit motivations, and lay the groundwork for the sustained commitment and engagement of the individuals present.

The main objectives of the KoM were to create a welcoming and inclusive environment in which participants felt recognised and valued, to clarify the purpose of the CO-SUSTAIN project and the significance of the Deliberative Process, and to explain how participation could benefit each individual involved. It also introduced the structure of the deliberation panels, and the participatory tools employed, namely Participatory System Mapping (PSM), Theory of Change (ToC), Serious Games (SG), and the Deliberative Arena (DA). In addition, the KoM was intended to foster early engagement through interactive exercises designed to activate participants both emotionally and intellectually, and to enable them to recognise themselves as key actors in the transformation process and as essential contributors to the success of the CO-SUSTAIN project.

2.2.5.4 Deliberative Panel I and II

Deliberation Panels I and II were conducted to enable participants (local policymakers and other relevant stakeholders in Panel I, citizens/CAI members in Panel II) to develop a clearer understanding of the system in which they operate, to begin reflecting on potential leverage points, and to articulate their own approaches to transforming that system. The Panels were designed to identify key leverage points, systemic obstacles, and enabling conditions for climate and energy transitions in each case study, and they supported participants in collectively visualizing how change occurs, where interventions are possible, and what resources and collaborations are required.

During Deliberation Panel I (stakeholders/outer dimension), case study leaders facilitated a Participatory System Mapping (PSM) process with local policymakers and other relevant stakeholders. This process generated insights and knowledge exchange regarding the dynamics surrounding the case study topic and the related decision-making processes and fostered a shared understanding of the underlying system structure, its key elements, and the resulting dynamics. The work in Panel I culminated in a qualitative dynamic system map at the macro-system level, which was used to elucidate related impacts.

During Deliberation Panel II (CAI members/inner dimension), case study leaders facilitated PSM with members of the initiatives. This panel produced insights into the dynamics of the movement/initiative itself and supported the creation of a common understanding of the core elements and relationships among them that give rise to specific emergent behaviours. The outcomes of Panel II took the form of qualitative system maps that depicted the dynamics of the initiative and its internal processes.

The use of CLD's, enabled project partners to deepen their understanding of relationships and dynamics not only within each system but also between these initiatives and the policy-making sphere (see Annex 1, Deliberation Panel III for further analysis of these interconnections.). Deliberation panels 1,2 and 3 were

supported by templates to give clear structure to the facilitators. The complete templates for panels are provided in Annex 1.

2.2.6 Observation (UT)

This study employs participant observation as a core ethnographic method to examine deliberative panel events conducted across six European countries. The approach is informed by two complementary traditions: anthropological participant observation and institutional ethnography. Participant observation is a core ethnographic method in anthropology and, later, in institutional ethnography. It refers to the practice of a researcher immersing themselves in the everyday life of a social setting while systematically observing, participating, and recording social practices as they unfold. The process can be more "participation heavy", as when the researcher engages in daily activities, builds relationships, and gains experiential access to tacit norms and practices. Or it can be "observation heavy", when the researcher maintains a certain analytical distance and does not get involved in the activities of the people who they observe. Both produce fieldnotes, identify patterns, and situate observations within broader social frameworks.

The epistemological strength of the method lies in its attention to practice, context, and meaning in use. This moves beyond relying solely on interviews or formal accounts, which often reflect idealized or institutionalised versions of reality. In institutional ethnography, developed by Dorothy Smith (2005), participant observation is reoriented toward the study of how everyday activities are organised by broader institutional relations and how the institutional frames are reflected in various contexts, in and outside the observed situations. The focus on the texts, policies, bureaucratic routines, and ruling relations enables tracing how individuals' daily work is shaped by institutional logics that often extend beyond their immediate awareness.

From an anthropological perspective, participant observation enables the systematic study of deliberation as situated social practice, focusing on how meaning is produced through interaction, spatial arrangement, and embodied participation. While deliberative panels are formalized decision-making procedures, and this needs to be kept in mind, this approach conceptualizes them also as socially enacted environments in which norms of voice, expertise, and legitimacy are continuously negotiated. From an institutional ethnographic perspective (Smith 2005), the analysis is oriented toward how everyday interactions within panels are organised by broader institutional relations. Attention is directed to how policy scripts, facilitation protocols, scientific expertise, and administrative formats coordinate what participants can say, how they can speak, what counts as valid contribution, and what is accepted as part of the final outcome of the panels.

The empirical material is based on participant observation conducted across six deliberative panel events in different European countries. This multi-sited design allows for comparison across varying institutional cultures, facilitation styles, and linguistic environments, while maintaining sensitivity to context-specific interactional dynamics. Observation focuses on both formal deliberation formats and informal interactional practices that emerge within and between structured sessions.

The observations are organised around a set of interrelated analytical dimensions that capture how deliberation is enacted in practice. Observation considers how physical room layouts and material arrangements might structure participation, in particular, how the spatial environment may shape equality

of voice, accessibility of interaction, centralization or decentralization of authority, transitions between plenary and small-group formats.

The study documents the methodological architecture of the panels, e.g. expert presentations and Q&A sessions, World Café or rotating group formats, facilitated small-group deliberation, use of games and gamification elements, synthesis sessions etc.

Linguistic practices and communicative inequalities are observed to note sites of inclusion and exclusion, but also other elements of connection or lack of connection in the process. Observation focuses on multilingual interaction, translation practices, and the use of technical or policy-specific jargon. Key analytic concerns include presence and management of language barriers, shifts between expert, institutional, and everyday language registers, emergence of “bridging language” by facilitators or participants, etc. The study examines how communicative norms are established, enforced, and adapted. This includes speaking rules (turn-taking systems, time limits, interruptions), facilitation techniques for inclusion and balance, handling of conflict, disagreement, and procedural disruption, flexibility of moderation in response to group dynamics. Scientific or institutional input is analysed in terms of framing, neutrality claims, and reception by participants. Attention is paid to how expertise is presented, how participants interpret it and the translation of technical information into normative or experiential terms. Further, the observations examine how engagement is sustained and how participants’ motivation fluctuates across time and formats. Indicators include active listening and turn-taking, switch-off, fatigue, withdrawal, or emotional disengagement, facilitator interventions aimed at maintaining energy and inclusion. Deliberation is also analysed as a hybrid of pragmatic reasoning and emotional expression, so we consider pragmatic domains (e.g. feasibility, trade-offs, policy constraints), emotionally charged domains (e.g. justice, identity, inequality, risk). Emotions are observed in narrative expression and personal storytelling, conflict related exchanges, humor and irony etc.

The analysis addresses how participation is unevenly distributed across speakers - how dominance manifests in speaking time and agenda-setting, silence or marginal participation of certain individuals or groups, repetition and amplification of particular viewpoints and role-based authority (experts, facilitators, institutional actors). Subtle forms of inclusion and exclusion are assessed by noting down moments of structural exclusion through language, pace, or expertise demands, situational exclusion during dominance by certain actors, uneven participation across demographic or positional groups. Finally, the study observes how deliberation is translated into outputs, by observing consensus-building processes, voting or ranking mechanisms, synthesis of group outputs into collective statements and negotiation of compromises. Data from participant observation (fieldnotes, informal conversations, observed interactions, and procedural documents) are analysed comparatively across the six cases.

The analytical strategy combines, ideally, the micro-ethnographic attention to interactional detail (turn-taking, language, emotion), meso-level analysis of facilitation regimes and deliberative formats and macro-institutional interpretation of how participation is structured by policy and epistemic authority

This enables an integrated understanding of deliberative panels as situated interaction orders embedded in institutional infrastructures of participation. This approach contributes to deliberative democracy research by shifting attention from normative models of deliberation to its situated production in practice. It foregrounds how participation is materially, linguistically, and institutionally organised, and how ideals of equality and inclusiveness are enacted, negotiated, and sometimes constrained in real-time interaction.

2.2.7 Ethical review and methodological refinement

The methodology developed in D2.4 (Frolova et al. 2025) was reviewed by the project's ethical experts. Ethical experts were selected individually in each organisation. They were not directly involved in the research within the project to ensure compliance with ethical standards throughout the CO-SUSTAIN project. Their primary role is to review any ethical issues arising in the project and verify that the procedures applied comply with relevant ethical standards and legislation.

This consultation was part of the project's efforts to guarantee the careful management of ethical aspects through more regular and proactive engagement with ethics experts. The experts were consulted specifically on the design and implementation of the Deliberation Process, and their feedback was discussed within the DP Steering Committee. Each partner held a separate consultation with a local Ethics Expert and the results contributed to strengthening the ethical safeguards applied during the implementation of the deliberative panels. In particular, the feedback drew attention to the following recurrent aspects:

- **Creation of a safe and inclusive deliberative environment.**
Particular attention was given to ensuring that deliberation takes place in a respectful and welcoming environment in which participants can express their views freely and without intimidation or exclusion. This included attention to group dynamics, facilitation practices, potential power imbalances and the participation of less confident or less vocal participants. These principles are consistent with the D2.4 (Frolova et al. 2025) guidance, which defines the creation of a welcoming and inclusive space as one of the objectives of the Kick-Off Meeting and emphasises the role of facilitation in supporting meaningful participation.
- **Transparency and inclusiveness in participant recruitment.**
The ethical review reinforced the importance of transparent participant selection and of ensuring diversity of perspectives and gender balance, while paying particular attention to potential barriers to participation. In line with D2.4 (Frolova et al. 2025), access surveys were used to identify practical and individual constraints, including transport, language, digital access, time availability, accessibility, caregiving responsibilities and literacy, so that the organisation of the panels and communication strategies could be adapted accordingly. Particular attention was also given to the inclusion of vulnerable and underrepresented groups, where appropriate through organisations and actors already working with these communities.
- **Data protection, confidentiality, transparency and informed consent** .
The ethical review highlighted the importance of ensuring that participation is based on clear and explicit information about the purposes of the activities and the ways in which participants' contributions may be documented and processed in the context of the activities. In accordance with D2.4 (Frolova et al. 2025) and D6.3, written and informed consent was required before the Deliberative Process began. This requirement, together with the ethics feedback, directly contributed to the development of a dedicated privacy policy for the Deliberation Process, which provides transparent information on the purposes and legal basis of data processing, the types of data collected, the processing modalities, data retention, and participants' data protection rights, and includes specific consent provisions concerning the use of images, quotations and audiovisual materials. The T6.4 lead partner (IGSMiE) supported and monitored the process for

defining and collecting informed consent forms across the project partners, ensuring a consistent approach aligned with applicable data protection requirements. The personal data collected by each project partner are retained and securely archived within the partner's own trusted and secure internal repositories. Such data are not shared among the project partners and remain under the responsibility and secure custody of the partner that collected them, as the data controller, in accordance with the applicable data protection and security requirements and the data management responsibilities defined in D6.3.

- **Attention to participation inequalities and power relations.**

Finally, the ethical reflection reinforced the need to recognise that formal participation does not necessarily guarantee equal participation. The methodological implementation therefore paid attention to differences in speaking opportunities, levels of expertise, institutional position and confidence, as well as to possible forms of dominance or marginalization within the deliberative setting. This was addressed through facilitated small-group work, structured interaction and attention to turn-taking, inclusion and the management of disagreement. Such concerns are also reflected in the methodological approach described in D3.1, which explicitly considers communicative inequalities, dominance, marginal participation and the role of facilitation in balancing participation.

Overall, the ethics review contributed to the progressive refinement and operationalization of the safeguards embedded in D2.4 (Frolova et al. 2025). Most notably, it strengthened attention to safe participation, transparent and inclusive recruitment, data protection, informed consent, and the responsible documentation of deliberative activities. The feedback therefore helped ensure that the common methodological framework could be implemented in a manner that was both ethically responsible and sufficiently flexible to respond to the specific characteristics and needs of each case study.

3 DESCRIPTION OF CASE STUDIES

3.1 Alpujarra Energy Community (UGR)

The topic/challenge/problem

The Alpujarra Energy Community (AEC) emerged as a grassroots response to the socio-environmental conflicts associated with the ongoing energy transition in rural Southern Spain. The initiative was created in Órgiva, in the Alpujarra region of Granada (Andalusia), following local opposition to a large-scale photovoltaic megaproject that threatened agricultural land, irrigation systems, and the cultural landscape of the area. Residents perceived these large-scale renewable developments as externally imposed and disconnected from local needs, motivating the creation of a community-led alternative based on collective self-consumption and local ownership.

In this context, the AEC combines collective self-consumption with democratic governance and social objectives, particularly support for vulnerable households affected by energy poverty. It aims to demonstrate that the energy transition can be implemented through small-scale, socially embedded, and environmentally sensitive approaches rather than through centralized and profit-oriented megaprojects.

However, the initiative faces multiple challenges. The initiative faces important regulatory and bureaucratic obstacles, including delays related to legal procedures and difficulties securing rooftops for the first photovoltaic installation. The limited collaboration of the local municipality has also created barriers, particularly regarding access to public infrastructure. Another important challenge relates to social cohesion and participation. Órgiva's multicultural population has created both opportunities for innovation and tensions regarding trust and local legitimacy, particularly toward initiatives perceived as being led by foreign residents. As a result, the AEC must continuously negotiate issues of legitimacy, trust, and local identity while expanding participation and building alliances within the territory.

At the same time, beyond energy production, the initiative promotes civic participation and technical learning through workshops and awareness-raising activities.

The time horizon and geographical boundaries

The origins of the initiative date back to 2024, when several residents of Órgiva participated in a training programme on energy communities organised by the School for Social Economy of Osuna. Following a series of meetings and technical consultations, the Alpujarra Energy Community was formally established on 30 January 2025.

The current phase of the project covers the period 2024–2026, during which the cooperative is developing its first photovoltaic installation of 40 kWp, supported by a national government subsidy and technical assistance from Granada's Provincial Energy Office (OTC-ECO). The initiative also plans future expansion through additional installations on private and potentially public rooftops, while strengthening cooperation with nearby municipalities and local associations.

The AEC is located in the municipality of Órgiva, with around 5,674 inhabitants, located in the Alpujarra region of Granada province, Andalusia. Nevertheless, the initiative already extends beyond the boundaries of the town of Órgiva and includes participants from neighboring villages such as Bayacas, Cádiz, and Las Barreras. The AEC also aims to progressively expand throughout the wider Alpujarra region by creating a network of locally embedded energy initiatives.



Las Alpujarras combines high environmental value and agricultural traditions with demographic ageing, tourism growth, and the arrival of new residents, generating both opportunities and tensions for rural development. Therefore, the case represents a broader experiment in community-led rural sustainability aimed at strengthening local autonomy and reducing dependence on large energy corporations.

Points of attention on political participation and interaction with institutions

Political participation constitutes a central dimension of the AEC. The initiative emerged directly from local mobilization against external renewable megaprojects and therefore reflects important debates about energy democracy, territorial justice, and citizen participation in the green transition. The founding members possess previous experience in activism, collective organisation, and environmental defense, which has facilitated the creation of participatory structures within the energy community. The governance model of the AEC is based on democratic assemblies, transparency, and collective decision-making. Members actively participate in defining the strategic direction of the project, while public meetings and workshops are organised regularly to broaden participation and share technical knowledge. The initiative also incorporates mechanisms aimed at social inclusion, such as reduced-cost energy access for vulnerable households and differentiated membership contributions depending on economic capacity.

At the institutional level, the project demonstrates both the importance and the limitations of multilevel governance in supporting community energy initiatives. The Provincial Council of Granada, through OTC-ECO, has played a decisive role by providing technical guidance, legal assistance, organisational support, and mediation with public authorities. National funding from the Ministry for Ecological Transition has also been fundamental for launching the first installation. In contrast, relations with the local municipality of Órgiva have been more difficult. Municipal authorities have shown reluctance to collaborate fully with the initiative, particularly regarding the use of public rooftops. Interviews conducted during the context analysis suggest that political skepticism toward the project is partly linked to social tensions surrounding the presence of foreign residents and alternative lifestyles in the area. This situation illustrates how cultural perceptions and local power relations can shape the implementation of participatory energy projects.

Another important point concerns the fragility of institutional support mechanisms. While provincial and national programmes have facilitated the emergence of the AEC, future uncertainty remains regarding the continuity of technical and financial assistance for energy communities in Andalusia and Spain. This dependency on external support reflects the structural vulnerability of grassroots initiatives operating within complex regulatory systems.

3.2 La Traginera energy community (ECO)

Topic, challenge and problem

Energies Compartides del Raval is a community energy initiative promoted by *La Traginera*, a network of foundations, cooperatives, and civil society organisations operating in Barcelona's Ciutat Vella district. The initiative emerged in response to the intersection of two major societal challenges: energy poverty and the unequal distribution of benefits associated with the energy transition. While renewable energy projects and community energy models have expanded across Europe in recent years, they have often remained accessible primarily to technically skilled, economically stable, or highly engaged citizens. Consequently, vulnerable populations frequently remain excluded from the benefits of decentralized energy systems.

The project seeks to address this challenge by developing an alternative model of community energy rooted in social justice and local solidarity. Rather than focusing exclusively on citizen ownership of renewable energy infrastructure, *Energies Compartides del Raval* prioritizes the inclusion of vulnerable households suffering from energy poverty. This objective is particularly relevant in El Raval, one of Barcelona's most socioeconomically vulnerable neighborhoods and the area with the highest concentration of energy-poor households in the city.

The initiative aims to install photovoltaic panels on buildings owned by public or private organisations and allocate at least 10% of the generated electricity to vulnerable households identified through existing social support mechanisms. In the future, the project also intends to expand its activities through educational programmes, equipment recycling initiatives, and other community-oriented services. The underlying objective is not only to produce renewable energy but also to create a more democratic and inclusive energy system capable of strengthening local resilience and reducing social inequalities.

The *La Traginera* collaborative initiative and their specific project on community energy emerge within a broader context characterized by the consequences of the 2008 economic crisis, increasing housing precarity, and the growing recognition of climate change as a central policy challenge. In neighborhoods such as El Raval, where low incomes, poor housing conditions, and social vulnerability overlap, energy poverty represents a structural issue linked to wider processes of urban inequality. *Energies Compartides del Raval* therefore combines environmental objectives with social innovation strategies, seeking to ensure that the energy transition contributes to social inclusion rather than reinforcing existing disparities.

Time horizon and geographical boundaries

The origins of the initiative can be traced to several interconnected temporal processes. At a broader scale, the project is linked to policy and social transformations that emerged after the 2008 financial crisis, which intensified energy poverty and stimulated the development of social innovation initiatives across Spain. More recently, the COVID-19 pandemic created new opportunities for neighborhood-based cooperation. *La Traginera* network itself was formally established through a grant programme promoted by the Government of Catalonia to strengthen local social economy networks and community resilience in the post-pandemic period.

The development of *Energies Compartides del Raval* has also been influenced by recent European and national policy frameworks promoting renewable energy communities and citizen participation in energy generation. European legislation, particularly through the Renewable Energy Directive, has encouraged

member states to facilitate decentralized energy production and collective ownership models. In Spain, regulatory reforms have similarly opened opportunities for collaborative energy initiatives.

In terms of future projections, the initiative adopts a medium- to long-term perspective. The first implementation phase focuses on the installation of photovoltaic systems and the distribution of energy benefits to vulnerable households. However, project participants envision a gradual expansion towards a broader community energy ecosystem incorporating training activities, circular economy practices, and additional services to vulnerable households. This long-term vision reflects an understanding of energy transition as a continuous process of community building rather than a purely technological intervention.

Geographically, the project is deeply embedded within the El Raval neighborhood, one of the most densely populated and socially diverse areas of Barcelona. El Raval presents distinctive socioeconomic characteristics that shape both the need for and the design of the initiative. The neighborhood has a high proportion of foreign residents, lower-than-average income levels, significant housing degradation, and elevated levels of energy vulnerability. At the same time, it has a strong ecosystem of civil society organisations, foundations, and diverse grassroots and solidarity initiatives that have a solid tradition of local cooperation and social action. These conditions make it a particularly relevant context for experimenting with socially inclusive energy transition models.

Although El Raval constitutes the primary territorial focus, the project's organisational network extends across the broader Ciutat Vella district. *La Traginera* itself operates as a district-level platform and remains open to scaling its activities beyond the neighborhood. Nevertheless, the initiative maintains a strong emphasis on place-based action, relying on existing community networks, local organisations, and neighborhood-specific knowledge to guide implementation.

Political participation and interaction with institutions

From the perspective of political organisation and governance, *Energies Compartides del Raval* represents a particularly interesting case because it combines grassroots mobilization with institutional collaboration. Rather than functioning as a purely citizen-led initiative or a top-down public policy programme, the project occupies an intermediate position that relies on cooperation between civil society organisations, public institutions, and private actors.

One important aspect is the central role played by pre-existing networks of trust and collaboration. *La Traginera* builds upon a dense ecosystem of associations, cooperatives, nonprofit organisations, and social organisations that have historically worked together on issues related to housing, social rights, culture, art and community development. This accumulated social capital has facilitated coordination among diverse stakeholders and provided the organisational capacity necessary to launch a complex initiative such as a community energy project.

Another key point concerns the relationship with public institutions. The project has received support from multiple levels of government, including the Government of Catalonia and the Barcelona City Council, having a direct engagement in the initiative through the Barcelona Energy Agency, the Barcelona Museum of Contemporary Art (MACBA), and the Barcelona Centre for Contemporary Culture (CCCB). Municipal climate policies, social innovation frameworks, and energy poverty programmes provide a favorable institutional environment for the initiative. Furthermore, local public bodies are expected to play a

significant role in identifying vulnerable households that may benefit from the project, particularly through the Energy Advisory Points (still to be defined).

At the same time, the case illustrates some of the tensions associated with collaborative governance arrangements. Although public institutions support the initiative, important decisions regarding the future governance of the project, the beneficiary selection, financing mechanisms, and legal status remain under debate. The original intention of establishing a formal energy community has been reconsidered due to legal, technical, and organisational constraints. As a result, the initiative currently operates as a collaborative community energy project without a dedicated legal structure.

This situation highlights an important issue for political participation: meaningful inclusion requires more than formal participation mechanisms. The project seeks to involve vulnerable populations who are often excluded from both energy governance and conventional participatory processes. However, ensuring their effective participation remains a challenge, particularly given the technical complexity of energy systems and the social vulnerabilities affecting many residents, as well as complexities related to the local government institutional inertia.

The case therefore raises broader questions about democratic participation in sustainability transitions. It demonstrates how community energy initiatives can function not only as mechanisms for renewable energy production but also as spaces for inclusion, cohesion, collective decision-making, social innovation, and dialogue between citizens and institutions. At the same time, it reveals the limitations imposed by regulatory frameworks, resource constraints, and institutional dependencies. The success of the initiative will depend largely on its ability to maintain a balance between grassroots empowerment and institutional uptake, while ensuring that the benefits of the energy transition reach those groups most affected by energy poverty.

3.3 Food Solidarity in Turin (UNITO)

Topic, challenge and problem

In Italy, several cities have distinguished themselves through innovative food solidarity initiatives aimed at reducing food waste and supporting the most vulnerable sections of the population. The Turin case study focuses on the governance of food solidarity and the political conditions for sustainability transitions in the urban food system.

The urban food solidarity system in Turin is characterized by a wide range of initiatives and practices, at both niche and regime levels, aimed at promoting equal access to nutritious food. These practices are primarily based on multi-level food surplus recovery systems, involving actors ranging from logistics providers and large-scale retail distribution to individual food producers. They also include solidarity-based mechanisms implemented in supermarkets and retail outlets, as well as the recovery and redistribution of food from the city's numerous local markets, which number approximately 40. In Turin, food surplus recovery initiatives play a significant role in addressing food poverty. In 2022 alone, surplus food recovered from local markets was redistributed to more than 6.000 people experiencing hardship (Eco dalle Città, 2023).

In the selected case study, which focuses on initiatives, practices, and forms of collective action promoted by civil society actors, as well as local institutions and organisations within the urban context of Turin, the analysis goes beyond a mere descriptive account. Instead, it seeks to highlight a crucial strategic transition: the shift from traditional welfare-based models toward social activation models, which redefine the very role of food solidarity by fostering participatory spaces and community welfare forms through a heterogeneous constellation of actors that today constitute a well-established yet continuously evolving local ecosystem.

Within this broader framework, two main models of food solidarity emerge and coexist in Turin. The first can be identified as a “traditional model”, grounded in a welfare-oriented and emergency-based logic, in which beneficiaries play a largely passive role, with their involvement generally limited to receiving or collecting food, rather than being part of empowerment, participation, or reciprocity. These initiatives are primarily focused on the recovery and redistribution of surplus food, while paying relatively limited attention to broader issues such as food waste prevention, food justice or to address structural causes of food insecurity. The second, known as the “transformative model”, moves beyond a purely assistance-oriented approach by conceiving food not as an end in itself, but as a means of fostering social activation, empowerment and the rebuilding of community ties.

The main challenge consists in balancing the relationship between an emergent ecosystem of CAIs operating at the niche level, and a regime-level architecture of public welfare and large distribution bodies that simultaneously support and constrain niche dynamics. This tension generates an ongoing cycle between phases of niche scaling up, triggered by external shocks such as economic crisis or the COVID-19 pandemic, and phases of post-emergency contraction in which possible co-optation pressures and funding volatility can undermine CAIs consolidation.

The challenge is not simply material, ensuring access to food for vulnerable populations, but also political: whether, and under what conditions, can food solidarity practices function as sites of democratic innovation rather than instruments of welfare depoliticization?

Time horizon and geographical boundaries

The Turin case study adopts a dual time horizon. First, the historical life-line exercise conducted in DP1 and DP2 reconstructed the evolution of the food solidarity system in Turin, starting with the establishment of Banco Alimentare del Piemonte (1989) and SERMIG (1983), and continuing with the 2010 economic crisis, the 2016-2018 emergence of *Fa Bene!*, *Atlante del Cibo*, *Eco dalle Città* and the project *Sentinelle del Cibo*. The 2020-2021 COVID-19 pandemic represented the peak of coordination and availability of funds and the subsequent establishment of *Torino Solidale*, followed by a post-pandemic 'fluctuating' stabilization in 2022. Second, during the co-design of the ToC, participants extended the lifeline until 2035, including long-term impacts stressed within the CO-SUSTAIN project.

Geographically, the primary focus is the Municipality of Turin (approximately 858.000 residents; 130 km²), situated within the Metropolitan City of Turin (over 2 million residents; 6.827 km²) in the Piedmont region of north-western Italy. While the deliberative panels engaged actors operating throughout the urban territory, particular analytical attention was devoted to the northern and peripheral districts, notably Barriera di Milano, Aurora, and Porta Palazzo, where the concentration of socio-economic vulnerabilities, migrant populations and food insecurity is highest and where several of the most innovative CAIs are concentrated. The Metropolitan dimension is important because European structural fund management (FEAD/FSE+) and some governance coordination structures (e.g. CAAT - *Centro Agro Alimentare Torino* or *Banco Alimentare*) operate on a metropolitan or regional scale.

Political participation and institutional interaction

Turin has a long-standing tradition of political engagement, characterized by multi-level forms of collective action with a variety of initiatives, resources, and objectives, encompassing both institutional programmes and grassroots activism. Particularly during the 20th century, Turin's transformation into an industrial city, driven in particular by the FIAT automobile company, contributed to the rise of a broad working-class movement. This led not only to mass participation in political parties, such as the Italian Communist Party, but also in trade unions and leftist grassroots movements, as well as direct participation through factory councils and neighborhood committees. With the transition to a post-industrial city, these practices of mutualism and collective participation have fragmented and declined but have not disappeared. A prominent example is the broad ecosystem of mutual aid initiatives, urban regeneration efforts, and collaborative governance of the commons. The city also promotes other initiatives, such as a network of neighborhood community centers (*Rete delle Case del Quartiere*) which provides spaces for social and cultural activities across the city, and projects such as *Torino Spazio Pubblico*, which supports the shared management of public spaces, fostering participation as a tool for equitable and sustainable urban development.

Concerning the urban food system, Turin's food solidarity governance is characterized by a complex and historically layered institutional landscape. At the city level, the *Gruppo Interdipartimentale per le Politiche Alimentari* (GIPA) constitutes the primary public coordination body for food policy, operating across multiple municipal departments (Social Welfare, Education, Environment). *Torino Solidale*, a city-wide coordination network created during the COVID-19 emergency, formalized previously informal niche-regime cooperation and remains the main organisational architecture for inter-sector coordination, though its intensity has diminished in the post-pandemic phase with the withdrawal of extraordinary funding.

The 2020 Regulation on the Governance of Urban Commons, which established formal 'collaboration pacts' between the Municipality and civic organisations, currently supports approximately 50 active pacts and provides a legal framework for niche-regime co-governance that is used by several of the CAIs engaged in the CO-SUSTAIN process. The FSE+/FEAD regulatory framework, operating at the European and national level, introduces a structuring constraint: the mandatory integration of social accompaniment pathways alongside material food distribution, which was experienced by participants as simultaneously culturally progressive and bureaucratically burdensome.

Key institutional tensions identified across the deliberative process include: the asymmetry between participatory rhetoric and structural marginalization of CAIs voices in policy processes; lack of time and resources, which also limits the third sector's ability to participate in other initiatives; the co-optation dynamic whereby institutional recognition generates resource dependency without corresponding governance influence; and the temporal mismatch between the long-term relational logic of niche CAIs and the short-term project-funding cycles of institutional actors.

In sum, the urban context of Turin reveals both the strengths and tensions inherent in contemporary political participation. The interplay between institutional frameworks and grassroots collective action is dynamic and, at times, conflictual, thus requiring continuous negotiation, co-design and mediation processes between diverse actors and interests.

3.4 Espoo Small Modular Reactors case study (LUT)

Topic, challenge and problem

Nuclear power plants (NPPs) have been part of Finland's energy production mix since 1977, when the first nuclear power plant unit was commissioned. Today, Finland has five NPP units that generate approximately 40% of the country's electricity. Nuclear power has also been planned for district heating production in Finland. In 1973, a plan was published to build two nuclear power plants on the eastern and western sides of Helsinki (Tammilehto 1996). According to the plan, the nuclear power plants would have supplied district heating to the Helsinki region in addition to electricity. In 1979, the final report of a joint Finnish-Swedish project was also published, which examined the suitability of a nuclear heating plant for district heating in the Helsinki metropolitan area (Hannus et al., 1979). Subsequently, in connection with the Loviisa 3 project application, the energy company Fortum (2010) studied the construction of a district heating pipeline from Loviisa to the Helsinki metropolitan area. The government did not grant Fortum a positive decision in principle.

The NPPs currently in operation in Finland are located in the municipality of Eurajoki and Loviisa; the latter is closer to Espoo but is still about 90 kilometers away. Espoo was home to the FIR-1 research reactor, which was commissioned in 1962. The research reactor was operated by the Technical Research Centre of Finland (VTT). The reactor was permanently shut down in 2015. The spent nuclear fuel from the reactor has been returned to the United States, and the reactor itself is in the process of being decommissioned. VTT's headquarters are also located in Espoo. VTT is a well-known research institute in Finland that conducts research for both the nuclear power industry and government agencies, such as the Radiation and Nuclear Safety Authority (STUK).

Small modular reactors (SMRs) became a topic of discussion in Finland in the 2010s when the then-CEO of Fortum brought up the technological development in a media interview (Kojo et al., 2026). This came against the backdrop of delays and cost overruns in the construction of the Olkiluoto 3 NPP unit. Since then, SMR technology has been examined in governmental research programs (e.g. National Nuclear Safety and Waste Management Research Programme (SAFER) programmes) as well as in power companies' own R&D projects. At the same time, cities have developed their own climate programs, in which CO₂ emissions from heat production often account for a significant portion. The City of Espoo committed to ambitious climate goals as early as the beginning of the 2010s. Espoo's goal is to become climate-neutral by 2030.

Prime Minister Orpo's government has expressed its support for the construction of small nuclear power plants. The government also wants to streamline the licensing process for NPPs. The Ministry of Economic Affairs and Employment (MEAE), which is responsible for Finland's nuclear energy policy, launched a comprehensive reform of the Nuclear Energy Act in 2022 (Kojo et al., 2023). The Finnish Parliament passed the new law in June 2026.

Time horizon and geographical boundaries

In Finland, the first city council initiative regarding SMRs was launched in the City of Helsinki in November 2017. Shortly thereafter, in December 2017, a group of city council members also launched a similar initiative in Espoo. Since then, a similar initiative or study has been undertaken in all ten of Finland's most populous cities (Kojo et al., 2026). City-owned energy companies have played a key role in conducting these studies. The city of Espoo, however, is an exception, as it no longer owns an energy company. The

city sold its majority stake in its energy company in 2001 and its minority stake in 2006. Fortum is currently responsible for the district heating in Espoo.

In Espoo, a group of city council members proposed that “the city conduct a study on the practical possibilities of creating the conditions for district heating production using nuclear power to meet the needs of Espoo and the Helsinki metropolitan area, in collaboration with VTT, Helsinki, Kirkkonummi, and other interested parties.” (Kähärä et al., 2017.) The Espoo City Board discussed the initiative in May 2018. During the City Board’s discussion, it was noted that “according to expert assessments, it is unlikely that Finland would be the first country to build a plant based on a completely new type of reactor. (...) Locating a nuclear reactor in Uusimaa does not seem realistic, at least not before the 2030s.” (Espoo City Board 2018.) In August of the same year, the Espoo City Council adopted a position stating that “Espoo will not promote the construction of small reactors” (Espoo City Council 2018).

Political participation and institutional interaction

Following the 2021 local elections, in October 2021 the City Council approved the following objective for the 2021–2025 council term: “Espoo will promote new local energy production solutions and investigate the conditions for locating small nuclear power plants within the city.” (Espoo City Council 2021.) Based on this, the city conducted a brief internal preliminary study on small modular nuclear reactors, examining prototypes, safety, land-use planning, the permitting process, and resident participation. (Wanne et al., 2021).

The following were identified as key challenges for small modular reactors:

- Acceptance by society and the political system
- Stakeholders’ and future users’ understanding and readiness for deployment
- Regulatory and market readiness
- Reactor suppliers’ capabilities and financial base to turn the concept into a commercial product
- An order book for multiple units, as required to realize the benefits of mass production

The key questions identified were: What is the need for small-scale nuclear power in Espoo? Does the City of Espoo want to be a pioneer? What is the city’s role in the development of small-scale nuclear power in the context of Espoo? (Wanne et al., 2021.)

In June 2024, the explanatory notes to the draft Espoo 2060 Master Plan mentioned potential new technologies: “In the coming decades, energy in Espoo may also be produced using new methods. These could include hydrogen, synthetic fuels, and small-scale nuclear power.” (Espoo City Planning Department 2024). Small-scale nuclear power was also mentioned in May 2024 in Espoo’s “Carbon-Neutral Espoo 2030” roadmap: “New decentralized solutions and technologies (small-nuclear power, hydrogen, electric boilers, carbon capture) will also be incorporated into urban planning and regional development.” (Espoo City Council 2024).

The city council elected in the 2025 municipal elections approved a new city strategy in October 2025. While SMRs were not mentioned directly in Espoo’s new city strategy for 2025–2029, the strategy referred to the city’s carbon-neutral 2030 roadmap (Espoo City Council 2025, 8).

3.5 Annelinna District in Tartu (UT)

The topic/challenge/problem

The case focuses on one area of the Annelinn district of Tartu, a classic Soviet era large housing estate with multistorey (5 story's and above) prefabricated panel apartment buildings, still functioning as the city's main residential district.

The CAI (collective action initiative) was developed by the municipality of Tartu in response to a combination of environmental and social challenges facing the area. These include limited green space, a lack of attractive outdoor amenities and thus public space, weak community cohesion, and low levels of civic participation.

Annelinn also faces significant environmental and climate-related challenges linked to its physical structure. The district is characterized by dense multi-story housing, extensive impervious surfaces and public green spaces that are often underused, insufficiently diverse or lack up-to-date facilities. These conditions contribute to the urban heat island effect and reduce rainwater infiltration, increasing vulnerability to heat and heavy rainfall. At the same time, the limited functionality and attractiveness of existing public spaces restrict opportunities for outdoor recreation, social interaction and everyday contact with nature. These challenges are particularly relevant for groups that depend more strongly on accessible public green space, including children and older residents. Improving the quality, biodiversity and climate resilience of public space through multifunctional greenery, nature-based stormwater solutions and accessible outdoor environments therefore represents an important dimension of the Annelinn case.

Although the City of Tartu actively promotes citizen participation in planning and decision-making processes, for example through participatory budgeting and public consultations, participation rates remain low. According to the Development Strategy 'Tartu 2035' (Tartu City Government, 2024), only around 30% of residents participated in such activities in 2023. At the same time, almost 80% of residents consider community activities important, suggesting a gap between residents' interest in community life and their actual involvement in formal participation processes. This points to the need for more inclusive forms of engagement.

The Annelinn case therefore addresses two closely interconnected challenges: **how to make the neighborhood's public spaces more climate-resilient, attractive and socially functional, and how to involve residents meaningfully in creating and sustaining these changes.** The deliberative process explored these challenges together.

The time horizon and geographical boundaries

The environmental challenges arise from the particular features of this 10-hectare area in the Annelinn district of Tartu. The area is characterized by high-density Soviet-era housing blocks and limited multifunctional green space. These characteristics contribute to urban heat island effects (Sagris and Sepp, 2017) and restrict rainwater infiltration (Entec Eesti OÜ & Projektbüroo Koda OÜ, 2017), increasing vulnerability to climate-related risks. Vulnerability is particularly pronounced among groups that rely heavily on publicly accessible green spaces such as children, elderly and Russian-speaking residents who are more dependent on public green areas in the city due to limited access to car or private land ownership.

Against this backdrop, the idea of the CAI was to provide access to nature in the city, and land for people who do not own private gardens or summer houses. The lack of attractive outdoors public spaces does not arise from lack of space where this could be developed but rather from the way in which such districts' space is generally approached: as mowed lawns monotonously filling the gaps between houses. This is not particularly inviting, leaving these voids mostly empty of people, too. Furthermore, in the context of climate change and environmental crisis, the mowed lawns do not mitigate the heat during heatwaves, do not absorb excess rainwater during flash floods and do not support biodiversity.

The aim is to find the best way to change this 10ha by involving residents and housing associations, making the green spaces and water circulation functional and developing the local community's awareness of climate-smart management of the area. In this process, possibly, the willingness of the population to engage with each other could increase, creating more opportunities to participate and in the long run, to lay the foundations of a community, but also providing a more climatically resilient, healthier and more pleasant area in the Annelinn; increasing the preparedness of residents to cope with extreme weather conditions; increasing the sense of community and collaboration, creating partnerships with cooperatives, creative industries and educational institutions.

The goal of the intervention is to design a long-term climate adaptation and community development initiative. In the short term, the project aims to engage residents and housing associations in the co-design of public space improvements. In the longer term, it seeks to contribute to a more climate-resilient and more attractive neighborhood through improved green infrastructure, stronger community, increased preparedness for extreme weather events and stronger local partnerships.

The Annelinn CAI has a multi-layered time horizon, combining long-term neighborhood transformation with a more clearly defined period of experimentation and implementation. The challenges addressed by the initiative are rooted in the historical development of Annelinn as a large-scale housing estate, constructed mainly between the 1970s and early 1990s. Its current spatial structure, including dense multi-story housing, fragmented land ownership, extensive impervious surfaces and the characteristics of its public and green spaces, has developed over several decades. Similarly, challenges related to community cohesion and civic participation reflect longer-term socio-demographic and institutional developments in the neighborhood.

The current intervention and experimentation phase is closely linked to the other policy activities of the municipality of Tartu, with an aim to increase neighborhood-level climate resilience while improving the quality, functionality and attractiveness of green spaces and residents' satisfaction with their living environment. Within this broader process, the CO-SUSTAIN deliberative process took place mainly between January and May 2026, providing an intensive period for identifying system dynamics, developing shared visions, identifying leverage points and co-creating pathways for change.

The expected transformation, however, extends beyond the duration of either project. The CAI contributes to longer-term municipal and national climate objectives, including Tartu's ambition to become climate-neutral by 2050 and its intermediate climate and energy targets for 2030. Accordingly, improvements in climate-resilient green infrastructure, community capacity, sense of ownership and sustained cooperation between residents and the municipality should be understood as long-term outcomes that are expected to continue developing beyond the formal project period.

Points of attention on political participation and interaction with institution

The CO-SUSTAIN deliberative process was embedded within a broader participatory planning context developed under the Greener Annelinn (Rohelisem Annelinn) initiative of the municipality of Tartu (supported by ongoing projects and investment plans by the city). Rather than representing a stand-alone participation process, CO-SUSTAIN complemented and built upon ongoing collaboration between the City of Tartu, the Institute of Baltic Studies (IBS) and local stakeholders aimed at co-designing climate-resilient public spaces in Annelinn.

Prior to and alongside the CO-SUSTAIN deliberations, the municipality organised a range of participatory activities, including neighborhood workshops, public consultations, mapping exercises, street surveys and community events. These activities engaged residents, housing associations, local organisations and public institutions in identifying local needs, discussing challenges and co-creating ideas for nature-based solutions. In particular, workshops were organised for different intervention areas selected by the city, including the Anne Street–Kalda Road green corridor (the main focus of the CO-SUSTAIN case study) and the area surrounding the Annelinn Library. In addition, community events, neighborhood surveys and seasonal questionnaires were conducted with library visitors, young people and other local residents to gather broader input on public space use, climate adaptation and neighborhood development.

This broader participatory framework strengthened institutional interaction by creating multiple opportunities for dialogue between residents and the municipality. CO-SUSTAIN project joined this initiative in 2025 and added a structured deliberative component that focused on systems thinking, collaborative problem analysis and the co-creation of governance pathways and policy recommendations. These complementary processes contributed to strengthening community participation, building trust between residents and public authorities, and supporting the integration of local knowledge into climate adaptation planning.

The CO-SUSTAIN project joined this initiative in 2025 and added a structured deliberative and analytical component to the ongoing co-creation process of the city. While the cooperation between the municipality, local organisations and residents and collected community on the input on the development of climate-resilient public space had already begun beyond the CO-SUSTAIN, CO-SUSTAIN placed particular emphasis on the interaction between institutional (regime) and community-level actors and on understanding the governance conditions that enable or constrain co-creation.

A particular added value of CO-SUSTAIN was the deliberate involvement of municipal specialists from different policy and administrative fields alongside residents and community organisations. Separate deliberation panels first enabled institutional actors and community actors to examine the challenges from their respective perspectives, after which these perspectives were brought together to identify systemic relationships, feedback loops and leverage points. This shifted the focus from consultation on individual spatial solutions towards understanding how institutional practices, trust, information flows, community agency and municipal capacity interact with physical and environmental change.

Through Participatory System Mapping, Theory of Change and the subsequent co-creation of policy recommendations, CO-SUSTAIN therefore complemented the existing co-creation activities (meetings with community representatives, survey) by examining not only what should change in Annelinn's public space, but also how the relationship between the municipality and the community needs to evolve for

such changes to become legitimate, accepted and sustainable over time. In this sense, CO-SUSTAIN contributed an explicit governance and political-participation perspective to the broader climate adaptation process.



3.6 Activism - Westbahn area in Vienna (BOKU)

The topic/challenge/problem

The Westbahnareal is a ~1.2 km long, largely sealed ÖBB logistics strip between Felberstraße and the railway tracks behind Vienna's Westbahnhof in Rudolfsheim-Fünfhaus (15th district). Since 2019, civic actors have proposed converting this rare inner-city land reserve into a continuous public park to counter heat, strengthen a cold-air corridor, and reconnect the district's north and south halves (BLA, 2019; Westbahnpark.Live, 2024). The district is among Vienna's densest and — critically — provides only about three m² of green space per resident (city goal: eight m²). A petition for a "Westbahnpark" has garnered more than 11,700 signatures. In 2022, the City of Vienna launched a formal urban development process ("Mitte 15") with public participation; in January 2024 the City and ÖBB presented a preliminary development concept for a terraced landscape park (~5 ha) with two building plots (near Westbahnhof and Schmelzbrücke), with construction of the park terrace not expected before 2030 due to prior ÖBB modernisation (City of Vienna, MA 21, 2024, p. 15). Actors from the initiative WESTBAHN PARK.LIVE - which emerged as a breakaway branch of the original initiative WESTBAHN PARK.JETZT following internal disagreements - view the plan as a partial green "overbuild" that risks diluting a once-in-a-generation opportunity for a large, unbuilt green area (Interview 1, 2025).

The time horizon and geographical boundaries

At the landscape level, the Westbahnareal is situated within converging macro-developments that press urban systems toward socio-ecological transformation. Vienna faces intensifying urban heat, high population density, and inequitable green access, particularly in Rudolfsheim-Fünfhaus, which offers few and small open green spaces. The area functions as a cold-air corridor funnelling ventilation from the Wienerwald, giving it significance for city-wide climate adaptation (Interview 1, 2025). Global and European discourses on climate resilience, biodiversity restoration, and just green transitions increasingly enter municipal planning narratives, framing new parks as climate infrastructure rather than amenities (City of Vienna, MA 18, 2025). At the same time, land scarcity and real-estate valorisation pressures intensify, producing contradictory imperatives: to densify for housing versus to preserve open ecological function (Bouzarovski et al., 2018; Interview 1, 2025). Long-term trends in public participation and environmental democracy also shape expectations; the public increasingly demands to be co-designers of transformations rather than consultees (Wibeck et al., 2022). These macro trends create a normative pressure for initiatives such as WESTBAHN PARK.LIVE to redefine what urban development "ought" to mean in a heating, post-growth Europe.

Within the regime, a complex web of scientific, technological, economic, industrial, political, and cultural elements interact to stabilize the current development pathway of the Westbahnareal. Scientific knowledge has become both a resource and a battleground. Research in urban ecology and landscape architecture emphasises the importance of continuous, unsealed, soil-based vegetation for microclimate regulation and biodiversity (Gallotti et al., 2021; Interview 1, 2025). However, this same scientific vocabulary of "multifunctional landscapes" and "urban resilience" is also used by planners to justify hybrid concepts that combine green space with built structures (City of Vienna, MA 18, 2025; City of Vienna, MA 21, 2024, p. 15). The result is a contested epistemic field where expertise can support either ecological preservation or incremental urbanization, depending on interpretation.

Technological and infrastructural constraints further shape the trajectory. The Westbahnareal site remains an active rail corridor operated by ÖBB, and planned modernization works determine what can be built and when (City of Vienna, MA 21, 2024, p. 15). The proposed terraced park concept would depend on sophisticated engineering, creating a layered landscape over the tracks at significant financial and environmental cost (Interview 1, 2025). Digital participation tools, maps, and visualisations have made the planning process more visible to the public but have not necessarily redistributed decision-making power (City of Vienna, MA 21 A, 2022, 2023; Interview 1, 2025). Economic and market dynamics reinforce the regime's stability. The city's planning strategy links climate adaptation with continued growth, seeking to balance open space with new housing and commercial uses (City of Vienna, MA 18, 2025; City of Vienna, MA 21, 2024). ÖBB, as landowner, is compelled to maintain the land's asset value while aligning with public expectations for more green space (Interview 1, 2025). These competing logics—economic valuation versus ecological value—remain difficult to reconcile within existing planning instruments. The regime thus operates through pragmatic compromises that produce limited innovation while preserving institutional continuity (Interview 1, 2025). Industry and infrastructure contribute to the regime's material inertia. Railway maintenance, logistics, and transport functions occupy large portions of the corridor, locking in certain spatial uses (City of Vienna, MA 21, 2024). At the same time, municipal departments promote improved crossings, permeability, and accessibility to reconnect the two halves of the district. These infrastructural changes are incremental, reflecting the regime's preference for gradual adaptation rather than structural transformation.

Points of attention on political participation and interaction with institution

The policy sub-regime institutionalises these tendencies through formal planning instruments. The City of Vienna's official planning department leads the "Mitte 15" urban development concept, which underwent public participation and was approved by the city's steering committee (City of Vienna, MA 21, 2024). Although the process was formally participatory, it maintained a top-down structure in which final decision-making remained with city authorities and ÖBB (Interview 1, 2025). Political differences across governance levels add further complexity: the city coalition supports the hybrid solution of park plus development, while opposition parties in the district advocate for a fully unbuilt park (Hillinger, 2024; Novotny, 2024). Federal ownership of the land extends decision-making beyond municipal control, embedding the project within national infrastructure and financial frameworks.

Finally, the cultural regime gives meaning to all these institutional structures. Vienna's self-image as a garden city and a pioneer of participatory planning creates both symbolic capital and moral responsibility (City of Vienna, MA 18, 2025; MA 20, 2022). Public discourse surrounding the Westbahnpark has turned the site into a test case for whether the city's planning model can deliver socially and ecologically just transitions. During the participation process "Mitte 15" local residents articulated a vision of "life instead of concrete," calling for safe, non-commercial, and inclusive public spaces (City of Vienna, MA 21 A, 2022, 2023). These cultural shifts reveal that the regime's legitimacy increasingly depends on its capacity to incorporate affective, experiential, and justice-oriented dimensions of urban life.

At the niche level, the Aktionsplattform WESTBAHN PARK.LIVE acts as an incubator for new social and cultural practices that reimagine how cities can be planned and governed. Emerging from the original WESTBAHN PARK.JETZT initiative - which split into WESTBAHN PARK.JETZT and WESTBAHN PARK.LIVE - the Aktionsplattform WESTBAHN PARK.LIVE defined itself as an 'action platform' (transl. "Aktionsplattform")

to signify openness, collaboration, and experimentation. It combines civic activism with artistic practice and environmental education, transforming protest into creative engagement. Through visionary walks, temporary installations, and participatory performances, the group activates the physical space of the rail corridor as a site of imagination and community learning (Interview 1, 2025). These activities blur boundaries between art, science, and planning, generating new forms of situated knowledge that are felt and shared rather than merely discussed.

By translating technical topics such as permeability, heat mitigation, or cold-air flow into accessible experiences, the initiative builds an emotional and sensory connection between residents and the site (Interview 1, 2025). Its strength lies in discursive influence and moral authority rather than institutional power. Through extensive media coverage and more than 11,000 petition signatures, the platform has successfully shifted how the project is discussed: the Westbahnareal is no longer framed merely as redevelopment land but as a potential symbol of climate justice and democratic renewal (Wirth, n.d.). The niche's alliances with academic researchers and cultural organisations enhance its credibility, enabling it to bridge the gap between expert and lay knowledge (Interview 1, 2025).

Nevertheless, the initiative remains structurally fragile. It relies on voluntary engagement, limited funding, and intermittent access to decision-making processes (Interview 1, 2025). Its influence can be diluted when its language of participation and resilience is adopted by institutional actors without corresponding shifts in practice. Yet, within the broader transformation landscape, WESTBAHN PARK.LIVE exemplifies how civic niches can reshape the normative environment of an entrenched regime. By practicing and publicly demonstrating alternative modes of co-creation, it introduces new expectations for how planning should feel and function (Interview 1, 2025). In doing so, it plants the seeds of a more reflexive, inclusive, and ecologically grounded urban development culture in Vienna.

4 THE PROCESS

4.1 Alpujarra Energy Community (UGR)

4.1.1 Identification and selection of participants and vulnerable groups

Identification of participants

First, research was conducted to perform a stakeholder analysis. This involved identifying the actors engaged in the initiative, both internally and those who had collaborated with the AEC. This was done simultaneously through interviews and by reviewing news articles, websites, and other information available online. Second, efforts were made to expand the network to include actors not directly involved with the AEC but whose participation in the process was deemed valuable. Some actors recommended the individuals we interviewed, already perceiving them as potential future allies or partners. However, the vast majority were identified through various online sources by completing the categories of political, social, and economic actors, as well as vulnerable groups. All these actors were then compiled into a database, which can be found in the Annex (Annex 2).

Vulnerable groups

The identification of vulnerable groups came first through a contact provided by the AEC. The AEC is intended to represent a means of providing energy security, particularly to single mothers living under the poverty line and to women survivors of gender-based violence. And second by identifying several local associations, such as women's associations and a vocational center for people with disabilities. Greater attention was paid to ensuring the participation of these stakeholders. To this end, we repeatedly contacted them in various ways (messages and phone calls) if we did not receive a response.

Selection of participants

Participant selection was based on the following criteria: 1) Relevance of the actors' participation in the process; 2) Number of actors who could participate; 3) Representation of vulnerable groups. Posters were also created and distributed with the invitations and through WhatsApp and Facebook groups to encourage participation in the KoM and DPI and DPII.

It's important to note that political actors, specifically members of the municipal government, were invited in every part of the process (KoM and DPI and DPIII).

Among the stakeholders we identified, we selected two for pre- and post-panel interviews; that is, one interview before the implementation of the DPI and DPII and another after the DPIII. The objective was to evaluate the impact of the process on them. For this purpose, we selected one participant from the AEC and another from outside the organisation. We selected them for the interviews because they assured us they would participate in the entire process and because they demonstrated availability and willingness.

Table A1, which is located in the Annex (Annex 2), shows all the actors who were formally invited to participate in the process and their participation in the different phases, except for the two individuals, who came because they saw the poster on social media.

4.1.2 Organisation of the deliberation process

Once we had identified and selected the stakeholders we wanted to participate in the process, we proceeded to send out invitations.

These were primarily sent via email, although we also sent WhatsApp messages to some people who didn't use this method. Several weeks before each event, a formal invitation was sent to the political actors and another to the other stakeholders. We decided to send a separate invitation to the political actors because the tensions they were experiencing with the AEC required a more detailed invitation to build trust and ensure they better understood the importance of their participation in the deliberative process. Both messages presented the project, the process (methodologies, phases, objectives, expected results, etc.), the date, time, and location, and included a poster for distribution.

A few days before each event, a follow-up email was sent as a reminder, detailing the day's agenda and the event itself, and requesting confirmation. A reminder was also sent via WhatsApp to some members of the AEC to ensure their attendance. The posters we included in the invitations were also distributed by the AEC through WhatsApp and Facebook groups.

At the end of each event, a follow-up message was sent to participants thanking them for their participation, summarizing the main results, asking them to complete a survey in some cases, and inviting them to participate in the next phases of the deliberative process.

All meetings took place in the plenary hall of the Órgiva Town Hall. To do this, we made a reservation several weeks in advance through the town hall's online portal. We then called to confirm that the room was reserved.

Each phase of the process had different organisational implications, as explained below.

In the KoM, the proposed flow of the day was followed with relative accuracy. Although some aspects were adapted to the local context and for the smooth running of the event. For example, the questions were different during the body mapping activity.

In the DPI (outer stakeholders) and DPII (inner stakeholders), the proposed flow of the day was followed, with the exception of the living loop game, which was removed. This was the activity we considered most dispensable. We managed to complete the panel within the planned 4 hours, and the participants remained engaged throughout.

In the DPIII, we adapted the flow of the day agreed upon by the consortium, to the context of the AEC. The biggest deviation in the entire process was the decision not to use the role-playing method. This decision was made after identifying the leverage points and converting them into outcomes. We realised that they all involved only local actors (members of the AEC), and therefore, it no longer made sense to role-play for other categories of actors. We adapted to the results and carried out the activity as planned, but keeping each person in their actual role.

Generally, in all the events, there was a small margin for improvisation and flexibility in the planned script to address issues such as the number of attendees, the participants' level of fatigue, breaks, time

constraints, and potential delays. Similarly, an agenda for each day was created and distributed to the participants so they could organise themselves and have the essential information.

In the validation process, three people were contacted to participate. These individuals meet the established requirements: they are not all affiliated with academia, they have not participated in the deliberation panels, they work on related topics, and they have a basic understanding of the case study to be able to provide informed opinions during the validation process. One person works for a school that provided training to the AEC during its initial stages. Another works for a citizen participation association and has also collaborated with the initiative. The third participant is an expert from the University of Granada, with extensive experience in the design and facilitation of participatory processes involving local stakeholders. Her expertise in participatory methodologies and stakeholder engagement provides an independent methodological perspective, contributing to the assessment of the deliberative process and the proposed outcomes.

Prior to the meeting, participants received an explanatory report detailing the entire process and providing the necessary information for the validation. They were also provided with a Prezi presentation on the event results.

4.1.3 Interaction with the room during the deliberation process

Figure 4.1.-1 shows pictures of the KoM, DPI and DPII. In every event, we began with a feeling-sharing session to recognise how each person was feeling in the room, and at the end, we shared again how we were feeling and how the event went.



Figure 4.1-1: KoM (left), DPI (middle) and DPII (right) UGR

Some people have trusted the process from the beginning, others entered relatively skeptical but have stayed, and some participated in the KoM and never returned.

One person with hearing difficulties had trouble in the KoM and didn't return to the other events. We don't know to what extent this might have been significant, nor how we could have adapted to their needs.

Only in the DPI and DPII events, due to lower attendance, was there a sense of disappointment at the beginning. However, as the events progressed, the situation improved as participants understood that they could continue with fewer people, and that this would actually provide more opportunities for those present to participate.

In short, throughout the entire deliberative process, there was a very healthy and participatory atmosphere. People came eager to participate. It was very easy to facilitate the events because, even

when fewer people participated, there was plenty of content since everyone was keen to express their opinions and work together. Likewise, we didn't identify any striking power dynamics where some participants dominated the discussion or others felt inhibited from expressing their opinions, despite the high male participation. Although it's true that the president of the AEC participated in one of the events and spoke with a certain degree of authority, we don't believe this hindered the event.

- ***Post panel activities with additional participants***

At the end of DP111, we conducted two post-panel interviews with the same people we had interviewed before the panel. Afterwards, we organised the validation meeting, which will be explained in the next section.

- ***Post processing and sharing, Interaction with the additional participants***

We only had two interactions with the participants after the completion of DP111. One was a message thanking them for their participation, in which we asked them to complete the post-panel survey. The other, following our work analyzing the results and presenting them in the most visible and understandable way possible, involved contacting them again to share the findings. We created an interactive presentation using Prezi and a design summarizing the results.

4.2 La Traginera energy community (ECO)

4.2.1 Identification and selection of participants and vulnerable groups

The participant selection process for the deliberative activities was designed to reflect the diversity of actors involved in, affected by, or capable of influencing the development of the *Energies Compartides al Raval* initiative. Given the project's evolving nature and its strong territorial embeddedness, stakeholder identification followed a purposive and context-sensitive approach rather than a representative sampling strategy. The objective was to ensure that the deliberative process incorporated a plurality of perspectives concerning energy poverty, community energy governance, and local development in the Raval neighborhood.

The starting point for stakeholder identification was *La Traginera* network itself, as the platform leading the initiative. *La Traginera* is composed of a core group of organisations with a long-standing presence in the neighborhood and extensive experience in housing, social economy, community development, and citizen participation. Due to their central role in designing and implementing the project, all the representatives of these organisations were identified as key participants in the deliberative process. Their involvement provided insights into the project's evolution, governance challenges, and long-term vision.

Beyond the core organisations, the selection process included actors participating in the community energy project driving group. This group brings together organisations interested in promoting photovoltaic installations, supporting the future deployment of the energy-sharing model, and facilitating connections with potential beneficiaries. These stakeholders go beyond the *La Traginera* members, and include also public institutions, unions and universities, like the MACBA, the CCCB, the General Workers' Union (UGT) or the ELISAVA University. The inclusion of these actors was important for capturing the perspectives of organisations contributing resources (rooftops), technical expertise (public tendering of shared installations, financial mechanisms), or implementation capacity to the project.

Other public institutions constituted a second major category of participants. The development of *Energies Compartides del Raval* has involved significant interaction with local and regional public administrations, particularly regarding photovoltaic regulatory issues, funding opportunities, and the identification of vulnerable households. Consequently, representatives from the Barcelona City Council and related municipal services (Barcelona Energy Agency, social services, Energy Advisory Centers and District representatives) were identified as relevant participants. Particular attention was given to actors involved in social services, energy poverty programmes, and the district territorial services, as these institutions play a crucial role in determining how vulnerable households may benefit from the initiative. Representatives linked to the Energy Poverty Office from the Generalitat de Catalunya were also identified for their technical and regulatory capacity and insights.

Regarding the vulnerable populations outreach, considering the initiative is based on institutional representation rather than in individual citizenship participation, the deliberative process primarily engaged intermediary organisations with extensive experience supporting groups affected by energy poverty, housing insecurity, and social exclusion:

- Organisations member of *La Traginera*, such as Tot Raval, Fundació Surt, and Impulsem, identified as important participants due to their close knowledge of local needs and their capacity to represent the concerns of affected communities.
- The energy poverty service of the district (Energy Advisory Centre of Ciutat Vella).

- The social services of the district.
- The Social Third Sector Platform of Catalonia (which gathers hundreds of social action organisations working directly with vulnerable groups).
- The regional government Energy Poverty Office.

This approach responded both to practical considerations and to ethical concerns regarding the initiative nature itself, strongly based on representative institutional participation.

The identification of vulnerable groups was informed by the socio-economic characteristics of the Raval neighborhood and by the diagnosis developed through the project itself. Three broad categories of vulnerable populations were considered during the stakeholder mapping process. The first included individuals and households experiencing housing-related vulnerabilities and energy poverty, such as residents living in substandard housing conditions, households struggling to pay utility bills, families at risk of eviction, and residents of buildings unable to undertake energy-efficiency improvements. The second category comprised socially vulnerable populations, including unemployed or precariously employed individuals, elderly residents, migrants facing difficulties in social integration, homeless people, and individuals affected by health-related vulnerabilities. Within this category, older adults emerged as a particularly relevant group because of their increased exposure to energy poverty and associated health risks. Finally, the mapping process also recognised vulnerable collective actors, including local community organisations operating with limited resources and traditional businesses facing displacement pressures linked to gentrification.

The selection process therefore sought to balance the inclusion of institutional actors, project promoters, intermediary organisations, and representatives of vulnerable groups. Rather than focusing exclusively on actors directly involved in the community energy initiative, the deliberative process aimed to bring together participants capable of contributing different forms of knowledge, including technical expertise, policy perspectives, territorial experience, and first-hand understanding of social vulnerabilities. This diversity was considered essential for fostering meaningful deliberation on the opportunities, challenges, and governance implications of community energy initiatives in contexts marked by socio-economic inequality.

Participants are summarized in the following table:

Table 4.2-1:List of participants for the Energies Compartides al Raval case study

Name of institution	Description	Participation
Associació Esportiva Ciutat Vella	A sports association in the Raval neighborhood which is a member of the CAI	All sessions (KoM, DP1, DP3)
Aula Ambiental de Ciutat Vella	Environmental Education Centre in the Raval neighborhood, which is a member of the CAI	All sessions (KoM, DP1, DP3)
CCCB	Barcelona Centre for Contemporary Culture. A public institution that is a member of the CAI	DP3
Elisava	University of design and engineering located in the Raval neighbourhood. It is a member of the CAI	KoM, DP1
Fundació Casa de Misericòrdia de Barcelona	A Raval neighborhood charitable foundation providing social support and assistance to people in vulnerable situations. It is a member of the CAI	KoM, DP1
Fundació Tot Raval	A community foundation that promotes social cohesion, inclusion and collaboration among organisations and residents in the Raval neighborhood. It comprises several organisations that are part of the CAI and is also a promoter.	All sessions (KoM, DP1, DP3)
Impulsem	A Raval-based non-profit social initiative cooperative promoting education, training,	All sessions (KoM, DP1, DP3)

	employment and social inclusion. It is a member of the CAI	
Laboqueria Taller d'Arquitectura	An architecture studio specializing in social projects, which is also part of the CAI.	KoM, DP1
MACBA	The Barcelona Museum of Contemporary Art is a public institution affiliated with a private, non-profit foundation that is part of the CAI. It is the first institution to install solar panels for shared use by vulnerable families in the neighborhood.	All sessions (KoM, DP1, DP3)
Unió General de Treballadors (UGT)	Major trade union representing workers across economic sectors in Catalonia. Is a member of the CAI.	All sessions (KoM, DP1, DP3)
Agència d'Energia de Barcelona (AEB)	Municipal energy agency supporting Barcelona's energy and climate policies.	All sessions (KoM, DP1, DP3)
Associació Catalana Municipis (ACM)	Association representing municipalities and other local authorities across Catalonia.	KoM, DP2
BATEC	Cooperative network promoting a socially just and community-based energy transition.	KoM, DP2
Federació de Cooperatives de Consum	Federation representing consumer cooperatives in Catalonia.	KoM, DP2
Coalición por la Energía Comunitaria	Spanish civil-society coalition promoting citizen-led energy communities.	KoM, DP2
Diputació de Barcelona - Àrea d'Acció Climàtica i Transició Energètica	Provincial public authority supporting local climate and energy-transition policies.	KoM, DP2
Direcció general d'Economia Social i Solidària, i el Cooperativisme - Generalitat de Catalunya	Regional government directorate responsible for social and solidarity economy and cooperative policies in Catalonia.	KoM, DP2

Fundació Hàbitat3	Non-profit social housing provider working with public authorities and social organisations.	KoM, DP2
OECOOP - Osona Energia Cooperativa	Second-tier cooperative supporting local energy communities and cooperative energy initiatives.	KoM, DP2
Oficina Catalana de la Pobresa Energètica - Generalitat de Catalunya	Regional government office addressing energy poverty and energy vulnerability.	KoM, DP3
OTC Consell Comarcal Vallès Occidental	County-level office supporting the creation and development of energy communities.	KoM, DP2
Punts d'Assessorament Energètic (PAE)	Municipal advisory services supporting households on energy rights, bills and energy poverty.	All sessions (KoM, DP2, DP3)
Punt d'Assessorament Energètic de Ciutat Vella	Local energy advice service for residents of Barcelona's Ciutat Vella district, that includes the Raval neighborhood.	All sessions (KoM, DP2, DP3)
Som Energia	Renewable-energy consumer cooperative active in electricity supply, generation and citizen energy initiatives.	KoM, DP2
Taula d'Entitats del Tercer Sector Social de Catalunya	Umbrella organisation representing social third-sector organisations in Catalonia.	All sessions (KoM, DP2, DP3)
Raval neighbourhood officer – Barcelona City Council	Municipal officer coordinating local policies and community relations in the Raval neighborhood.	KoM, DP3
Xarxa d'Oficines Comarcals de Transició Energètica de Catalunya – ICAEN Institut Català d'Energia	Regional network of county-level offices supporting renewable-energy planning and the energy transition.	KoM, DP2

4.2.2 Organisation of the deliberative process

The deliberative process was designed following the overall methodology proposed by the COSUSTAIN project, consisting of 3 pre-panel interviews, a Kick-off Meeting (KoM), Panels 1 and 2, and a final Panel 3.

An adaptation was introduced to better fit the local context and maximize participation. Rather than organising the KoM and the first two panels as separate events, the KoM was merged with Panels 1 and 2 into a single workshop day. This decision responded to both practical and strategic considerations. From a logistical perspective, requiring participants to reserve only one day instead of two significantly reduced participation barriers. From an engagement perspective, the opportunity to meet a wider group of stakeholders represented a strong motivation for many participants, particularly those belonging to the inner group of actors already involved in the initiative. Bringing together participants attending Panel 1 (inner stakeholders) and Panel 2 (outer stakeholders) in the same venue and on the same day created valuable networking opportunities and strengthened interest in the process. This adaptation proved successful, resulting in high attendance rates (29 participants in total, 11 inners and 18 outers) and the participation of highly relevant representatives from both stakeholder groups.

This first day gathering the KoM, the Panel 1 and the Panel 2 took place at the Convent dels Àngels, part of the Barcelona Museum of Contemporary Art (MACBA) complex. The choice of venue was particularly meaningful given MACBA's active involvement in the *Energies Compartides del Raval* initiative through the installation of photovoltaic panels and its commitment to sharing part of the generated energy with vulnerable households. Two separate spaces within the convent were used simultaneously to host the two parallel panels.

The day began with participant registration, distribution of consent forms, and preparation of materials. Then participants attended a common introductory session where Ecoserveis presented the CO-SUSTAIN project and representatives of *La Traginera* introduced the *Energies Compartides del Raval* initiative. Participants then introduced themselves and shared their expectations regarding the workshop. Following this collective introduction, participants were divided into two parallel groups corresponding to Panel 1 (inners) and Panel 2 (outers). Before starting the deliberative activities, participants completed accessibility and pre-panel questionnaires.

The methodological core of Panels 1 and 2 focused on participatory systems mapping through the development of Causal Loop Diagrams (CLDs). Facilitators introduced the methodology and presented practical examples to familiarize participants with systems thinking concepts. Participants worked in pairs to identify key indicators related to the guiding question and represent their evolution over time through graph-drawing exercises. These exercises served as an entry point for identifying relevant factors and discussing underlying causes and dynamics.

Following a coffee break, participants collectively identified, clustered and prioritized key factors. These factors were then used to construct a shared systems map. Facilitators recorded participants' contributions on large Post-it notes and organised them on large paper rolls to facilitate collective discussion. Relationships between factors, including reinforcing and balancing feedback loops, were progressively identified and visualized. The workshop concluded with a synthesis of the maps developed and a discussion of key insights and future steps.

Panel 3 followed the original CO-SUSTAIN methodology without modifications. It took place on the 5th of June 2026 at the premises of the Sport Association of Raval, one of the member organisations of *La*

Traginera. The session brought together 15 participants representing both the inner and outer stakeholder groups. Building on the outcomes of the previous workshops, Panel 3 focused on developing a shared vision, carrying out the serious game with the role playing, and a Theory of Change for the future of the initiative. Participants particularly appreciated the practical and action-oriented nature of the exercise, which allowed them to translate previous discussions into a set of concrete pathways and priorities for future action.

After Panel 3, processed information was shared with all participants and interested persons that had been invited and could not attend in order to comment and validate it.

4.2.3 Interaction during the deliberative process

The quality of interaction varied across the three deliberative spaces, reflecting differences in stakeholder composition, previous relationships, and levels of familiarity with the topic.

Panel 1, which brought together actors directly involved in the initiative, was characterized by a high degree of cohesion and mutual understanding. Participants shared a history of collaboration through *La Traginera* and related projects, facilitating constructive dialogue and rapid convergence around key issues. Although the systems mapping methodology and the construction of CLDs can be challenging for some participants without previous experience on it, the combination of clear facilitation and participants' familiarity with the subject matter enabled the group to identify meaningful feedback loops and develop shared interpretations of the system. The resulting discussions were productive and allowed the group to complete a first solid version of the systems map.



Figure 4.2.1: Panel 1



Figure 4.2.2.: Panel 2

Panel 2 presented a more complex deliberative environment. Participants represented a more diverse set of stakeholders, including public institutions, community organizations, and actors not directly involved in the initiative, involving sometimes strong power asymmetries. Unlike the inner group, many participants had limited experience working together and did not necessarily share common perspectives on the issues under discussion. While the overall atmosphere remained constructive and respectful, facilitators observed that some participants found it more difficult to engage with the theoretical aspects of the methodology.

Despite these challenges, several aspects contributed positively to participation. The half-moon arrangement of the room facilitated visibility and encouraged interaction among participants. The graph-drawing exercises conducted in pairs proved particularly effective in promoting active participation and generating a diverse set of perspectives. Discussions remained respectful throughout the session, and participants demonstrated a willingness to listen to different viewpoints. However, participants with greater expertise in energy issues or community governance tended to contribute more frequently and at greater length, particularly within the outer stakeholder group.

A few practical challenges were also encountered. Background noise from construction works and catering activities occasionally disrupted concentration. Following the coffee break, some participants in Panel 2 required additional support to refocus on the workshop activities. Furthermore, the identification and discussion of factors required more time than originally anticipated. While this generated rich and valuable discussions, it reduced the time available for constructing and reviewing the final systems maps. Consequently, the outer group was unable to complete a fully developed CLD during the session, whereas the inner group achieved a more advanced mapping exercise. Participants agreed that a revised and completed version of the map would subsequently be shared for feedback and validation. This iteration was done and some participants contributed afterwards to finish the CLD.

Panel 3 provided a particularly valuable opportunity to bring together the perspectives developed separately in the previous sessions. The initial exercise focused on defining a shared vision for the future of the initiative, which served both as an ice-breaker and as a means of making participants' positions explicit. The subsequent role-playing activities encouraged participants to adopt perspectives different from their own, requiring them to consider the interests, constraints, and motivations of other stakeholder groups. This proved highly effective in fostering empathy, mutual understanding, and more nuanced discussions. Participation was balanced across stakeholder categories, and the combination of inner and outer perspectives generated rich exchanges and innovative ideas. Overall, Panel 3 successfully created a collaborative environment in which participants could move beyond their institutional positions and collectively reflect on pathways for the future development of *Energies Compartides al Raval*.



Figure 4.2.3. Panel 3

Across all three stages, the deliberative process maintained a positive, respectful, and constructive atmosphere. Sensitive topics such as energy poverty, social vulnerability, privilege, and institutional barriers were discussed openly and thoughtfully. The combination of existing trust relationships among some participants and the structured facilitation methodology contributed to creating a space where diverse perspectives could be expressed, challenged, and integrated into collective reflections about the future of the initiative.

4.3 Food Solidarity in Turin (UNITO)

Overview

The deliberative process was designed around four stages: the Kick-off Meeting (10 December 2025), the niche deliberation panel (DP1, February 11, 2026), the regime deliberation panel (DP2, February 12, 2026) and the third deliberation panel (DP3, June 15, 2026). Together, these meetings aimed to develop a systemic understanding of the dynamics shaping food solidarity in Turin and to support the collaborative identification of potential transformative strategies.

During the KoM, the project's objectives, analytical framework, and methodological tools were presented, and participants engaged in a first collective reflection on the interdependencies between grassroots social innovation (the niche) and established institutional arrangements (the regime).

At the same time, participants identified the deliberative process as a valuable space for reflection and collaboration among actors working on food solidarity from different perspectives, organisational logics and backgrounds. It also highlighted the importance of strengthening connections between public institutions, academia and civil society, fostering knowledge exchange and creating more coordination between them. In particular, it was outlined how food solidarity can be framed as a gateway to foster social inclusion and sustainable food systems, the need for stronger governance and cross-sector collaboration, and the importance of addressing the structural drivers of food waste and food insecurity beyond emergency food provision.

Building on this common framework, DP1 and DP2 explored the two dimensions of the system separately. DP1 brought together actors involved in social innovation and collective action, including third-sector organisations and local networks working on food poverty contrast, alongside other initiatives engaged in mutual aid, food recovery and food redistribution practices. In contrast, DP2 convened institutional actors, established organisations, governance bodies, and research institutions, together with other organisations responsible for coordinating, planning and implementing food solidarity policies.

Finally, DP3 represented a synthesis and integration of the deliberative process by bringing together participants from both the niche and the regime within a single deliberative setting. Through an integrated methodological approach, the panel enabled participants to consolidate a shared vision of the future food solidarity system, identify strategic leverage points and elaborate a preliminary Theory of Change. As a result, the deliberative process followed a sequential and reflexive design, in which each stage progressively refined participants' systemic understanding of food solidarity, moving from the analysis of existing practices toward the co-production of future scenarios and transformative strategies. All four sessions were held at the Luigi Einaudi Campus of the University of Turin, chosen for its institutional neutrality relative to participating organisations and its accessibility for all participant groups. The overall process closely followed the CO-SUSTAIN methodological guidelines.

Vulnerable groups

The concept of food poverty should be understood as a composite manifestation of broader forms of social vulnerabilities. These subjects suffer from structural determinants linked to socio-economic and demographic dimensions, such as material deprivation, precarious employment, gender, ethnicity or educational level and intersect with socio-territorial factors that affect access to food resources (Odoms-

Young et al., 2024; Allegretti and Toldo, 2024), including the presence of food deserts or food swamps (Pettenati and Toldo, 2018). Their vulnerability also stems from institutional inaccessibility, often reinforced by mistrust or lack of recognition in policy design or unequal access to information or opportunities for participation (Action Aid, 2025). These vulnerable conditions are compounded by specific individual needs and circumstances, as related to elderly people, children, or individuals with chronic diseases. The participation of vulnerable groups in deliberation panels is a crucial element in enhancing the democratic legitimacy and effectiveness of deliberation outcomes. As already shown by several EU projects (e.g. FUSILLI, URBACT), the inclusion of those most exposed to food insecurity not only allows for a more realistic problem definition but also supports the co-production of just sustainable solutions in the food system.

In the context of Turin, the main vulnerable groups identified include undocumented individuals, unemployed persons and people without a fixed abode. Their participation in the deliberation panels was ensured through a hybrid model of representation combining:

1. representation by third-sector organisations, cooperatives, and civic networks that daily work with these groups;
2. the participation of social workers and volunteers capable of providing a systemic understanding of the vulnerabilities experienced by these groups.

Through this approach, we tried to overcome the limitations and risks faced by participatory systems, such as practical barriers to participation, data protection and safety concerns, rather than substantive representation. To this end, the deliberation panels ensured anonymity to participants, provided logistical accessibility and travel or participation vouchers, and followed the ethical framework consistent with Horizon Europe guidelines.

This approach aimed to make urban food sustainability not only an environmental goal but also a matter of social justice linked to the right to food, in line with the European Union's priorities on inclusion, participation, and the co-design of a just transition.

4.3.1 Identification and selection of participants

The stakeholder mapping (Section 2.2.a) identified a list of approximately 35 organisations (selected through four criteria: positional diversity, functional diversity, territorial coverage, and vulnerable group reach). RSVP invitations were sent by email and telephone and reinforced by reminders sent one week and two days before each session.

Particular attention was given to:

1. Organisations involved in the distribution of fresh food;
2. Initiatives embedded in territorial networks, particularly in the neighborhoods of Aurora, Barriera di Milano and Porta Palazzo;
3. Organisations that played coordinating roles during the COVID-19 pandemic;
4. Low-threshold initiatives capable of reaching beneficiaries who were not served by, or remained outside, institutional support channels.

Table 4.3-1: Niche participants UNITO

Name of CAI	Selection rationale	Participation
Associazione Fa Bene!	Fresh food recovery and redistribution model; mutualist relational approach	KoM DP1
Fondazione Porta Palazzo	Intercultural mediation; high migrant population reach	DP1
ARCI Torino	Network coordination function; engagement in Aurora; pandemic hub role	KoM DP1 + DP3
Cecchi Point	Zero-threshold community service; Barriera di Milano; multi-need support model	KoM DP1
Eco dalle Città	Environmental food recovery; urban market surpluses; ecological transition logic	KoM DP3
Associazione Mosaico - Azioni per i Rifugiati	Migrant and asylum-seeker focus; legal support and food assistance integration; vulnerable population reach	KoM, DP1
Panafricando	Sub-Saharan African community self-organization; culturally sensitive food provision	KoM

They were selected because they represent different organisational trajectories, including:

1. Innovations in the distribution and recovery of fresh food;
2. Models of reciprocity and mutual aid between initiatives and beneficiaries;
3. Territorial coordination mechanisms operating alongside *Torino Solidale* and other formalized collaborative networks;
4. Processes of professionalization within the third sector;
5. Interventions targeting hard-to-reach populations through low-threshold initiatives.

The stakeholders involved represent organisations with long-standing experience in food solidarity, food surplus recovery, and food waste reduction, as well as initiatives that emerged in response to the COVID-19 pandemic.

As per the 'regime' stakeholders, the process involved institutional stakeholders and established organisations that operate permanently within Turin's food solidarity system, carrying out functions relating to coordination, distribution, planning or research.

The following stakeholders were invited to take part in the decision-making process:

Table 4.3-2: Stakeholders UNITO

Name of organization	Selection rationale	Participation
Centro Agro Alimentare Torino (CAAT)	Metropolitan food logistics infrastructure; public-private governance interface	Absent - competing commitment
GIPA (Gruppo Interdipartimentale per le Politiche Alimentari)	Municipal food policy coordination; multi-departmental governance body	KoM DP2 + DP3
Cascina Roccafranca	Neighborhood house network; community welfare model; rooted in southern Turin	DP2
Novacoop	Large-scale distribution cooperative; food recovery and sustainability programmes	DP3
Banco Alimentare del Piemonte	Largest regional food redistribution body; FEAD management	KoM DP2 + DP3
Bagni Pubblici di Via Agliè	Multi-service proximity hub; social accompaniment model; Aurora district	KoM DP2 + DP3
Rete Case del Quartiere	Civic infrastructure network across Turin	DP2 + DP3
Sermig (Arsenale della Pace)	Historic charitable institution; spiritual and material solidarity integration	KoM DP2 + DP3
Università degli Studi di Torino (Atlante del Cibo)	Knowledge production; food system monitoring; research-policy interface	KoM DP2 + DP3
Unità Pastorale Migranti	Migrant pastoral care; religious community networks	Absent - competing commitment
Osservatorio delle Povertà e delle Risorse - Caritas Diocesana	Poverty monitoring; qualitative vulnerability assessment	DP2

They were selected because they represent different organisational trajectories and levels of governance, including:

1. Large organisations involved in food recovery and redistribution;
2. Community-based territorial networks acting as local coordination hubs;
3. Long-established charitable organisations;
4. Public actors responsible for the planning and implementation of urban policies;
5. Research and knowledge-producing institutions;
6. Organisations engaged in providing socio-relational support to vulnerable individuals.

The composition of the group prioritized diversity in terms of actors' positioning within the regime, including institutional, semi-institutional, faith-based, and cooperative organisations, to capture coordination dynamics, tensions across governance levels, and the key challenges shaping interactions between the regime and the niche. Also, the Database of actors and stakeholders for KoM and DPs for the Turin food solidarity system can be found in the Annex (Annex 3).

4.3.2 Organisation of the deliberative process

The deliberative process was structured in accordance with the overall CO-SUSTAIN framework and consisted of four main events: a Kick-off Meeting (KoM), two deliberative panels (DP1 and DP2) and a joint final deliberative panel (DP3).

The KoM officially launched the beginning of the deliberative process and formally established the niche and regime working groups. The session had the following objectives:

1. to present the CO-SUSTAIN project, the activities carried out to date and the project's general objectives;
2. to present the project's theoretical and methodological framework;
3. to present the deliberative process, its rules and timetable;
4. to enable participants to get to know one another and establish collaborative and trusting relationships amongst themselves, as well as to create the conditions for a horizontal and constructive dialogue in subsequent sessions of the deliberative process.

The Accessibility Survey administered during the KoM provided the baseline data that informed logistical adaptations for subsequent panels.

Particular attention was paid to explaining the theoretical framework of MLP and systems thinking, which served as conceptual guides to steer the work of the subsequent deliberative panels. This initial capacity-building process was designed to provide participants with a shared understanding upon which to anchor the PSM process. With the research group acting as facilitators, participants shared their initial views on the strengths and weaknesses of the current food solidarity system, thereby laying the foundations for the subsequent deliberative panels.

The KoM, DP1 and DP2 followed a five-stage protocol sustained over approximately four to five hours:

1. Welcome coffee, registration, and signature of consent forms: reception, distribution of materials, collection of informed consent forms and brief introductions. The informal 'coffee station' arrangement was maintained throughout each session to sustain a horizontal atmosphere and enable self-managed breaks;
2. Methodological introduction: framing of CO-SUSTAIN objectives, introduction to Systems Thinking and the Multi-Level Perspective, and explanation of the Causal Loop Diagram methodology and the panel's specific tasks (during KoM, DP1, and DP2);
3. Individual pre-deliberation questionnaire (DP1, DP2);
4. Life Line exercise: historical reconstruction of the trajectory of Turin food solidarity system from each organisation's founding period to the present, using a shared timeline drawn on a whiteboard. Participants contributed key events, turning points, and their perceptions of change from their own organisational perspectives (DP1, DP2);
5. Participatory System Mapping (CLD construction): facilitated collective identification and mapping of key systemic variables, causal relationships (positive and negative), and feedback loops.

The DP3 followed a modified protocol integrating elements developed specifically for the final panel:

1. Restitution of DP1 and DP2 results, including presentation of the Merged CLD on Kumu;
2. Shared vision construction: guided by the question '*What would an ideal future for food solidarity in Turin look like?*' followed by collective identification and prioritization of three leverage points from the six presented by the research team;
3. Role-play simulation in three working groups (i.e., public administration, external actors, local actors), each assigned a leverage point;
4. Plenary discussion and co-creation of Theory of Change on Miro, with real-time clustering of action proposals;
5. Individual post-deliberation questionnaire to gather participants' feedback on the decision-making process, the accessibility of the methodology and their overall experience.

4.3.3 Interaction within the room

Workshops were organised in accessible institutional spaces (university campus and classrooms) and structured around collective discussion formats intended to encourage horizontal participation. Seating arrangements generally followed circular or roundtable configurations to facilitate interaction and reduce hierarchical dynamics. Coffee stations were installed inside the room for refreshment and independent breaks, and a light lunch was offered at the end of each meeting to encourage exchange among participants and foster a friendly environment.

Communication during the meetings was respectful and the research team intervened when necessary to moderate discussion, (e.g., if a participant intervened too much to the detriment of others). The research team allowed the necessary time for each participant to express their ideas and points of view, and no major conflicts emerged. Short- to medium-term priorities among stakeholders were slightly different; however, everyone agreed on long-term objectives.

4.3.4 Deviation from guidelines

In the Turin case study, we observed one minor deviation from the original protocol concerning the Life Line exercise, which was developed collectively on a whiteboard rather than individually by participants, as originally specified in the guidelines. This adaptation was primarily made to compensate for initial delays, particularly during DP1, and to ensure that sufficient time remained for the subsequent deliberative activities. Facilitation absorbed this extension by compressing the CLD construction session, which was subsequently completed ex post by the research team, following the inputs gathered during the deliberative session.

4.4 Espoo Small Modular Reactors case study (LUT)

4.4.1 Identification and selection of participants and vulnerable groups

Stakeholder and vulnerable group analysis provided the basis of the participant selection and listed 27 key stakeholders (SH1-SH27) which then offered a pathway to final version of invitees to the deliberation panels. Here, an original suggestion was to divide participants by their power and interest regarding plausible SMR projects in the Espoo area: *The crowd* and *subjects* for one panel and *context setters* and *key players* to another panel. The crowd and subjects consisted mostly of local NGOs, civil society organisations, and intermediate bodies, some those representing identified vulnerable groups. Context setters and key players were those from municipal and governmental institutions, public services, and representatives of business and industry. In this stage it was decided to leave media related stakeholders from original stakeholder listing (Helsingin Sanomat and Länsiväylä media outlets) out of the panels to encourage other stakeholders to engage without expectations to be recorded or published via media outlets.

Table 4.4-1: Stakeholders LUT

Category	Type	Stakeholder name (orange vulnerable group representatives)	Attendance DP1	Attendance DP2	Cancellations /other
Context Setters	Institutions	The Ministry of Economic Affairs and Employment, MEAE	FALSE	FALSE	
Context Setters	Institutions	The Ministry of Social Affairs and Health, MSAH	FALSE	FALSE	
Key players	Institutions	Espoo City Council	FALSE	FALSE	
Key players	Institutions	Espoo City Board & Subcommittees	TRUE	FALSE	
Key players	Institutions	Espoo City Planning Department	TRUE	FALSE	
Context Setters	Institutions	Uusimaa ELY-Centre	FALSE	FALSE	

Context Setters	Institutions	Helsinki-Uusimaa Regional Council	FALSE	FALSE	
Context Setters	Public services	Länsi-Uusimaa Rescue Department	FALSE	FALSE	
Subjects	Intermediate bodies	The Espoo Youth Council, NuVa	FALSE	FALSE	
Subjects	Intermediate bodies	Espoon Eläkeläisten Keskusliitto ry, EEKL	FALSE	FALSE	
Subjects	Intermediate bodies	SH11 Moniheli Network	FALSE	FALSE	
Subjects	NGOs	Espoon Kaupunginosayhdistysten Liitto ry, EKYL	FALSE	FALSE	
Subjects	NGOs	Finnish Tenants' association, Espoon vuokralaiset ry	FALSE	FALSE	
Subjects	NGOs	Finnish Home Owners' Association, Uusimaa Region	FALSE	FALSE	
Context Setters	Institutions	Radiation and Nuclear Safety Authority of Finland , STUK	TRUE	FALSE	
Key players	Research	Technical Research Centre of Finland, VTT	FALSE	FALSE	
Key players	Research	Aalto University	FALSE	FALSE	
Key players	Business & Industry	Caruna	TRUE	FALSE	
Key players	Business & Industry	Fortum	FALSE	FALSE	

Key players	Business & Industry	Steady Energy	FALSE	FALSE	
The Crowd	Intermediate bodies	Uudenmaan Energia- alan Toimihenkilöt ry, EATL ry	FALSE	FALSE	
The Crowd	NGOs	The Finnish Association for Nature Conservation (FANC) Espoo area organisation, ESPYY	FALSE	FALSE	
The Crowd	NGOs	The Finnish Nature Association (LUP), Espoo Youth organisation ENY	FALSE	FALSE	
The Crowd	Civil society organisations	Friends of the Earth, FoE	FALSE	FALSE	
The Crowd	Professionals	Ecomodernist Society of Finland, ESF	FALSE	FALSE	

Key stakeholders (*context setters* and *key players*) invited for the first panel contained: two government ministries (MEAE and MSAH), five local councils (Espoo City Council, Board and Subcommittees, City Planning Department) or regional councils (Uusimaa ELY-Centre, Helsinki-Uusimaa Regional Council), one public service provider (Länsi-Uusimaa Rescue department), one nuclear regulatory authority in Finland (STUK), two research institutions (VTT and Aalto University), and three key business and industry representatives (Steady Energy, Fortum, and Caruna).

Other panels with stakeholders (*the crowd* and *subjects*) were proposed to be: four intermediate bodies (NuVa, EEKL, Moniheli Network, and EATL ry) two of which for senior citizens and children (EEKL and NuVa), one for the workers (EATL ry) and one for ethnic minorities (Moniheli Network). Also, five NGOs: three representing local areas and residents (EKYL, Tenants' and Home Owner's association), and two representing environment and nature (ESPYY and LUP/ENY), one nuclear energy related civil society organisation (FoE) and one professional association (ESF) were included to invitees. Many NGOs and intermediate bodies were so-called umbrella organisations, which connected various other smaller organisations from their fields. Thus, as invitation process proceeded, additional associations, NGOs and intermediate bodies were approached.

Additionally, third-sector actors that represent different interest groups in the Espoo area were invited, including vulnerable groups. A total of 49 invitations were sent to the kick-off meeting (KoM). Following the KoM, the pool of invitees was expanded because the attendees were predominantly regime-level

actors. Additional third-sector organisations operating in the Espoo area were invited with the aim of balancing out the representation between institutional actors and organisations representing the interests of Espoo residents.

For Panels 1 and 2, the participants were divided into two groups: Panel 1 was intended primarily for regime-level actors and Panel 2 was intended for third-sector actors. In total, 32 invitations were sent for Panel 1 and 51 for Panel 2. More invitations were sent for Panel 2 in the hopes that a more even distribution of participation would be achieved. The attendance remained low, but parity was achieved.

Invitations to Panel 3 were sent exclusively to participants from Panels 1 and 2, as familiarity with preceding stages of the process was considered important. Two participants attended as substitutes for previous participants from the same organisation.

Vulnerable groups Espoo

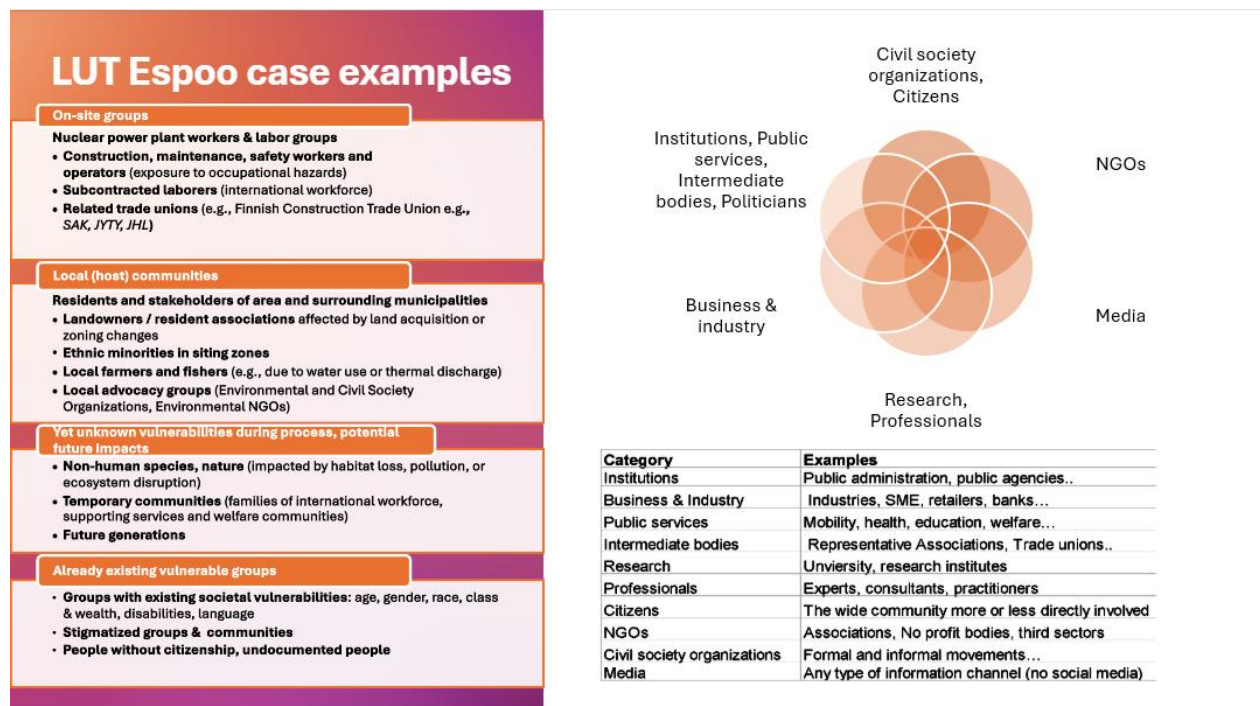


Figure 4.4-1: Vulnerable groups Espoo

Sovacool's (2021) political ecology framework has identified processes of encroachment, entrenchment, exclusion, and enclosure which define different vulnerable groups experienced economic, political, ecological, and social impacts in climate change mitigation. In case of Espoo and SMR implementation initiatives, some vulnerable groups were outlined by envisioning future processes and patterns of existing inequalities, that together impact certain marginalized and vulnerable groups. These vulnerable groups and communities are outlined through positions in which each community locates in the SMR.

On-site groups

First, workers and labor groups of SMR power plants, such as workers in construction, maintenance, security and SMR operators, which face vulnerable position as they might face exposure to

occupational hazards. Most notably, international employees and subcontracted workers from abroad are likely to face vulnerable situations as they enter a new country, especially if they are highly dependent to the job and its benefits. Lack of support systems might create significant vulnerabilities to individuals and their families entering to a new country without safety net and if they lack access to the sphere of the Finnish welfare system and support services (see Kontula, 2010; Lillie and Sippola, 2010).

Local (host) communities

Residents and stakeholders of area, those from surrounding municipalities that lack resources or their income or living conditions are dependent to the Espoo area and its resources. For example, those who are financially or otherwise unable to influence where they live, (e.g. elderly folk, assisted-living clients, people living in institutionalised settings), SMRs might pose distress, if they wish to move to different areas away from the power plants. Landowners, homeowners, summer housing residents, and tenants affected by land acquisition or zoning changes raise questions whether their land or housing area will be expropriated – as previously happened with the Hanhikivi NPP case in Pyhäjoki, North Ostrobothnia. Also, local farmers and fishers might be in a difficult situation, if SMRs implementation would directly affect their livelihoods.

Already existing vulnerable groups

Previously outlined vulnerabilities would increase, and new forms of vulnerability would come more evident if groups already experience existing inequalities or vulnerabilities, due to factors related to e.g., age, gender, race, class & wealth, or status (e.g., disabled people, stigmatized groups and communities, undocumented people without citizenship). For example, societal power relations and vulnerabilities (e.g., unjust patterns of colonialism, racism, patriarchy, militarization and structural violence) all impact communities in societies and create cycles of inequality. Some impacts to vulnerable communities could increase if accessibility to information is lacking: Espoo is a multicultural city with people from various ethnic backgrounds and language proficiencies, SMR initiative should take it into account those who have limited skills in the Finnish language.

Yet unknown vulnerabilities and potential impact for the future

SMR initiatives remain uncertain, just as some of the impacted vulnerable groups might not exist yet, and their experienced impact remain to be actualized too. Hence, future impacts of SMR initiative are uncertain when we evaluate temporary vulnerable communities' impact. However, these future implications should not be overlooked: in case of nuclear energy and its radioactive legacy, vulnerability may impact future generations and earth for decades to come. In case of nuclear energy accidents, this impact may be even more drastic than we can imagine, thus non-human species and nature could be in relatively vulnerable position. Thus, SMR initiatives may include environmental advocates and professionals, as well as advocacy groups for future generations, children and young people, in the planning and decision-making.

Although this identification process was carefully conducted, the contacted groups did not accept invitations to the kick-off meeting. Although approximately 60 people were invited to the event, roughly 10% accepted the invitation and turned up to the event.

According to the feedback received from the KoM and panel participants, the key barrier regarding vulnerable groups was the invitation process. The participants noted that it would have been important to invite vulnerable groups via phone and tailor the invitation letters to them personally.

Some recommendations were received during the KoM, but it is a common challenge among participation research; how to contact and reach vulnerable groups and to motivate them to participate. Additionally, a language barrier might have impacted the turnout of vulnerable groups. The invitations and events were in Finnish and included academic language, which might have decreased the motivation to participate. It was noted by the panel participants that it would have been important to underline in the invitations why the vulnerable groups' participation matters, and this way increase their motivation to participate.

In retrospect, vulnerable and underrepresented groups could have been approached through a more carefully planned recruitment process. Invitations could have been personalized and communicated more concretely, explaining the purpose of the panels, what they were expected to contribute and how their contribution would then be used and for what purposes. Where possible, the invitations could also have addressed specific interests, motivations, and barriers affecting the groups being approached. If the research team's resources would have been permitted, language barriers could have been reduced by providing interpretation services, while compensation for participants' time might also have supported participation.

The underrepresentation of certain groups, and the corresponding overrepresentation of a relatively small number of already active groups remained a recurring theme throughout the process. The issue was discussed within the LUT research team, with the panelists, and subsequently with the external experts.

4.4.2 Organisation of the deliberative process

Preparation for the kick-off meeting began with the creation of an Excel task list, which was used to assign responsibilities, monitor the organisation process, and to ensure that the necessary activities were completed in time. Tasks included selecting date and venue, preparing and sending invitations, monitoring responses, sending follow-ups, and preparing materials for the events.

Potential venues were evaluated based on accessibility, location, audiovisual equipment, restroom capacity, and how suitable they were for the planned participatory activities. Although most venues were otherwise suitable, some of the invited representatives and participants considered the kick-off venue too remote.

As preparations progressed, a more detailed plan for the event was developed. Roles and responsibilities were assigned to the research team, and flow of the day document provided in Deliverable D2.4 (Frolova et al. 2025) was adapted to suit Espoo case study needs.

Most of the events were held in public libraries in Espoo with the exception of Panel 1 which was held in the Espoo City Council Building. All venues were conference rooms with adequate audiovisual capabilities, enough room for participatory activities, accessibility and enough restroom capacity.

The original template provided for planning the flow of the day was used to structure the program of the KoM and all three panels. In hindsight, the suggested template could have been modified to suit the local audience better. During the KoM, some planned exercises received negative feedback, as the participants didn't find them suited to the occasion and noted that the exercises would have been more suitable for a

younger audience. The program of the panels, however, was met with more enthusiasm, and the system mapping and role play methods were successful.

All the organised events had a low participant turnout. However, the small number of participants did enable a more casual discussion atmosphere during the panels. The KoM event had the highest participant turnout with seven participants. One of them left after the first hour. The first and second panels both had four participants. It was decided not to expand the invitation list of the third panel. Therefore, the participants of the last panel were mostly attendants from the first and second panels. Two participants were new, but they were representing the same institutions as their colleagues in the previous panel. There were a significant number of last-minute dropouts, and some who registered to participate did not show up.

4.4.3 Interaction during the deliberation process

During the KoM, some participants were more dominant during the discussion, and many participants remained quiet even after directing questions at them. This could be due to their professions, as they represented institutions that remain neutral regarding SMRs. Sometimes the questions focused directly on SMR specific details, which was deeply controversial and not so accessible or relevant to many. During the KoM, there was some noticeable tension due to misunderstandings and unclear communication on the topic of the event. Some participants were angry and raised their voice towards the moderator. Later panels emphasised that nuclear energy, e.g., the SMR initiative would work as a case example for public participation efforts, which made participation of those outside the nuclear energy sector easier to respond to local participatory questions.

Some participants were more active than others in the conversations, due to their professional status or expertise regarding Espoo public participation process or nuclear energy policy but moderators during the Panels 1 and 2 aspired to engage all of the participants and ensure that everyone could voice their opinions. Some of these conversation dynamics were gender specific, as men more often dominated the conversations or turned the conversation towards technological aspects of SMRs and nuclear energy in general. Sometimes representatives of Espoo City authorities also took leading roles in the conversations, as these were themes directly linked to their own expertise and occupation. Some exercises and topics enabled more discussion than others. The system mapping exercises during Panels 1 and 2 were well received and the participants gave positive feedback. In Panel 3 participants actively took part in the role-playing exercise, and participants shared their insights into public participation regarding previous Espoo infrastructure initiatives.

There was some noticeable fatigue among the participants, especially during the last hours of each deliberation panel. Coffee breaks and flexible time management offered relief for most stagnant situations. Smartphones and laptops were used by the participants in all of the panels, sometimes for notetaking and fact-checking, but sometimes ringing phones and work laptops were distractions. Participants also demonstrated active listening even while knitting, and some took notes by hand.

In all the panels, the atmosphere was lighter compared to the KoM, as communication about the topic of the events was adjusted to focus more on participation instead of SMRs in Espoo and it was stated more clearly that there is no SMR project currently underway in the City of Espoo. This moved the conversation from a controversial talking point, back to the local sphere which made participants' expertise and local

knowledge stand out. The overall tone of panels was professional but friendly, as laughter, light sarcasm and humor were also byproducts of friendly conversations.

Lessons learned / participation and absences

Other barriers were related to practical matters. Regarding the KoM the problem with the low attendance was the fact that the invitations were sent too late. Additionally, the KoM took place in a remote location in the middle of the day, which probably made many potential invitees decline the invitation. This was addressed during the organisation process of the panels, as a location was chosen that was central in Espoo and easily reachable by public transportation. However, the timing of Panel 1 received negative feedback. It was organised during the day during working hours, which made it difficult for some to participate. Panel 2 was organised as an evening event, which received positive feedback from the participants. Panel 3 took place during the day, which made it possible for retirees and those who were participating due to their profession to take part in the event.

The main challenge regarding the process was convincing people to participate and convincing them of the meaningfulness of the project. The information package sent for the participants prior to the KoM and the panels was not successful in clarifying the goals of CO-SUSTAIN and how the invitees would benefit from the panels. Thus, the invitees were hesitant to commit their time to something they didn't feel connected to. All invitee groups were difficult to persuade to attend and especially NGOs and third sector actors had a low turnout.

Lessons were learned regarding the terminology used to describe the events. Phrasing of the events as “deliberation panels” should have been given more consideration. The term is not familiar to most people outside of academia and the word panel in Finnish raises connotations about heavily top-down participation where experts discuss, and the audience listens. Therefore, framing the event as a “workshop” (or *työpaja* in Finnish) would have probably made the event more approachable, especially for the participants of panel 2.

Table 4.4-2: Event details and figures LUT

Event	Date	Invitations sent	Registered for the event	Attendance	Duration	Location
KoM	26.11.2025	49	13	7	2h 40min	Kalajärvi Library
Panel 1	10.2.2026	32	8	4	3h 36min	Espoo City council building
Panel 2	12.2.2026	51	7	4	3h 15min	Lippulaiva Mall Library
Panel 3	18.5.2026	8	4	5	4h 6min	Sello Library

4.5 Annelinna District in Tartu (UT)

4.5.1 Identification and selection of participants and vulnerable groups

CO-SUSTAIN, in combination with other ongoing projects and activities, organised four distinct workshops in Tartu, inviting participants with roles in the Tartu City Government and in the local Annelinn area, as well as local inhabitants to come together to participate in the co-creation of the changes needed to respond to the local problems. Participants were invited to the workshops to jointly identify the desired changes for the area between Anne Street and Kalda Road in Annelinn and explore how different stakeholders could work together to achieve them. Across the kick-off meeting on 9th January 2026 and three deliberative panels between 6th February and 12th May 2026, approximately 50 participants took part in the process, including city government specialists, representatives of community and external organisations and local residents (see Table A2 in Annex 4: Identification and Selection of Participants and Vulnerable Groups). The composition of participants varied across events, reflecting the different objectives of each stage of the deliberative process and the targeted stakeholder groups.

Kickoff meeting, 09.01.2026

The kick-off meeting introduced participants to the project and its objectives. Participants discussed the future of Annelinn in small groups using thematic posters and keyword mapping exercises. We identified participants through stakeholder mapping and existing contacts with the intention of bringing together residents of Annelinn district area, municipal actors, community and external organisations. Particular priority was given to municipal actors connected to spatial planning as well as to local residents and community initiatives. Out of 27 invited stakeholders, 21 attended, including 10 members of the organising team and 11 external participants. Two departments of the city government seemed particularly central for the project - Urban Design Department and Municipal Property Department. Municipal representation was strong, with all five invited city government representatives from the two departments attending. From the local community, three of four invited residents, the local community garden and library representatives attended, while the invited local kindergarten did not attend. Out of the three invited external organisations, only one representative (an independent non-profit think tank) participated. The invited private property management company and welfare service provider working with people with special needs did not attend. Women were overrepresented among participants (16 women). Only five men were present (two of whom were organisers). The selection process succeeded in establishing early contact across stakeholder groups. However, institutional and social diversity remained more limited than intended. Participation from external organisations was also lower than intended, with only one of the five invited representatives present. Greater participation from housing associations and organisations representing youth, elderly residents and people with special needs would have strengthened inclusiveness and broadened the range of lived experiences represented in the discussion.

Panel 1, 06.02.2026

The focus of panel 1 was on institutional actors representing the regime level. While 26 stakeholders were invited, 15 attended, including local library, police and several city government representatives. Only three men were present (one an organiser). We identified stakeholders again through internal mapping within the city government and relevant external organisations and gave priority to municipal specialists responsible for spatial planning, municipal property, social and welfare services connected to Annelinn district, and community related organisations. Yet again, municipal actors from the Urban Design Department and Municipal Property Department were invited, and even more urban design representatives than had been invited (a landscape architect, city architect, climate specialist, mobility specialist, and a public space specialist) (see Table A2 in Annex 4) joined the event. Specialists invited from five further departments of the city government, from a youth focused CSO and private property management company mostly did not attend. Overall, departmental breadth from the city government was narrower than intended. The composition of participants was concentrated around urban design specialists. Institutional diversity was slightly more limited than initially planned.

Panel 2, 08.02.2026

Panel 2 focused on residents of Annelinn district and achieved its main objective of mobilizing residents. We identified stakeholders through community mapping and previous engagement activities (including interviewees from the preparatory phase) giving priority to residents living in the district and to organisations representing youth, elderly residents and local community initiatives. The intention was to ensure diversity of lived experience and intergenerational representation. The panel was publicly announced through different channels, but this yielded limited results. Of approximately 30 invited people (residents, community organisations and selected institutional actors), 20 attended. Participants from specifically targeted youth and elderly representatives were absent. Gender representation remained uneven, with women clearly overrepresented among participants. There were representatives from the local neighborhood association (Annelinna selts), the local church community (Tartu Kristlik Risttee kogudus) and a community garden initiative (Tartu Maheaed), and a welfare services provider offering social care services for people with special needs (AS Hoolekandeteenused) were present again. Representatives of the elderly day centre, student representatives from a local high school, Anne Youth Centre, a local kindergarten and some housing associations did not attend despite personal invites. Overall, while panel 2 ensured strong grassroots presence and community-level input, intergenerational diversity was more limited than intended.

Panel 3, 12.05.2026

The final panel focused on validating and refining earlier discussions and therefore we invited only those participants who had attended the previous panels. Out of 37 invited stakeholders, 21 attended, including 9 members of the organising team and 12 external participants. Resident participation declined compared to Panel 2: while 15 residents were invited, only five attended. Timing appears to have been an important factor as the panel took place partly during working hours. Municipal representation was also limited. Although we invited ten municipal actors from different city government departments, only one participant from the Urban Design Department attended (see Table A2 in Annex 4). In contrast,



participation from community organisations was relatively strong, with representatives from the local neighborhood association (Annelinna selts), local church community (Tartu Kristlik Risttee kogudus) and community garden initiative (Tartu Maheaed) were all present. From external organisations, the Institute of Baltic Studies and a representative from a landscape architecture office collaborating with the city government attended, while representatives from the organisation providing welfare and social care services were absent. Women remained overrepresented among participants. The composition of the final panel reflected a strong presence of the community actors but limited institutional and social diversity. While inviting previous participants supported continuity and validation of earlier discussions, it also narrowed participation and reduced opportunities to include absent stakeholder groups and more vulnerable perspectives.

4.5.2 Organisation of the deliberative process

The deliberative process began with a kick-off meeting on 9 January 2026 where participants were introduced to the project, completed questionnaires and discussed the future of Annelinn in small groups using posters and keyword mapping. One of the main aims of the meeting was to identify and formulate the central issues to be explored in the subsequent panels. The kick-off discussions were guided by the question: How can public space in Annelinn be shaped together with the community and the city? Following the kick-off meeting, two guiding questions were formulated for the next stage of the process:

Panel 1: How can public space in this area be developed in ways that support the aims of the Green Annelinn initiative while responding to the needs of local residents?

Panel 2: How can public space in this area be developed in ways that respond both to residents' needs and to environmental considerations?

These questions informed two parallel deliberative panels. Panel 1 (6 February 2026) brought together institutional actors, including policymakers and practitioners, many of whom represented different departments of Tartu City Government. Discussions took place in small groups and focused on refining earlier ideas, identifying key factors and exploring relationships between themes and system elements. Panel 2 (8 February 2026) focused primarily on residents of Annelinn and representatives of local organisations. Participants worked in thematic groups addressing topics such as cooperation with the city, accessibility and community relations, supported by visual tools including posters and post-it notes. Across both panels, interactive and physical activities were used to support communication and encourage participants to connect discussions with embodied experiences and systems thinking approaches.

Most participants from the kick-off meeting also took part in at least one of the panels although participation varied across stages of the process. The third and final panel (12 May 2026) focused on validating previous findings and developing agreements regarding the implementation of proposed solutions and future actions. The panel was guided by the question: **How can an inclusive and climate-resilient public space be created in this area?** Participants first validated and prioritized intervention points through voting and then worked in small groups using role-play to explore how different actors might approach implementation. This was followed by a second round of group work focused on identifying concrete actions, assessing their feasibility and potential impact and discussing responsibilities and possible partnerships. The panel aimed to move from systems analysis towards jointly developed

solutions, prioritized actions and preliminary agreements regarding collaboration and responsibilities. We used role-play (Serious Game) methods to support perspective-taking and empathy. While engagement with the role-play exercise varied between groups, it encouraged creative thinking and generated several new ideas that had not emerged in earlier panels. The final discussions resulted in a prioritized set of actions and initial agreements regarding potential responsibilities and next steps.

- **Did you follow the guidelines/structure?**
- **What were the main deviations in implementing the panels in your case study?**

Overall, the deliberative process closely followed the structure and methodological principles proposed within the project framework. The process combined a kick-off meeting, two thematic panels, a final validation and action-planning panel, and a subsequent validation phase involving participants, external experts and stakeholder organisations. However, several aspects of the process did not go as originally planned:

1. Limited representation of some target groups. Despite recruitment efforts, young people, older residents and Russian-speaking residents remained less represented than intended.

2. Variations in group dynamics and facilitation. While most discussions were inclusive, some discussions were dominated by a small number of participants. Similarly, the role-play exercise in Panel 3 worked very well in one group but less effectively in the other, where participants found it difficult to remain in their assigned roles. Organisers adjusted timing, facilitation approaches and group activities throughout the panels in response to participant needs and emerging discussions. These adaptations included additional breaks, adjustments to group work formats and facilitation interventions in order to ensure a balanced discussion.

3. Reduced emphasis on climate issues. While climate resilience was an important starting point, the external experts noted that later discussions focused more strongly on community development, and in the later stages of deliberation, climate-related issues became less visible.

Post panel activities with additional participants

Following the deliberative process, we organised several post-panel activities to validate the findings and discuss future implementation. These included:

- four individual interviews with panel participants conducted between 27 May and 3 June 2026,
- a focus group discussion with three panel participants on 17 June 2026.
- a focus group discussion with external experts on 10 June 2026,
- a round table discussion with representatives of the City of Tartu and local stakeholder organisations on 10 June 2026.

The **individual interviews** indicated that the process helped participants clarify local challenges and identify practical solutions centered on participation and community-building. Several interviewees highlighted the importance of continued cooperation between residents and the city.

The **focus group with panel participants** reflected on the overall experience of the panels. Participants emphasised improved dialogue and increased confidence in the community's capacity to act collectively. However, they also stressed the importance of follow-up activities and visible results.

The **focus group with external experts** broadly validated the main findings of the deliberative process. External experts supported the emphasis on participation, cooperation and community-building, while highlighting three conditions for long-term impact: visible outcomes, continuity beyond the project period and broader inclusion of underrepresented groups.

Finally, the **round table discussion** focused on how the co-created proposals could be translated into practice. Representatives of the city, researchers and local community organisations discussed possible implementation pathways, responsibilities and partnerships for actions such as community events, a seasonal community café and activities engaging the Russian-speaking community.

4.5.3 Interaction during the deliberation process

The deliberative process created a generally supportive environment in which participants comfortably shared their experiences and proposed solutions. Although moderators actively encouraged participation and created space for multiple perspectives, different group dynamics emerged. Some discussions remained focused on the task and progressed towards identifying shared concerns and solutions. Other groups spent substantial time discussing personal experiences and their frustrations. In these discussions, a small number of participants sometimes dominated the conversation. Older participants frequently contributed more actively, while some younger participants tended to listen more.

Participants engaged readily when discussions focused on concrete neighborhood issues, personal experiences and practical solutions. However, they engaged less consistently with more abstract methodological elements such as systems mapping. In several groups, moderators played a key role in translating discussions into system maps. Participants contributed the content while moderators translated these into more abstract maps.

There were no major conflicts throughout the deliberation process. Discussions occasionally became more emotional around topics such as vandalism, alcohol consumption in public space or the inclusion of Russian-speaking residents, but participants generally responded by sharing their personal experiences and exploring solutions rather than defending opposing positions.

As participants met in different panels, interaction became more informal and collaborative towards the end of the deliberation process. This suggests that the process contributed to relationship-building and increased trust among participants.

4.6 Activism - Westbahn area in Vienna (BOKU)

4.6.1 Identification and selection of participants and vulnerable groups

Table 4.6-1: List of relevant institutions, intermediaries and political actors BOKU

Stakeholder	Interests	Power / Resources	Attitude towards park vision
City of Vienna – MA 21 (Department for Urban Development and Planning)	Leading the formal “Mitte 15” process; balancing open space, connectivity, and limited building; maintaining administrative control and alignment with STEP 2025.	High – statutory planning authority, staff, budget, and coordination mandate across departments.	<i>Supportive in principle</i> of more green, but promotes a compromise model (green + development).
STEK (city’s steering committee for urban development concepts)	Ensuring consistency with citywide spatial strategies and policy coherence.	High – approves SEKs and has gatekeeping function.	<i>Institutional; neutral–pragmatic</i> toward civic demands.
District Administration Rudolfsheim-Fünfhaus (15th district)	Improving quality of life, access, permeability, and green equity for residents; managing local political pressures.	Medium–high – local legitimacy, but limited formal power over ÖBB land.	<i>Generally supportive</i> of the park, while aligning with city compromise.

District administrations of 6th, 7th, and 14th districts	Peripheral interest in connectivity and cross-district mobility.	Low–medium – consulted in SEK, not leading.	<i>Cautiously supportive.</i>
Political parties (SPÖ, NEOS, Greens)	SPÖ/NEOS: implement the city’s mixed-use strategy; Greens: advocate “no building” and full park; opposition parties use the case for visibility.	Medium–high – influence public debate and council decisions.	<i>Divided; polarised.</i>
Federal level / Ministry for Climate Action (BMK)	Oversees ÖBB as state-owned enterprise; aligns rail infrastructure with sustainability goals.	High (indirect) – ownership oversight and policy leverage.	<i>Strategically neutral, prioritizing infrastructure reliability.</i>

Table 4.6-2: List of relevant public services, and business and industries actors BOKU

Stakeholder	Interests	Power / Resources	Attitude towards park vision
ÖBB-Infrastruktur AG / ÖBB-Immobilien	Maintain operational efficiency; modernise tracks until 2029; monetise surplus land; present as sustainable partner.	Very high – legal landowner, technical expertise, and control of access and timing.	<i>Pragmatic–cautious; supportive of green framing but protective of asset value.</i>
Private developers / investors (potential future partners)	Long-term interest in mixed-use development zones identified in the Grundkonzept.	Medium (latent) – depend on city/ÖBB framework.	<i>Opportunity-driven; neutral at this stage.</i>
Local businesses (Felberstraße, Schwendermarkt)	Footfall, accessibility, urban image, construction impacts.	Low–medium.	<i>Mixed; supportive of liveliness, wary of disruption.</i>

Table 4.6-3: List of relevant citizens and civil society organisations BOKU

Stakeholder	Interests	Power / Resources	Attitude towards park vision
Aktions-plattform WESTBAHN- PARK.LIVE	Creation of a continuous, unbuilt, soil-based public park; climate justice; inclusive, participatory urban culture; sensory and artistic engagement.	Medium (soft power) – public support, media visibility, alliances with experts; limited formal authority.	<i>Strongly supportive and proactive; visionary and creative.</i>
Initiative WESTBAHN- PARK.JETZT	Original campaign for a “Westbahnpark jetzt!”; focus on complete green corridor and rapid implementation.	Medium (legacy network) – petition > 11 000 signatures, local recognition.	<i>Supportive; more confrontational toward the city.</i>
Local residents and neighbourhood groups	Access to green, reduced heat, improved crossings, noise protection, non-commercial recreation.	Medium (collective legitimacy) – participants in Mitte 15, voters, everyday users.	<i>Largely supportive; heterogeneous in priorities.</i>
Youth and schools in the area	Need for safe sports and learning spaces, environmental education, participation opportunities.	Low–medium – limited influence, represented through workshops.	<i>Supportive; occasionally mobilized by the initiatives.</i>

art:phalanx	Facilitate local participation processes, connect residents and administration.	Medium – bridging function, organizational skills.	<i>Supportive; institutionally embedded.</i>
Local cultural and social organisations (Schwendermarkt association, art collectives)	Activation of public space, cultural programming, local identity.	Low–medium – place-based networks.	<i>Supportive; collaborative with LIVE platform.</i>
Environmental NGOs (e.g. Global 2000, Fridays for Future Vienna)	Climate-justice framing, anti-sealing campaigns.	Medium – advocacy capacity, social-media reach.	<i>Supportive; occasional allies of LIVE platform.</i>
General public of Vienna	Broader interest in climate resilience, public parks, and housing affordability.	Medium – voting power and opinion shaping.	<i>Generally supportive of more green; less informed on details.</i>

Table 4.6-4: List of relevant media actors BOKU

Stakeholder	Interests	Power / Resources	Attitude towards park vision
APA (Austrian Press Agency)	Dissemination of official statements and balanced reporting.	Medium – national information reach.	<i>Neutral; agenda-setting through repetition of frames.</i>
Bezirkszeitung Rudolfsheim-Fünfhaus	Local coverage, representing resident perspectives, political contestation.	Medium (local influence).	<i>Sympathetic to citizen concerns.</i>
National Newspapers	Feature debates on urban climate justice and planning politics.	High discursive influence nationally.	<i>Framing conflict as emblematic of Vienna's climate policy.</i>

Vulnerable Groups

From the analysis, the vulnerable groups (groups disproportionately affected) are low-income households, especially living in energy inefficient buildings and limited mobility, who suffer from increasing urban heat, and people of low mobility, who cannot cross the Westbahnareal without inhibitions due to the height differences. The second group includes elderly people, disabled people, and families with small children. For the panel process, the inclusion of these groups implicates an extension of the stakeholder lists, and additional invitations of representatives for these groups.

4.6.2 The Deliberative Process: Organisation and Implementation

The deliberative process was designed following the overall methodology proposed by the CO-SUSTAIN project and comprised one pre-panel interview, a Kick-off meeting (KoM), Panels 1, 2 and 3. The KoM and subsequent panels took place at BOKU University Vienna, where a single seminar room provided sufficient space for the interactive workshop setting. Each event began with participant registration, the distribution of consent forms, and the preparation of materials. Before the deliberative activities began, participants

completed accessibility and pre-panel questionnaires; post-panel questionnaires were distributed at the end of each session. Each workshop included coffee breaks and vegetarian/vegan lunch options.

4.6.3 Interaction during the deliberation process

The KoM (28th of November 2025) provided an opportunity for all participants of the deliberative process, both stakeholders and CAI members, to collaboratively explore and co-define the key issues around the process's study area. A good amount of time was reserved at the beginning for the participants and the research team to get to know each other, including discussions about which stakeholders were absent from the process and the implications of the group's composition. Introduction rounds, body mapping exercises and open, transparent discussions on the recruitment process and the project goals all contributed to creating a positive atmosphere of trust among the participants and research team, as did the long lunch break and catering which allowed for more informal and personal exchanges.

During the second part of the meeting, a key step was a collective storytelling exercise centered on the Westbahnparkarea, during which participants expressed their personal connection to the area and their perspective on its historical development. These contributions were collected and visualized in a map.

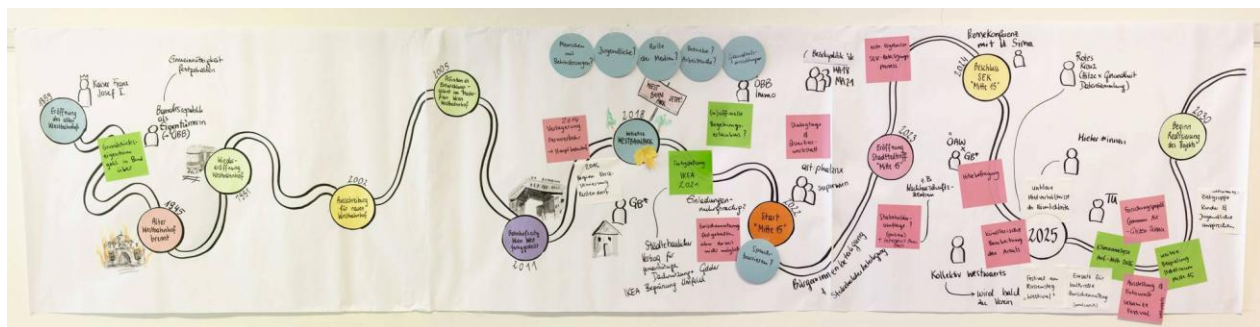


Figure 4.6-1: KoM BOKU

Participants with direct connections to the area tended to contribute more actively (e.g. through personal stories) than those (mainly stakeholders) with no direct ties to the space. However, all stakeholders showed great interest in the topic, and facilitation was focused on encouraging fewer active participants to participate in the discussions as well. The intention of ‘setting the stage’ for the deliberative process by establishing common ground among participants on the study area was well received and successful, and the activity created a strong collaborative space where participants experienced respectful communication and deliberation at eye level.

Panel 1 (30th of January 2026) brought together six participants, including representatives from a local area-management service for urban renewal, municipal departments from the City of Vienna, a statutory body representing workers’ interests, an organisation advocating for the interests of people with disabilities, an international urban research platform as well as an association for Urban Transit Culture, which artistically engages with public space, urban structures and life in Vienna. Although this group had limited decision-making power at the political or administrative level of the City of Vienna, it possessed substantial know-how regarding how urban development processes unfold and how they can be

improved. Panel 1 pursued three aims: to better understand the challenges regarding participation, to adopt a systemic perspective, and to co-create a systems map following a guiding question.

The workshop followed a protocol: After a check-in, the facilitation team introduced participants to systems thinking and the idea of causal loop diagrams. Participants then chose the factors they considered most relevant to achieving climate-resilient and just urban development. After prioritizing the most important factors, the group co-created the CLD, including 28 factors, 41 causal connections.



Figure 4.6-2: Panel 1 BOKU

Participants listened attentively to one another, interacted on an equal footing, and engaged in open, dialogical discussion. No clear hierarchies were visible either among participants or between participants and the facilitation team. The overall atmosphere was relaxed yet focused and punctuated by moments of humor. The systems mapping methodology was at times challenging for participants, but the facilitation team succeeded in bringing everyone into a meaningful discussion, resulting in a first draft CLD on climate-resilient, just urban development that captured the different perspectives of the participants well. No significant changes were made to the original workshop plan.



Figure 4.6-3: Panel 2 BOKU

In **Panel II (17th of February 2026)**, seven members of the WESTBAHN PARK.LIVE Initiative joined the workshop. Since all participants already knew each other and trust had been established prior to the day, it was easy to get started and move into the system mapping exercise which revealed some important dynamics, especially around capacity building within the initiative and the mobilization of members/supporters. The CAI members appeared especially interested in exploring the PSM method, which led to a lively, in-depth discussion with the research team during the ‘learning’ phase of the panel, although some participants were less engaged in this exchange than

others. Overall, motivation was observed to be high, as shown e.g., by the fact that the group requested a shorter break to be able to continue working.

The participants showed great consideration in developing and discussing the system variables, supported by the team who flexibly adapted their time management to accommodate the group’s extensive deliberations. At times, participants appeared to be overly concerned with how their contributions would be received by the other group members, but overall, we observed a highly cooperative and supportive atmosphere throughout the process. Although some of the participants contributed more actively to the discussion than others, the more passive members of the group were observed to agree frequently with the discussion points, and the resulting CLD was validated by all participants. Similarly to Panel I, no major deviations were made from the original workshop plan.

Panel III (9th of June 2026) proved to be more challenging than anticipated. First, the research team had to reschedule the panel due to the unavailability of the invited participants. Even on the rescheduled date, attendance remained low, with only five participants, four of whom were members of the initiative. This imbalance initially created some discontent among participants, which the facilitation team addressed by allowing enough space for these concerns to be voiced and discussed openly. After that, participants remained engaged and supportive throughout the remainder of the process, and the first half of the workshop—presenting the merged CLD, draft vision, and proposed leverage points—proceeded smoothly and according to plan.



Figure 4.6-4: Panel 3 BOKU

For the second half of the workshop, involving role-playing and Theory of Change development, the facilitation team had already decided a few days in advance to deviate from the original plan of three role-playing groups and instead adopt a single-group format. In this revised design, all participants alternated between two perspectives to brainstorm Theory of Change (ToC) activities: that of the initiative and that of the city administration/municipal government. The facilitators introduced each perspective, guided the process, and periodically reminded participants of the roles they were expected to adopt. Although the revised format was introduced only a few days before the event, the facilitation team succeeded in involving everyone, and the process ultimately worked well.

Across all three panels, the atmosphere was respectful and constructive and, although members of the initiative at times voiced frustration about the lack of commitment from decision makers, it remained overall positive. The integration of methods also worked well: Despite occasional difficulties with the initially abstract nature of the systems mapping process, participants ultimately perceived it as useful and constructive, and the research team was able to derive valuable insights. However, a more diverse group of stakeholders, including additional decision makers, would likely have yielded results with greater practical relevance and applicability.

Following the three deliberative panels, the results are being consolidated into a set of policy recommendations for fostering participation in climate-resilient and just urban development. During August 2026, these draft recommendations will be validated by scientific and policy experts, in order to ensure their accuracy and practical relevance for policy. The finalized recommendations will be shared with all panel participants and stakeholders, thereby closing the participatory process and returning the outcomes to those who contributed to the process.

Follow up activities from the Panels

After each Panel, the research team digitalized the results and sent out a Workshop report to all the participants, using Recapsy. The links to all three reports can be found in Annex 5.

5 THE RESULTS FROM EACH CASE STUDY

5.1 Alpujarra Energy Community (UGR)

5.1.1 Participants of the panels (niche and regime)

Table 5.1-1 shows the number of invited and attendees in the deliberation process and Table 5.1-2 shows the number of invitations and participants by actor category. Despite the efforts to include vulnerable groups in the process, we were unable to get any of the women (or anyone representing them) who could benefit from the advantages of the AEC involved in the process. However, a representative from a vocational center for people with disabilities did participate. Unfortunately, female participation declined to the point that in the DPIII, all participants were men. The situation was different in the validation process of the results, where even if one woman was absent due to unavailability and would have liked to be present, the two participants who attended were women.

Table 5.1-1: Number of invited and attendees by event in the deliberation panels process UGR

	KoM	DPI	DPII	DPIII
Invited	61	18	4*	28
Attendees	11	3	3	6

**We personally invited 4 people and contacted a member of the Alpujarra Energy Community who sent the invitation internally.*

Table 5.1-2: Number of invitations and participations by actor category in the deliberation panels process UGR

Category	Invited	Participated in the process
Social actors	22	6
Public actors	11	2
Economic actors	22	1
Residents	0	2
Vulnerable actor	5	1
Total	60	12

Table 5.1.3 shows a list of the actors who have participated in some part of the deliberative process, by category and dimension of the Multi-Level Perspective. As discussed in the previous section, despite the broad and diverse selection and invitation of participants, participation in the deliberative process in Órgiva has been primarily represented by social actors operating at the local level, corresponding to the niche category. In this category, we also include the only actor from the vulnerable group who participated in the process, El Romero Occupational Centre, for its work with people with disabilities in the Alpujarra region, as well as the two residents who participated individually. The only economic actor who participated in the deliberative process came representing a consulting firm that is working with the AEC.

Although the firm supports the initiative, it is based in another province and operates across different areas of Andalusia, working with regional institutions such as the Granada Provincial Council. For this reason, we include it in the regime category. The regime category also includes the two public actors who participated in the deliberative process: a councilor from the Órgiva City Council and a representative of the Granada Energy Office of the Granada Provincial Council. Most of Órgiva's political actors didn't participate or answer any of our invitations, and the only representative from the municipal government was an opposition councilor who was also a member of the AEC.

Table 5.1-3: Actors and stakeholders dimension UGR

Category	Stakeholder name	Dimension
Social actor	Alpujarra Energy Community	Niche
Social actor	Alpujarra Energy Community	Niche
Public actor	Granada Energy Office, Provincial Council	Regime
Public actor	Orgiva town council (councilor)	Regime
Social actor	Semillistas Association	Niche
Social actor	San José de Calasanz Public School	Niche
Social actor	Rural Public School Alféizar in Tablones	Niche
Social actor	Orgiva Youth Center	Niche
Economic actor	Penta community	Regime
Vulnerable actor	El Romero Occupational Center	Niche
Resident	Individual	Niche
Resident	Individual	Niche

The predominance of niche actors in the deliberative process was reflected in the development of the panels. As shown in the following sections, the CLDs and the resulting system maps were largely composed of niche-level factors.

This imbalance also influenced the design and outcomes of DPIII. During the identification of leverage points and expected outcomes, it became evident that these were almost exclusively associated with niche actors. Consequently, the original role-playing approach, which envisaged participants representing different levels of the MLP, was no longer appropriate. Instead, the role-playing was adapted so that participants represented their own roles and experiences rather than assuming perspectives from absent actor groups. This adaptation preserved the methodological logic of both the role-game and the ToC

process while ensuring that the deliberation remained grounded in the composition of the participant group. As a result, the pathways and strategies developed in DPIII primarily reflect actions and interventions at the niche level.

The limited representation of regime actors became apparent throughout the deliberative process and was further corroborated by interviews with participants and the interpretation of the panel discussions. In the AEC case study, regime actors are represented primarily by the municipal administration and other public authorities. However, the process revealed a weak relationship between the municipal government and the AEC. Despite repeated invitations addressed to representatives of the local government, including members from different political parties and with different institutional responsibilities, no representatives of the governing municipal administration participated in any stage of the deliberative process. The only representative from the municipal government was an opposition councilor who was also a member of the AEC.

This suggests that the predominance of niche-level outcomes in DPIII is closely related to the limited participation of regime actors throughout the process. Their underrepresentation reduced the diversity of institutional perspectives available during the deliberations and, consequently, constrained the identification of leverage points and transition pathways operating at the regime level. This finding also highlights one of the practical challenges of participatory processes: while deliberative methodologies can create opportunities for dialogue and collaboration, their outcomes ultimately depend on the willingness of key actors to engage in the process.

5.1.2 First output: Identification of factors and dynamics + CLDs 1-3

This section presents the main factors identified during the deliberation panels, together with the relationships between them as represented in the resulting CLDs. The analysis aims to capture participants' understanding of the systemic dynamics shaping the development of the AEC and to identify the main feedback mechanisms and leverage points emerging from the deliberative process.

Of the 39 factors identified through the integration of the CLDs produced in DPI and DPII, only six corresponded to the regime level, while the remaining factors were classified as niche-level. No landscape-level factors were identified.

DPI explored the external conditions influencing the development of the AEC (outer dimension), with particular attention to the interactions between civil society organisations, public institutions, and supporting actors. Participants identified a range of interconnected variables that they considered essential for explaining the functioning of the system:

5.1.2.1 Organisational Sustainability:

- Organisational capacity: the ability of civil society organisations to coordinate their activities effectively, mobilize resources and maintain sustainable internal governance.
- Membership renewal: the capacity of organisations to attract and retain new members, particularly local residents.
- Organisational burn out: exhaustion of members caused by a centralization of tasks and responsibilities in a few individuals, often leading to the organisation having to stop or slow down their activities.

5.1.2.2 *External support and resources*

- External technical support: technical, legal or administrative assistance provided by NGOs, consultants or other organisations, including advice on funding applications, regulatory procedures and project development.
- Material conditions and resources: financial resources, meeting spaces, equipment and other tangible assets necessary for the implementation of community initiatives.
- Public funding availability

5.1.2.3 *Institutional environment*

- Political will: to support civil society groups with advice, technical expertise, funding and meeting spaces

5.1.2.4 *Social environment*

- Political awareness: of the general public and willingness to engage in civil society groups

5.1.2.5 *System outcome*

- Resilient networks: sustainable, lasting and trusting networks of civil society groups in the Alpujarra region are formed and consolidated

In the DPI we identified the following loops that seem to characterize the functioning of the system. The interactions between these variables were synthesized into CLD (see Figure 5.1.1), which illustrates the main feedback mechanisms perceived by participants. The resulting system map highlights how organisational capacity, external support and resource availability interact to influence the long-term sustainability of local initiatives.

The CLD reveals that organisational capacity occupies a central position within the system. It is strengthened by access to external technical support and adequate resources, while simultaneously reducing organisational burnout and improving the implementation of community projects. These dynamics reinforce the resilience and long-term viability of local collective action.

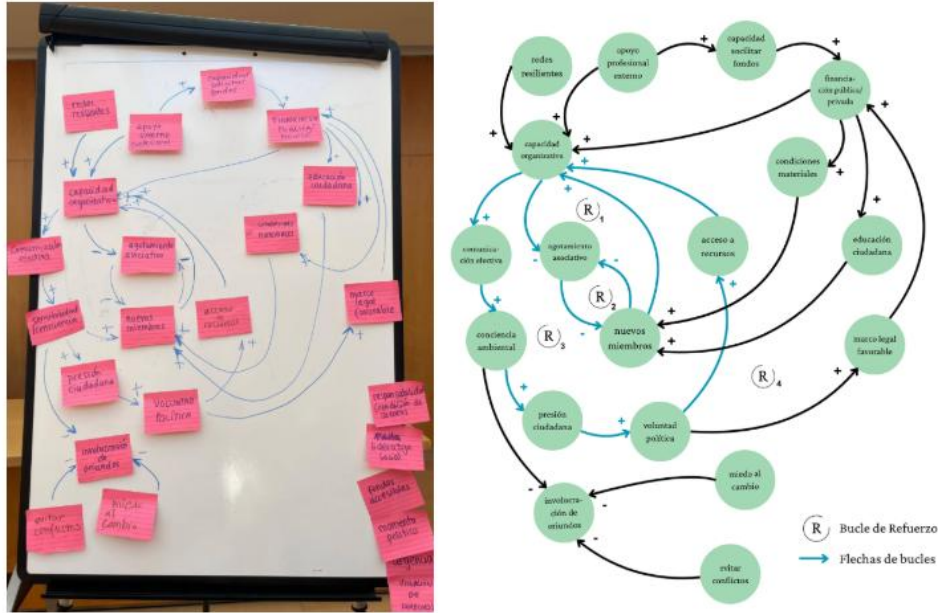


Figure 5.1-1: Causal Loop Diagrams of DPI, analogic (left) and digitalized (right) UGR

One of the principal insights emerging from the mapping exercise is the importance of building resilient networks that connect actors across the public, private and civil society sectors. Participants emphasised that these networks facilitate the sharing of knowledge, technical expertise, financial resources and administrative support, thereby strengthening the organisational capacity of local initiatives. Conversely, participants highlighted that organisations operating in isolation often experience duplicated efforts, limited access to resources and increasing organisational burnout, ultimately reducing their capacity to sustain long-term initiatives.

During the discussion of potential leverage points, participants identified organisational capacity as one of the most influential variables within the system. Strengthening organisational capacity was considered essential for preventing organisational burnout, improving project implementation and increasing public awareness of environmental challenges.

Because organisational capacity directly influences multiple interconnected variables, participants considered it a strategic leverage point capable of generating positive cascading effects throughout the system.

DPII focused on the internal dynamics of the AEC (inner dimension). While DPI explored the external conditions influencing the initiative, DPII examined the organisational processes, relationships, and capacities that determine its long-term sustainability. Participants identified a series of interconnected factors that explain how the initiative functions internally and interacts with its broader environment.

Some of the factors identified were:

5.1.2.6 - Organisational Capacity

- Organisational structure: efficient and sustainable structure that decentralizes activities from the founding members, is flexible and adaptable to change, and resilient to unexpected shocks.
- Management abilities: the capacity of the initiative to coordinate projects, distribute responsibilities, and ensure the long-term sustainability of its activities.
- Delegation: the distribution of responsibilities beyond the core team in order to strengthen participation, reduce workload concentration, and avoid hierarchical decision-making.

5.1.2.7 - Membership and Collective Action

- Member retention: the ability of the initiative to maintain active participation, particularly among members of the core team.
- Burnout: exhaustion experienced by members due to an excessive concentration of responsibilities and an unequal distribution of work.

5.1.2.8 - External Relations and Networking

- Expansion of the social network: establishing relationships with new social groups and organisations to strengthen the initiative and attract new participants.
- Strategic alliances: collaboration with civil society organisations, public institutions, and private actors to increase support, legitimacy, and access to resources.
- Trust: confidence among members and external actors developed through repeated interaction, cooperation, and transparency.

5.1.2.9 - Outcomes

- Tangible results: concrete project outcomes that demonstrate progress and strengthen both internal motivation and external credibility.

The relationships among these variables were synthesized into a CLD (see Figure 5.1.2), illustrating the main reinforcing and balancing feedback mechanisms affecting the internal functioning of the initiative. The resulting system map highlights the interactions between organisational capacity, member engagement, external collaboration, and project implementation. The system map reveals that the sustainability of the initiative depends primarily on its ability to balance organisational growth with internal resilience. Effective management, delegation of responsibilities, and a flexible organisational structure reduce burnout and increase member retention, thereby strengthening the initiative's capacity to implement projects successfully.

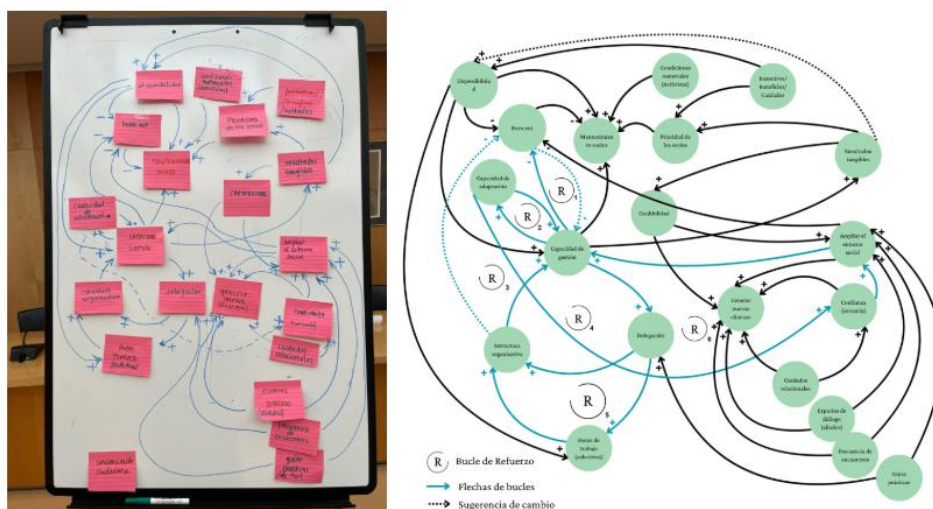


Figure 5.1-2: Causal Loop Diagrams of DPII, analogic (left) and digitalised (right) UGR

One of the main insights emerging from the mapping process is that organisational resilience depends less on the availability of individual volunteers than on the existence of governance structures capable of distributing responsibilities effectively. Participants emphasised that delegation and non-hierarchical forms of organisation make it easier for new members to become actively involved, reduce burnout, and improve the implementation of projects.

During the discussion of leverage points, participants identified three strategic areas for intervention. The first concerned strengthening management capacities and the internal organisational structure to improve coordination, reduce burnout, and increase member retention. The second focused on developing new strategic alliances with civil society organisations, public institutions, and other stakeholders. Participants considered these alliances essential not only for obtaining technical and financial support but also for building a broader support network capable of enhancing the initiative's resilience and attracting new members. Third, the focus should be on achieving tangible results. This point is key, as it would positively impact the AEC's credibility, making it easier for new people to join the project and for new alliances to be formed. In turn, having more people and a larger organisation involved in the project could help improve the management problems explained earlier.

5.1.3 Potential for changes (Issue(s) identified + Leverage points) feedback loops

The previous sections presented the main factors and systemic dynamics identified separately in DPI and DPII. This section describes how these results were prepared to be integrated during DPIII to produce a unified representation of the system, allowing participants to identify common leverage points and prioritize areas for intervention.

Each of the previous panels used a guiding question that helped us know where to focus at each stage. These guiding questions from DPI and DPII were respectively, “How can citizen initiatives be strengthened to support a just energy transition in the Alpujarra region?” and “How can we forge strategic alliances in the Alpujarra region to consolidate the Energy Community?” To ensure continuity across the deliberative process, DPII began by defining a shared vision that integrated the guiding questions from DPI and DPII.

Based on these questions, the CO-SUSTAIN Granada team proposed the following vision, which was subsequently agreed upon by participants:

“A cohesive Alpujarra region that promotes a just ecological transition through local collaboration.”

Participants discussed whether the vision should refer to an "energy transition" or a broader "ecological transition." While some argued that the EC initiative primarily addressed energy-related issues, others emphasised that an ecological transition better reflected the diversity of participating organisations, including environmental initiatives working beyond the energy sector. Participants also noted that energy transitions do not necessarily lead to ecological sustainability if they primarily respond to corporate or technological interests. Following the discussion, consensus was reached to retain the broader concept of "ecological transition."

To obtain a comprehensive representation of the system, the CLDs developed during DPI and DP II were merged into a single integrated diagram (see Figure 5.1.3). This synthesis was carried out by the CO-SUSTAIN Granada team, with methodological support from colleagues at BOKU. The integration revealed that the two systems shared relatively few common variables. The most important shared variables were organisational capacity and organisational burnout, both of which occupied highly connected positions within their respective system maps and therefore acted as natural linking elements between the two diagrams.

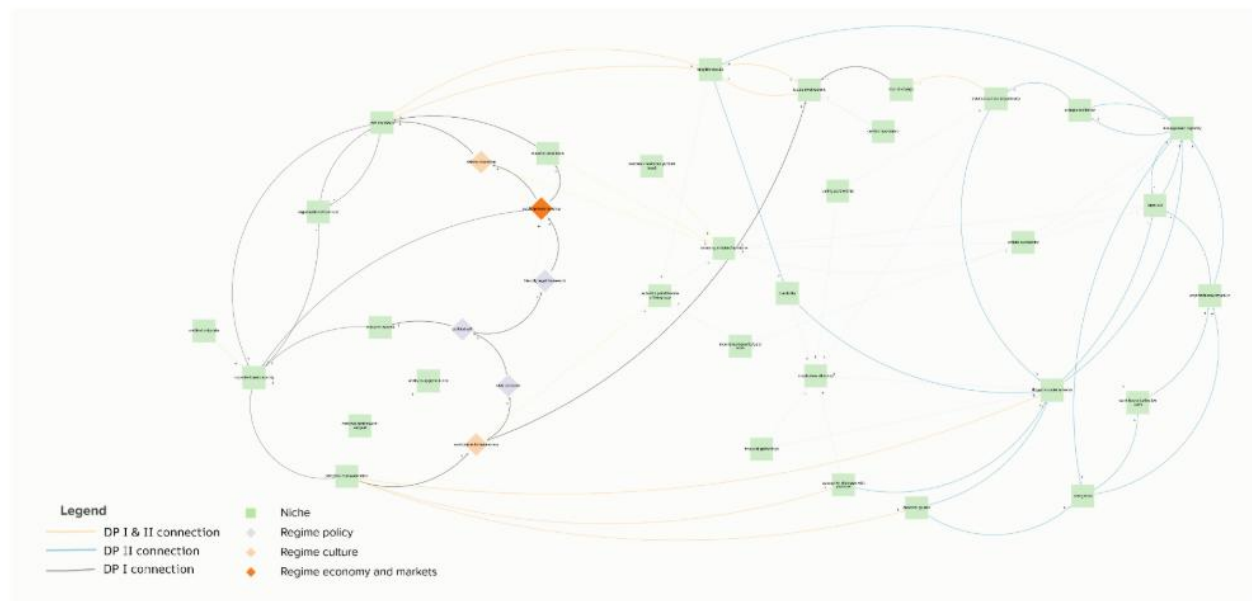


Figure 5.1-3: Merged CLDs of DPI and DP II UGR

To facilitate deliberation, the integrated CLD was subsequently divided into four interconnected subsystems. During this process, several secondary variables and relationships were omitted in order to improve readability while preserving the main feedback structures. The simplification was carried out by the research team based on methodological experience in systems mapping and detailed knowledge of the preceding deliberative process. The four diagrams are those shown in Figure 5.1-4.

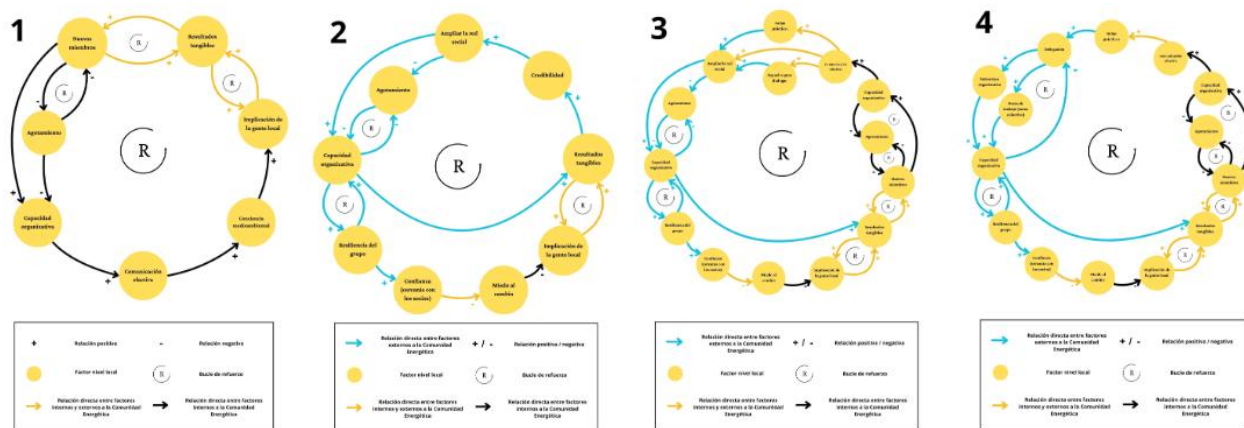


Figure 5.1-4: The 4 simplified diagrams (subsystems) of the merged CLD UGR

Each diagram (simplified subsystem) represented a distinct area of intervention within the overall system and was therefore treated as a potential leverage point for subsequent discussion.

Given the workshop design, participants were divided into three working groups. Consequently, one of the four subsystems had to be excluded from the group work. After reviewing all four diagrams, participants voted to select the three subsystems they considered most relevant for further analysis. CLD 1 received the fewest votes and was therefore excluded. During the discussion, one participant expressed concern that excluding CLD 1 might reduce the visibility of environmental awareness within the process, as this subsystem explicitly contained variables related to ecological values. The facilitation team clarified that the agreed vision of an ecological transition would continue to frame all subsequent discussions, ensuring that environmental considerations remained embedded throughout the deliberative process.

Participants then examined each selected subsystem and individually voted for the factor they considered most suitable as a leverage point for collective action. The selected factors were: Organisational Capacity for CLD 2, Spaces for Dialogue for CLD 3, and Effective Communication for CLD 4.

These three factors were subsequently adopted as the principal leverage points for the ToC exercise. Although each originated within a specific subsystem, participants recognised that they influenced multiple parts of the overall system. Strengthening organisational capacity, creating spaces for dialogue, and improving communication were therefore considered strategic intervention points capable of generating broader systemic change within the AEC.

5.1.4 Output of DP3 (actions and ToC) / Co-created solutions

Once the three leverage points had been identified, the objective of DP3 was to translate these systemic challenges into practical pathways for change. To achieve this, participants applied a combination of the ToC and SG-based methodologies to identify the medium-term outcomes, activities, outputs, and inputs required to achieve the shared vision developed earlier in the event. At this point, we will examine the work carried out in DP3 and the appropriate measures to implement the necessary changes to achieve the agreed-upon vision.

The first step consisted of defining the desired medium-term outcomes associated with each leverage point. Within the ToC framework, outcomes represent the changes expected to occur as a result of successful interventions. The participants identified the outcomes shown in Table 5.1-4 and Figure 5.1-5.

Table 5.1-4: Leverage points and Medium-term outcomes UGR

Leverage points	Outcomes
Organisational capacity	Improvement of management skills
Spaces for dialogue	Greater credibility and trust
Effective communication	Greater involvement of local people

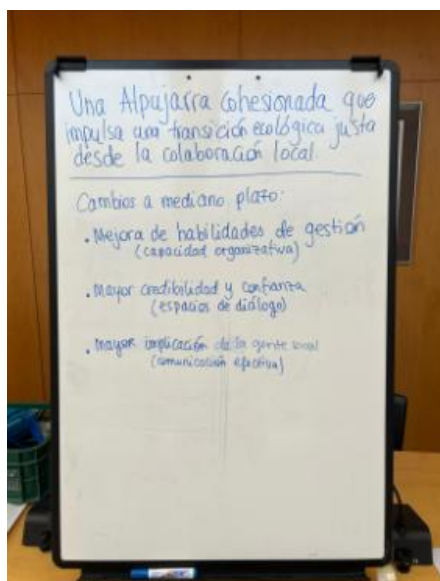


Figure 5.1-5: Leverage points and outcomes in the DPIII UGR

During the break, three groups of two people each were formed. Originally, a part of the event was designed as a role-playing exercise in which participants would represent three different actor groups: public authorities, external stakeholders, and local stakeholders. However, after identifying the medium-term outcomes, it became evident that all selected leverage points primarily concerned the internal functioning of the AEC. Since no regime actors were actively represented in the outcomes, maintaining the predefined roles would have reduced the realism and relevance of the exercise. Consequently, the methodology was adapted, and participants were invited to contribute from their own perspectives and experiences rather than assuming fictional roles. This modification preserved the participatory objectives of the role-playing while ensuring coherence with the composition of the participant group. Each group was asked to choose a medium-term change and then worked in three separate groups, ensuring that one external actor (a participant that is not a member of the AEC) was allocated per group.

Participants then worked in three parallel groups, each focusing on one of the selected outcomes. Their task was to identify concrete activities capable of contributing to the achievement of the corresponding outcome. Within the ToC framework, these activities represent the practical interventions required to move the system towards the desired changes.

Activities:

- 1) Review the statutes and projects of the AEC
- 2) Assign department coordinators to the AEC
- 3) Assign objectives with deadlines to the working groups of the AEC
- 4) Conduct a door-to-door campaign to raise awareness in the Alpujarra region
- 5) Organise informational meetings with key people in the area
- 6) Contact local associations
- 7) Contact people with local influence
- 8) Train the core group and volunteers of the AEC
- 9) Professionalize and certify individuals within the AEC

The proposed activities were written on sticky notes and collectively prioritized according to two criteria: relevance and feasibility (see Figure 5.1-6). They were arranged from left to right, with the highest-priority and most feasible actions placed first. This prioritization helped participants distinguish between immediate actions and longer-term initiatives.

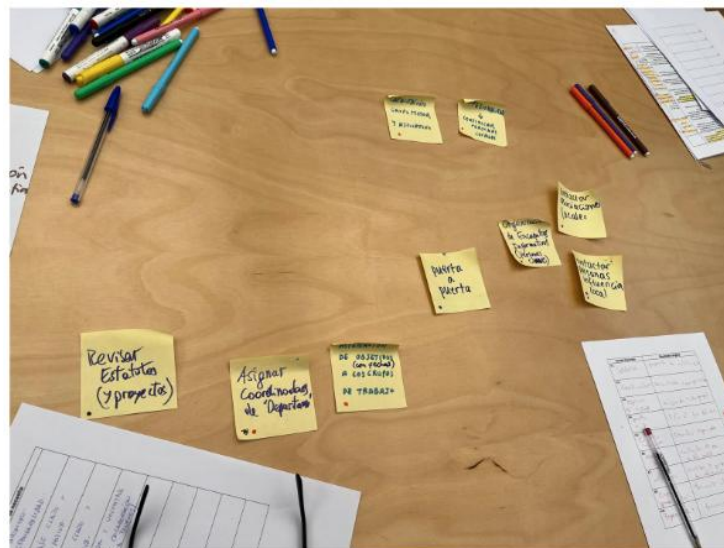


Figure 5.1-6: Result of activities in the DPIII UGR

In the final stage of the event, participants identified the outputs and inputs associated with each activity. Outputs were defined as the tangible or immediate results generated by an activity, whereas inputs referred to the human, financial, technical, or organisational resources required for its implementation. Individual proposals were first developed independently and subsequently discussed and refined

collectively. Figure 5.1-7 summarizes the activities identified by participants together with the corresponding inputs and expected outputs.

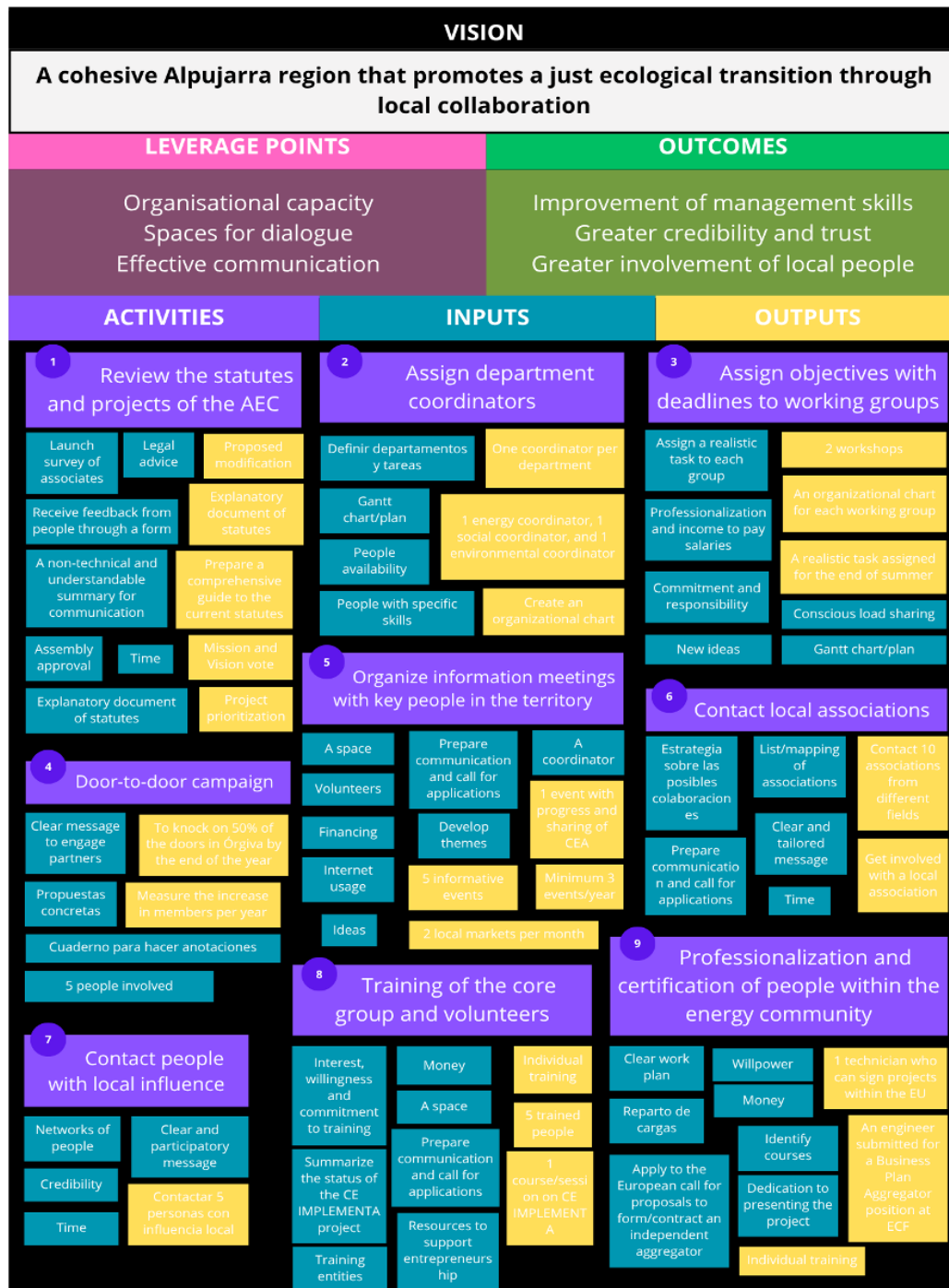


Figure 5.1-7: Results of DPIII UGR

The outcomes of DPIII demonstrate how the combined use of PSM and the ToC enabled participants to move from systemic diagnosis to the co-design of practical interventions. Rather than focusing exclusively on technical aspects of the energy transition, participants identified organisational development, communication, collaboration, and capacity building as the key conditions for strengthening the AEC.

The roadmap developed during the workshop highlights that the success of citizen-led energy initiatives depends not only on financial resources or technological solutions but also on organisational resilience, effective governance, and the ability to mobilize and engage local communities. The resulting activities, together with their associated inputs and expected outputs, constitute a practical action framework that can guide the future development of the initiative while contributing to the broader vision of a cohesive Alpujarra region promoting a just ecological transition through local collaboration.

5.1.5 Pathway for change / Validation by external experts/additional participants

The validation took place on July 9th at 10:00 AM. It was an online meeting between the CO-SUSTAIN Granada team and two external experts. Although three experts initially agreed to participate, one was unable to attend. Before the meeting, participants received documentation describing the deliberative process, the methodologies applied, and the main results. During the 90-minute session, the research team first presented an overview of the CO-SUSTAIN project, followed by the objectives, methodology, and outcomes of the deliberative process. After a question-and-answer session, the experts were invited to assess the process using a set of guiding questions covering participation, the quality of the system mapping, the relevance of the identified leverage points, the consistency and feasibility of the proposed actions, and the overall methodological approach. Overall, the experts considered the deliberative process to be methodologically robust and participatory. They agreed that the selected methodologies such as PSM and ToC, provided a rigorous framework for facilitating dialogue, analyzing systemic challenges, and translating collective reflection into practical proposals. The experts also considered the resulting CLDs and the proposed actions to be consistent with the issues identified during the deliberations.

Participation. Participation in the process is approved, as people have been present at all stages, thus being involved, and the results are consistent with their challenges. The structure of the process is also valued as one of the factors that guarantees people's participation. The KoM is especially appreciated as a space for interaction among stakeholders prior to the start of the process. Also, the fact of separating the participants in DPI and DPII and then uniting visions and working together in DPIII. It is also commendable that people have not only attended but also participated. This is reflected in the proposals.

Stakeholder Representation. The limited participation of regime actors, particularly representatives of the municipal government, was identified as one of the principal limitations of the process. However, the experts considered this to be a common challenge in participatory initiatives rather than a weakness of the methodology itself. They acknowledged the considerable efforts made by the research team to encourage institutional participation, including repeated invitations and the decision to hold all meetings at the Town Hall. At the same time, they suggested that using municipal premises may inadvertently discourage participation from actors who are critical of local authorities, illustrating the complexity of ensuring balanced representation.

The experts also highlighted the relatively low participation of women and young people. They recognised that this reflects broader patterns commonly observed in the energy sector, where participation often remains male-dominated and centered on homeowners. Nevertheless, they recommended adopting a more proactive recruitment strategy in future initiatives. This could include reviewing stakeholder lists from a gender perspective, actively identifying women in relevant organisations, and linking energy transition topics to sectors where women are traditionally more engaged, such as education, community development, or social innovation.

Regarding young people, the experts suggested that participation barriers may be linked less to environmental awareness than to structural factors, such as limited access to stable housing and therefore reduced opportunities to engage directly in energy community initiatives.

Applicability of the results. The experts considered the proposed actions to be both relevant and actionable. They appreciated that the deliberative process produced concrete and prioritized activities rather than remaining at the level of general recommendations. In their view, this practical orientation distinguishes the process from many participatory initiatives that generate extensive discussion but few implementable outcomes.

One expert also noted that many of the organisational challenges identified are shared by other emerging energy communities. Consequently, the proposed roadmap could provide valuable guidance beyond the Alpujarra case study and could be disseminated through organisations such as the Granada Provincial Council's Community Transformation Office.

Follow-up. Finally, the experts emphasised that the long-term value of the deliberative process will depend on continued follow-up. They noted that the relatively small number of participants was compensated by a high level of commitment and suggested that maintaining contact with this group could facilitate the implementation of the proposed actions over time. In particular, they highlighted the potential role of the University of Granada in supporting future monitoring and accompaniment activities.

The research team has already contributed to this objective by digitizing and sharing the workshop outputs with participants, enabling them to use the results within their respective organisations. Although communication channels with participants remain open, continued follow-up beyond the duration of the CO-SUSTAIN project cannot be guaranteed, as project funding concludes in December 2026.

5.1.6 Preliminary conclusions

Beyond the substantive outputs generated during the three deliberation panels implemented in the AEC case study, the process highlighted opportunities and challenges related to stakeholder engagement, facilitation, and collaborative decision-making.

The stakeholder identification process, based on Task 3.1, resulted in a broad and diverse invitation strategy that included public authorities, members of the AEC, civil society organisations, local businesses, and representatives of vulnerable groups. Despite these efforts, participation was uneven. The deliberative process was characterized by a strong representation of local civil society organisations and members of the AEC, whereas representatives of public institutions, particularly the municipal government, were largely absent. This imbalance influenced both the discussions and the outcomes of the deliberative process, which consequently focused primarily on challenges and solutions operating at the niche level. The inclusion of vulnerable groups also proved challenging. Although these groups were explicitly considered during stakeholder selection, participation was limited to one organisation working with people with disabilities. This highlights the importance of investing additional time and resources in outreach and engagement strategies tailored to vulnerable actors.

As for quality of interaction during the deliberation panels, it was generally constructive, respectful, and collaborative. Participants actively engaged with the proposed methodologies and gradually developed a

shared understanding of the systemic challenges affecting the AEC. The progression from the KoM to DPI, DPII and DPIII facilitated trust-building and created a safe environment for dialogue. Participants moved from expressing individual perspectives towards jointly analyzing problems and exploring collective solutions. The use of interactive methodologies encouraged participation from individuals with different backgrounds and levels of expertise. Visual representations and group activities proved particularly useful in facilitating discussion of complex issues.

The deliberative methodology captured a wide range of participant perspectives. Individual experiences were translated into system variables, causal relationships, leverage points and finally into a shared ToC. Rather than collecting isolated opinions, the process enabled participants to negotiate meanings collectively and identify areas of consensus. This resulted in a richer understanding of both organisational challenges and opportunities for strengthening the AEC. The iterative nature of the process allowed participants to revisit earlier ideas, refine them through discussion, and progressively build a shared roadmap for future action.

From the facilitators' perspective, the overall process can be considered genuinely participatory. Participants were actively involved in every stage of the deliberation, from identifying system dynamics to selecting leverage points and co-designing concrete activities. At the same time, the process required continuous methodological adaptation. One example was the modification of the role-playing activity during DPIII. The original design envisaged participants representing roles of different stakeholder categories within the MLP framework. However, because regime actors were largely absent from the deliberative process, the facilitation team adapted the methodology and invited participants to contribute from their own experiences instead. This modification increased the relevance and authenticity of the discussions while preserving the objectives of the exercise. This experience highlights the importance of maintaining methodological flexibility in participatory processes without compromising their overall coherence.

One of the main strengths of the deliberative process was its ability to move beyond diagnosis towards the co-creation of practical pathways for change. The integration of PSM and ToC enabled participants to identify not only systemic challenges but also concrete activities, expected outcomes, required resources and tangible outputs. The resulting roadmap emphasises that strengthening the organisational capacity of the AEC, improving communication, and creating spaces for dialogue are essential conditions for fostering long-term collaboration and supporting a just ecological transition in the Alpujarra region. Although implementation of these actions lies beyond the scope of the project, the deliberative process has established a shared strategic framework that participants can continue to build upon after the completion of CO-SUSTAIN. At the same time, the process generated a considerable body of evidence on stakeholder participation, deliberative quality and collaborative learning that provides the foundation for the Impact Assessment activities developed within WP4. Our findings therefore constitute the empirical basis for the impact assessment activities carried out in WP4.

In the AEC case study, the deliberation panels successfully established a participatory space in which diverse stakeholders jointly analysed the barriers facing the energy community, identified systemic

leverage points and co-created a roadmap for future action. These outputs provide the evidence required for the subsequent assessment under the CO-SUSTAIN IAF. In particular, the evaluation will examine whether the process ensured inclusive participation of potentially vulnerable groups, fostered early engagement and a shared understanding of the project objectives, strengthened participants' knowledge, motivation and attitudes towards novel forms of political participation, and maintained a high quality of deliberation from both methodological and participant perspectives. Finally, through qualitative impact stories and reflective evaluation, the IAF will investigate the broader effects of the process on community-building capacity, social cohesion, empowerment, conflict management and the collective capacity to advance sustainability transitions. Together, these assessments will complement the outputs reported here by providing evidence of the longer-term outcomes and transformative potential of the deliberative process across the CO-SUSTAIN case studies.

5.2 La Traginera energy community (ECO)

5.2.1 Participants of the panels (niche and regime)

The composition of the three deliberative panels was designed to capture the diversity of actors involved in, affected by, or capable of influencing the development of *Energies Compartides al Raval*. From the perspective of the Multi-Level Perspective (MLP) on socio-technical transitions, participants represented a combination of actors operating at the niche and regime levels. This distinction proved particularly relevant for understanding the governance dynamics of the initiative, as *Energies Compartides del Raval* seeks to promote an innovative community energy model while simultaneously building alliances with established institutions that shape the broader energy and social welfare systems.

Panel 1 brought together the actors most directly involved in the development of the initiative and can therefore be largely characterised as a niche-level space. Participants included organisations belonging to or closely connected with *La Traginera*, such as Fundació Tot Raval, Fundació Casa de Misericòrdia de Barcelona, Aula Ambiental de Ciutat Vella, Impulsem, Laboqueria Taller d'Arquitectura, and Sport Association of Ciutat Vella. These organisations have been actively involved in the design and implementation of the project and share a common commitment to local development, social innovation, and community-based responses to energy poverty. Their long-standing collaboration and territorial embeddedness enabled a high degree of alignment and facilitated the systems-mapping exercise developed during the workshop.

Panel 2 was intentionally composed of actors operating beyond the immediate boundaries of the initiative and therefore represented primarily the regime level. Participants included public administrations from the local, regional, and provincial level, energy agencies, regional institutions, sectoral organisations, and established energy actors. Examples included the Barcelona Energy Agency, the Catalan Energy Poverty Office and a representative from the Directorate General on Social Economy from the regional government (Generalitat de Catalunya), the Barcelona Provincial Council, the Catalan Association of Municipalities (ACM), the Catalan Network of Energy Transition Offices (ICAEN), the Energy Advisory Centres of Barcelona, Som Energia cooperative, the OECOOP 2nd degree cooperative of energy communities, Habitat3 Foundation (social housing), and the Social Third Sector Platform of Catalonia. These organisations are involved in the governance, regulation, funding, implementation, or support of energy and social policies at local, regional, or national scales. Their participation introduced perspectives related to policy frameworks, institutional constraints, regulatory challenges, and opportunities for scaling up community energy initiatives.

One of the most interesting insights emerging from the participant composition is that the distinction between niche and regime actors was not always clear-cut. The *Energies Compartides del Raval* initiative itself occupies a hybrid position between grassroots innovation and institutional collaboration, and several participating organisations can be understood as operating at the interface between both levels.

While the core group of the initiative includes core niche actors such as Impulsem, Fundació Tot Raval, Associació Esportiva Ciutat Vella, and Aula Ambiental de Ciutat Vella, belonging the *La Traginera* network, it also incorporates organisations that simultaneously participate in the initiative while belonging to broader institutional structures.

The role of cultural institutions such as MACBA and CCCB is particularly noteworthy. Although these organisations belong to public institutions embedded in the regime level, they have become actively

involved in the initiative by contributing physical assets, institutional legitimacy, and resources, on top of actively participating in the core group meetings and contributing to shaping the overall community energy model. MACBA, for example, has played a pioneering role in developing legal mechanisms to allocate part of the generated energy to vulnerable households, and its involvement will provide also a powerful flagship example for other institutional buildings. **In MLP terms, these organisations occupy an intermediary position: they belong to established institutional structures but are actively supporting and enabling niche experimentation.** Their participation illustrates how incumbent institutions can become allies in transition processes rather than simply representing barriers to change.

A similar observation can be made regarding organisations such as the General Workers Union (UGT). While UGT operates as a major labor union embedded within broader social and institutional structures, its involvement in the initiative reflects an interest in linking social justice concerns with energy transition processes. Likewise, actors from the academic and innovation sectors, such as ELISAVA, represent organisations that are not part of the core project but contribute expertise, visibility, and capacity-building resources. These actors can be understood as boundary organisations that facilitate interactions between niche innovations and mainstream institutions.

In another layer of involvement, the Barcelona Energy Agency and the Energy Advisory Points are very close to the initiative and have facilitated its mission in different ways, while at the same time are also institutional actors' part of the regime level implementing and/or shaping local policy.

The participant composition across the three panels reflected the hybrid governance character of *Energies Compartides al Raval*. **This bridging role is one of the most distinctive characteristics of the initiative.** Rather than positioning itself in opposition to established institutions, *Energies Compartides del Raval* seeks to build collaborative relationships with public administrations and institutions. The deliberative process therefore provided a valuable opportunity to facilitate dialogue between grassroots innovators and regime actors, creating conditions for mutual learning, coalition-building, and the potential institutionalization of community energy practices within broader energy transition processes.

5.2.2 First output: Identification of factors and dynamics + CLDs

Main factors identified in Panel 1 (inners)

The main factors identified by the inner group are listed below, ordered according to the number of loops in which they appear (in parentheses):

- **Number of institutions participating in the initiative (8):** The initiative is in its initial stages and there are several institutions in the neighborhood involved, but more institutions are expected to join in order to consolidate and grow the project.
- **Involvement and commitment of local administration (6):** the initiative seeks support from the local administration, which has already some participation in the initiative.
- **Success of the model (5):** the initiative does not aim to continue over time, but rather to develop a shared self-consumption model that is solvent and can be uptake by the public administration. Getting the model to work and being able to explain its success is therefore a prerequisite for its replicability.
- **Citizens' knowledge of the initiative (5):** refers to the number of people who are aware of the model being developed in the Raval neighborhood.

- **Citizen mobilization (4):** understood as the actions that citizens can take to demand policy improvements around energy.
- **Public awareness (4):** refers to raising citizens' consciousness about the social challenges of the energy model.
- **Beneficiary families (3):** the number of households receiving energy produced by the institutions. The initiative is still in the process of installing the first photovoltaic panels and therefore there are no households benefiting from the initiative yet, but the initiative's driving force is already establishing selection criteria and collaborating with social institutions that will be able to provide access to families.
- **Political impact (2):** the ability to bring about change in the regime.
- **Demotivation of initiative members (2):** This factor refers to the motivation of initiative members, but it has been formulated in negative terms because the group considered demotivation to be a more important issue than motivation. This is because motivation does not directly imply success, whereas demotivation hinders it.

In addition, four factors have been identified as external influences on the system (2 from the niche level, one from the regime, and another from the landscape):

- **Climate goals (Agenda 20-30):** as a factor inherent to the landscape that drives local policies.
- **Financing channels:** ways to finance the initiative and the photovoltaic installations that may come from public sources or agreements with private entities, such as installation companies. This factor is related with the regime level.
- **Useful communication channels:** for the exchange of information between members of the initiative. This factor is related with the niche level.
- **Appropriate frequency of meetings:** this refers to the organisation of the participation of the institutions that make up the initiative and the need to organise gatherings at an appropriate frequency given the initiative's objectives and the capacity of its participants. This factor is related with the niche level.

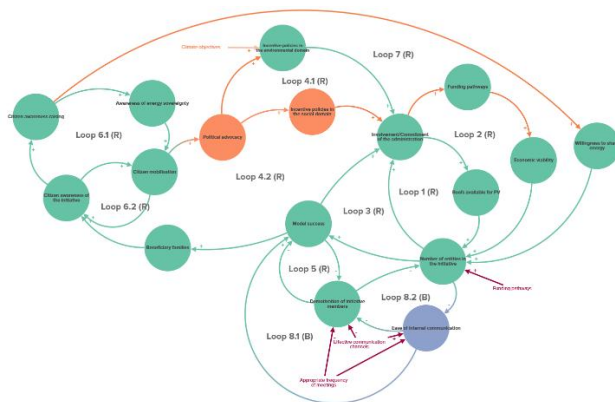
Main factors identified in Panel 2 (outers)

The factors identified by the outer group are listed below, ordered according to the number of loops in which they appear (in parentheses).

- **Inclusive energy communities (ECs) (7):** Energy communities intentionally designed to ensure equitable access, participation and benefits for underrepresented and vulnerable groups.
- **Political support for inclusive ECs (6):** Commitment from public authorities to promote and develop inclusive energy communities through policy and dedicated funding
- **Public funds allocated to make ECs more inclusive (5):** Financial resources dedicated to strengthening the social and inclusive dimension of energy communities.
- **Collaboration and coordination between public authorities, social actors, civil society and private actors (5):** Collaboration and coordination initiatives between public authorities, social actors, civil society and private actors

- **Social impact of inclusive ECs (5):** The positive social outcomes generated by inclusive energy communities.
- **Accessibility of information to promote/participate in inclusive ECs (3):** The extent to which information about creating or joining inclusive energy communities is clear, understandable and easily accessible.
- **Time required to participate (2):** The amount of time individuals must invest to engage in or promote an energy community.

CAUSAL DYNAMICS EMERGING FROM THE INNER GROUP



The question that the inner group agreed on and guided the construction of the system map is: **How can we make our community model consolidate, grow and scale?**

The dynamics of the initiative can be understood as an interconnected system where administrative commitment, participation of institutions, citizen awareness, and internal governance capacity continuously shape one another.

Figure 5.2.1: Panel 1 Casual Loop Diagram.
Available [here](#)

The inners began to build the map with the factor “Involvement and commitment of the administration.” This reflects the demand that the initiative is currently facing to move forward with its project. **Involvement and commitment of local administration acts** as a structural lever within the system. When public administrations increase their involvement, more rooftops become available for photovoltaic installations, either through direct access to publicly owned spaces or through the facilitation of procedures for private ones. Greater roof availability enables more institutions to participate in the initiative, which in turn increases the project’s visibility and legitimacy. This growing recognition encourages administrations to deepen their support, creating a reinforcing loop between institutional commitment and collective participation. Administrative engagement can also improve access to funding, strengthening the economic viability of interventions carried out by participating institutions and lowering barriers for new actors to join.

An increasing participation of institutions plays a key role in consolidating and expanding the initiative. As more institutions join and activate rooftops for photovoltaic installations, the shared self-consumption model demonstrates tangible results. These outcomes reinforce the initiative’s credibility and highlight its capacity to deliver social, environmental, and economic benefits. Visible success then feeds back into the system by encouraging additional institutions to participate and strengthening the willingness of public administrations to maintain their support. In this way, participation functions both as a driver and an outcome of the initiative’s growth dynamics, amplifying its overall impact.

Citizen awareness develops as the initiative produces visible social benefits. As more families gain access to shared renewable energy, public knowledge of the project increases and communities become more familiar with the idea of energy sovereignty. This growing awareness can encourage **citizen mobilization** around energy issues and strengthen social support for the initiative. Mobilized communities may influence political agendas and contribute to the development of environmental and social incentive policies that support renewable energy initiatives. Such policies reinforce administrative commitment and improve the structural conditions for the initiative to expand, allowing local project success to scale upward into broader policy change.

Internal governance capacity, related to motivation, determines whether the initiative can sustain its growth over time. As the number of participating institutions increases, internal communication becomes more complex, and coordination demands grow. If communication channels weaken, project performance may decline and member motivation can decrease, potentially slowing participation. To prevent this, effective communication circuits and an appropriate frequency of meetings are essential to sustain motivation and organisational cohesion. Maintaining strong governance structures ensures that expansion does not outpace the initiative's capacity to coordinate its members, supporting long-term resilience and sustainable scaling.

CAUSAL DYNAMICS EMERGING FROM THE OUTER GROUP

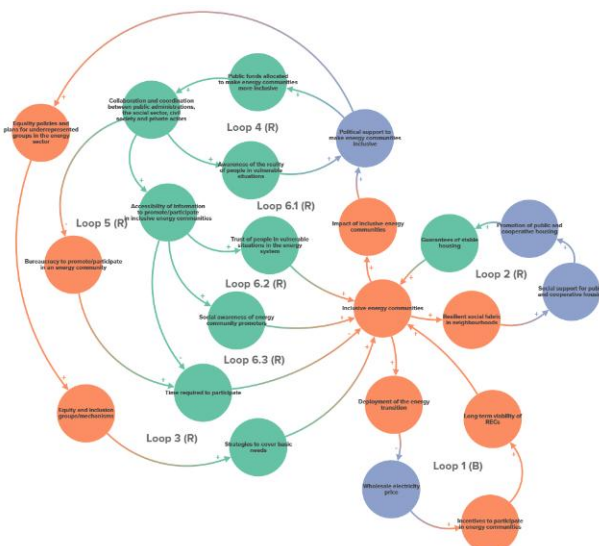


Figure 5.2.2. Panel 2 Casual Loop Diagram.
Available [here](#)

The question that the outer group agreed on and guided the construction of the system map is: **What needs to happen to make energy communities in Catalonia more inclusive and diverse?**

The dynamics emerging from the CLD illustrate how inclusive energy communities interact with energy costs, housing stability, social cohesion, political support and structural barriers, generating both reinforcing and balancing effects within the system.

From an economic perspective, a balancing dynamic emerges around **energy prices**. As the number of inclusive ECs increases, the price paid by consumers tends to decrease. However, lower electricity prices may reduce the economic incentives for individuals to participate in ECs, potentially affecting their long-term viability.

At neighborhood level, a reinforcing dynamic links inclusive ECs with **social cohesion and housing stability**. Inclusive ECs strengthen the social fabric of neighborhoods, fostering greater support for public and cooperative housing models, as residents' willingness to remain and their collective capacity to advocate for these models are reinforced. These housing models provide stronger guarantees of residential stability, which in turn facilitates participation in ECs.

Political support plays a central reinforcing role across several dynamics. Support for inclusive ECs encourages the development of equality policies and plans targeting underrepresented groups in the energy sector, as well as the creation of equity and inclusion mechanisms. When these mechanisms help cover basic needs, they free up time and resources for participation, increasing the inclusiveness and social impact of ECs and reinforcing political backing.

In parallel, political support mobilizes **public funding to strengthen the inclusion** in ECs. These resources promote collaboration and coordination between public authorities, social actors, civil society and private actors. Such collaboration increases awareness of the realities faced by vulnerable people and can contribute to simplifying administrative procedures. Reduced bureaucracy lowers the time required to promote or participate in an EC, thereby enhancing inclusiveness and social impact, which further consolidates political support.

Accessibility of information also generates reinforcing effects. When information on promoting or participating in inclusive ECs becomes more accessible, trust among vulnerable people in the energy system increases, and their participation is facilitated. Greater accessibility also raises the social awareness of EC promoters regarding the realities faced by vulnerable groups, strengthening inclusive practices. In addition, clearer and more accessible information reduces the time required to engage, further lowering participation barriers and increasing the number of inclusive ECs.

5.2.3 Potential for changes (Issue(s) identified + Leverage points) feedback loops

The deliberative process brought together members of the initiative (inners) and relevant external stakeholders (outers) to jointly analyse the systemic conditions affecting the development of inclusive energy communities. Through the integration of the systemic maps produced during the first and second deliberative sessions, participants identified a set of leverage points with the greatest potential to generate transformative change. During the third session, a mixed group of inners and outers explored these leverage points and defined the desired changes associated with each of them.

Three key leverage points emerged from this process:

1. Political support for inclusive energy communities (commitment of public administrations).
2. Collaboration and coordination among public administrations, the social sector, civil society and private actors.
3. Success and consolidation of the model developed by the initiative.

These leverage points reveal several underlying systemic issues that currently hinder the development of inclusive energy communities, particularly in vulnerable neighborhoods such as El Raval. At the same time, they highlight opportunities for intervention capable of triggering reinforcing feedback loops that can accelerate social inclusion, energy justice and community participation.

Issue 1: Limited political commitment to energy inclusion

One of the central challenges identified by participants is the insufficient integration of the needs and perspectives of vulnerable citizens into energy and climate policies. Although local governments increasingly recognise the importance of the energy transition, vulnerable populations often remain underrepresented in decision-making processes, resulting in policies that do not adequately address barriers to participation in energy communities.



Participants highlighted the need for public administrations and political representatives to adopt a stronger commitment to inclusive energy communities by incorporating the perspectives emerging from neighborhood councils, public assemblies and other citizen participation spaces. Another important issue concerns the limited availability and use of evidence demonstrating the social and economic benefits of inclusive local energy communities. Without adequate information, policymakers may underestimate their potential contribution to reducing energy poverty and strengthening community resilience.

Leverage point à Political support and administrative commitment

Increasing political commitment represents a high-impact leverage point because public administrations have significant influence over regulation, funding, institutional coordination and public communication. If decision-makers recognise the importance of inclusive energy communities and systematically integrate citizens' concerns into policy design, they can create enabling conditions for broader participation and long-term sustainability.

Reinforcing feedback loop 1: Political awareness and institutional support

A reinforcing feedback loop can emerge when evidence about the benefits of inclusive energy communities is effectively communicated to policymakers. Greater evidence and visibility of positive outcomes lead to increased political awareness and commitment. Increased commitment results in more supportive policies, resources and institutional backing. Improved institutional support facilitates the implementation of successful inclusive energy community projects. As these projects generate tangible social and environmental benefits, additional evidence becomes available, further strengthening political support. This reinforcing cycle can progressively transform inclusive energy communities from isolated initiatives into recognised components of local energy policy.

Issue 2: Fragmented governance and limited coordination among stakeholders

A second systemic issue concerns the fragmentation that often characterizes interactions among public administrations, social organisations, community groups and private actors. Participants identified a lack of coordination, overlapping responsibilities and excessive administrative complexity as significant obstacles to the development of inclusive energy communities. Administrative procedures are frequently perceived as difficult to navigate, particularly for vulnerable populations and grassroots organisations with limited technical resources. Furthermore, insufficient communication between institutions and local initiatives can generate duplication of efforts and reduce the effectiveness of interventions. Participants therefore emphasised the importance of administrative simplification and stronger collaboration among all actors involved in the energy transition. They also highlighted the need for greater citizen participation in neighborhood councils, assemblies and other participatory governance spaces.

Leverage point à Multi-stakeholder collaboration and coordination

Strengthening collaboration among administrations, civil society organisations, community groups and private actors offers considerable leverage because it addresses structural barriers affecting multiple parts of the system simultaneously. Improved coordination can increase efficiency, reduce administrative burdens and enhance collective problem-solving capacity.

Reinforcing feedback loop 2: Participation, trust and collaboration



A second reinforcing feedback loop emerges through increased citizen participation. When citizens participate more actively in the neighborhood and community governance spaces, public institutions gain better understanding of local needs and priorities. This improved understanding supports the design of more responsive and inclusive policies and programmes. As policies become more effective and relevant, citizens experience greater trust in institutions and perceive participation as meaningful. Increased trust encourages even higher levels of engagement and participation. At the same time, stronger citizen involvement promotes collaboration among public administrations, social organisations and local initiatives, generating a more coordinated governance ecosystem. This coordination improves project outcomes, which further reinforces trust and participation. The loop shows how participation and collaboration can mutually reinforce one another, creating a cycle of democratic engagement and collective action.

Issue 3: Scaling and consolidating the inclusive energy community model

The third leverage point concerns the success and replication of the model developed by the initiative itself. Participants identified several obstacles limiting the expansion and long-term sustainability of inclusive energy communities. Among the most important barriers are regulatory constraints affecting shared energy generation, insufficient coordination within public administrations, lack of clear guidance regarding shared installations, and limited support structures for citizens and organisations seeking to participate. Participants also identified the need for a reference office capable of providing technical guidance and reducing administrative complexity. Beyond institutional barriers, social and informational challenges remain significant. Many residents of El Raval have limited knowledge about energy issues, energy-saving practices and the potential benefits of energy communities. Similarly, social sector organisations often require greater understanding of the energy system to effectively motivate participants and build trust among vulnerable populations. Participants also highlighted the importance of increasing the installation of solar panels on public buildings and ensuring that publicly generated energy can be shared with local communities.

Leverage point à Demonstrating the success of the model

The success of the pilot model functions as a powerful leverage point because visible achievements can influence regulations, attract institutional support, mobilize community participation and encourage replication. Successful projects provide practical evidence that inclusive energy communities are both feasible and beneficial.

Reinforcing feedback loop 3: Success, awareness and expansion

A third reinforcing feedback loop can be identified around the success of the initiative. As public institutions improve coordination, reduce regulatory barriers and support shared energy installations, the initiative becomes more successful. Successful implementation increases the visibility of benefits for residents, including reduced energy costs, improved energy literacy and greater community empowerment. Positive results generate greater public awareness and interest among residents, social organisations and policymakers. Increased awareness encourages more citizens and organisations to participate in the initiative, expanding its scale and social legitimacy. Larger participation strengthens the initiative's impact and demonstrates its effectiveness more clearly. This success generates additional institutional support and further regulatory improvements, which contribute to even greater success. The installation of renewable energy infrastructure on public buildings can strengthen this loop by providing

visible examples of collective benefits and creating opportunities for energy sharing with vulnerable households.

5.2.4 Potential for change

The deliberative process revealed that the development of inclusive energy communities depends not only on technological or economic factors but also on governance, participation and institutional commitment. The three leverage points identified—political support, stakeholder coordination and the success of the initiative’s model—address fundamental systemic barriers while creating opportunities for transformative change.

Importantly, these leverage points are interconnected. Stronger political commitment can facilitate better coordination among stakeholders; improved coordination can increase the success of the model; and successful implementation can generate evidence that further strengthens political support. Together, these dynamics form a series of mutually reinforcing feedback loops capable of accelerating the transition towards more inclusive, participatory and socially just energy systems.

By intervening strategically at these leverage points, stakeholders can create conditions under which inclusive energy communities become self-reinforcing, scalable and sustainable over the long term.

5.2.5 Output of DP3 (actions and ToC) / Co-created solutions

The third deliberative panel focused on transforming the leverage points and desired changes identified in previous sessions into concrete actions and pathways for change. Participants worked in mixed groups composed of members of the initiative and relevant external stakeholders, including representatives from public administrations and third-sector organisations. The objective was to identify feasible actions capable of generating systemic change and contributing to the development of inclusive energy communities. Participants first discussed the shared vision, then they were divided into two groups and proposed actions linked to each leverage point using the role-playing exercise. Then they prioritized the actions through a voting exercise and finally discussed their implementation from the perspective of their real institutional and community roles. This process allowed participants to co-create a practical Theory of Change connecting actions, outputs, outcomes and long-term impacts.

The resulting proposals demonstrate a strong focus on institutional change, citizen participation, awareness raising, regulatory reform and multi-stakeholder collaboration. Importantly, participants emphasised that the proposed actions should remain grounded in the immediate priority of the initiative: successfully engaging the first ten participating households and demonstrating the viability and scalability of the model.

Shared vision agreed during the first part of the session

“Catalan society prioritizes energy communities and other ecosocial transition initiatives as key tools for advancing towards a more democratic, decentralized, sovereign and socially just energy model. Public administrations, the energy sector and citizens must become actively involved, collaborate and work together to promote this common good.

Individuals and groups within local communities actively participate in energy communities and other ecosocial transition initiatives, regardless of their structural conditions, socioeconomic situation or level of knowledge.

Energy communities and other ecosocial transition initiatives have the resources, knowledge, regulatory framework and institutional support necessary to ensure the effective participation of underrepresented groups and communities in situations of vulnerability.”

PRIORITY ACTIONS FOR POLITICAL SUPPORT AND STAKEHOLDER COLLABORATION

Group 1 focused on analyzing and proposing actions to strengthen two of the leverage points: **political support for inclusive energy communities** and **collaboration among stakeholders**. These two leverage points were merged shortly before the session because four registered participants were ultimately unable to attend. As a result, it was considered more beneficial to combine the topics into a single group, allowing for larger and more diverse discussions rather than maintaining the originally planned three-group structure. This adjustment also made conceptual sense, as the two leverage points are closely interconnected: stronger political commitment often depends on effective collaboration among public administrations, civil society organisations, private actors and local communities, while enhanced collaboration can in turn generate greater institutional support and policy engagement.

ACTION 1: Municipal energy generation programme through public-private collaboration

The highest-ranked proposal in Group 1 was the creation of a municipal energy generation programme based on public-private collaboration. Participants envisioned a system that combines public leadership with private sector participation and community engagement to promote inclusive renewable energy generation. The programme would include awareness-raising activities, media campaigns highlighting successful experiences, crowdfunding and sponsorship mechanisms involving citizens, businesses and public institutions, as well as financial incentives and tax exemptions to encourage participation. The underlying assumption is that greater public visibility and stronger incentives will attract new actors, increase investment in renewable energy and strengthen public support for inclusive energy communities.

Expected outputs include:

- Awareness-raising workshops and training activities.
 - Media campaigns through local communication channels.
 - Crowdfunding and sponsorship initiatives.
 - Public-private agreements for financing and infrastructure development.
- ☐ These outputs are expected to increase awareness, mobilize resources and generate broader stakeholder engagement, ultimately contributing to the expansion and institutionalization of inclusive energy communities.

ACTION 2: Strengthening participation and advocacy capacities

The second most supported proposal focused on strengthening the initiative's internal capacity for participation and advocacy. Participants highlighted that meaningful influence on public policy requires a clear understanding of existing participation mechanisms and a coordinated strategy for engaging with them. The proposed action involves training members of the initiative on neighborhood governance structures, participation mechanisms and advocacy strategies. Participants stressed the importance of ensuring that the energy community is represented in key participatory spaces, even when not all members have the time or resources to attend. A key aspect of the discussion concerned participation

inequalities. Participants recognised that vulnerable populations often face barriers to involvement and therefore emphasised the need for flexible participation models combining internal consultation processes with external representation.

Expected outputs include:

- A training workshop on participation and advocacy mechanisms.
- A Participation and institutional advocacy plan.
- A diagnostic report identifying barriers to participation among residents.
- ☐ These outputs are expected to increase the initiative's capacity to influence decision-making processes, improve representation of vulnerable groups and strengthen links between community needs and public policies.

ACTION 3: Awareness and information campaigns on sustainable energy

A third proposal focused on developing educational campaigns addressing sustainable energy, the European Agenda 2030, renewable energy options available to citizens and administrative procedures required to access energy-related programmes. Participants also explored how digital tools, and artificial intelligence could simplify bureaucratic processes and improve accessibility.

The proposed activities include training programmes for different audiences:

- Citizens and local residents.
- Businesses and employers.
- Schools and educational institutions.
- ☐ The intended outcome is greater energy literacy among all stakeholder groups, enabling wider participation in energy transition initiatives and reducing informational barriers that currently exclude many citizens.

PRIORITY ACTIONS FOR THE SUCCESS OF THE INCLUSIVE ENERGY COMMUNITY MODEL

Group 2 analysed and proposed activities to foster the **success of the inclusive energy community model**.

ACTION 4: Legislative initiative for collective energy generation in public buildings

The highest-priority action identified across all proposals in Group 2 was the promotion of a Popular Legislative Initiative (ILP) requiring all suitable public buildings to incorporate collective renewable energy generation systems whose benefits can be shared with vulnerable populations. Participants described this proposal as a structural intervention capable of producing long-term systemic change. During the discussion, participants compared it to the cultural normalization of seatbelt use: what initially appears ambitious can eventually become standard practice through regulation and social acceptance.

The proposal includes several complementary actions:

- Legal advisory support to prepare the legislative initiative.



- A campaign to collect the required 50,000 signatures.
- Advocacy and communication activities targeting parliamentary groups.

Participants suggested combining positive and critical advocacy approaches. On the one hand, successful examples of inclusive energy communities could demonstrate benefits and encourage political support. On the other hand, evidence of existing barriers could be used to highlight the need for regulatory reform.

Expected outputs include:

- A completed legislative proposal.
- A large-scale signature collection campaign.
- Advocacy campaigns directed at political institutions.
- ☐ The anticipated outcome is the creation of a regulatory framework that systematically promotes energy sharing and inclusion, significantly expanding access to renewable energy for vulnerable households.

ACTION 5: Creation of an intersectoral participation and coordination platform

The second most supported action in Group 2 was the establishment of a permanent participation platform bringing together public administrations, inclusive energy initiatives, civil society organisations and other relevant stakeholders. Participants highlighted that many existing challenges stem from fragmentation and insufficient communication among actors. The proposed platform would function as a permanent space for coordination, information exchange and collaborative problem solving. A key discussion concerned the purpose of the platform. Members of the initiative emphasised that it should be genuinely bidirectional and action-oriented rather than merely informative. Public administration representatives noted that such platforms are generally spaces for cooperation rather than decision-making. Participants concluded that a balance should be sought between representativeness and operational effectiveness.

The platform could also serve as a central point for:

- Coordinating local initiatives.
- Sharing information and experiences.
- Consolidating requests directed to public administrations.
- Identifying funding opportunities.

Expected outputs include:

- Formal establishment of an intersectoral participation platform.
- A defined schedule of regular meetings.
- Mechanisms for collaborative planning and coordination.
- ☐ The expected outcome is stronger cooperation among stakeholders, reduced duplication of efforts and increased effectiveness of inclusive energy initiatives.



ACTION 6: Reforming licensing systems for shared energy use

A third priority action focused on simplifying regulatory frameworks by ensuring that new energy generation installations are automatically registered as potentially shared-use systems. Participants observed that many installations currently receive licenses designed for individual use, making later conversion to shared energy models complex and costly. They therefore proposed introducing a regulatory framework that assumes shared-use potential from the outset while preserving flexibility for smaller installations that may not generate sufficient energy for sharing.

Expected outputs include:

- A revised regulatory framework for energy generation licenses.
- Simplified procedures for shared-energy installations.
- ☐ The expected outcome is increased scalability of inclusive energy communities and a reduction in administrative barriers to collective energy production and distribution.

Emerging ToC

The discussions conducted during DP3 reveal a coherent Theory of Change linking local action, institutional reform and systemic transformation. The proposed actions generate immediate outputs such as training programmes, awareness campaigns, participation plans, coordination structures, legislative proposals and regulatory reforms. These outputs are expected to strengthen knowledge, participation, institutional coordination and political support.

In the medium term, these changes should lead to increased citizen engagement, improved collaboration among stakeholders, greater access to renewable energy infrastructure, stronger policy support and reduced administrative barriers.

Over the longer term, participants expect these outcomes to contribute to the establishment of inclusive energy communities as a normal and accessible component of local energy systems. This would increase energy justice, reduce energy vulnerability, strengthen community resilience and support a more equitable energy transition.

Importantly, participants recognised that implementation should follow a phased approach. While systemic reforms remain important long-term objectives, the immediate priority is to successfully engage the first ten participating households, demonstrate the viability of the model and generate the evidence necessary to support future scaling efforts.

The final discussion highlighted a shared sense of optimism regarding the future of the initiative. Participants considered that the deliberative process had generated sufficiently concrete and realistic proposals to support implementation. There was also broad agreement that the initiative has the potential to catalyze meaningful changes in public policy, stakeholder collaboration and community participation.

The outputs of DP3 provide a practical roadmap for advancing inclusive energy communities through a combination of community action, institutional collaboration and policy change.

5.2.6 Validation by external experts/additional participants

The pathway for change developed through the deliberative process were presented to external experts for validation. The experts included a former municipal councilor for Environment and Education from a mid-sized municipality, with extensive experience in local public policy and sustainability initiatives, and an energy poverty specialist working within the Energy Poverty Advisory Hub (EPAH) of the European Commission. Their reflections broadly confirmed the relevance and feasibility of the proposed pathway, while also highlighting several critical considerations for implementation.

From the perspective of the former municipal councilor, the proposed pathway successfully identifies the institutional and governance dimensions that are often overlooked in discussions about energy communities. In particular, the emphasis on political commitment, intersectoral coordination and citizen participation was considered highly relevant. According to this perspective, inclusive energy communities cannot scale solely through technical solutions or community enthusiasm; they require sustained political support and integration into local public policies, while at the same time, small and medium municipalities lack the resources to sufficiently engage in it. The expert highlighted that the proposed actions, such as strengthening participation in neighborhoods, creating permanent coordination platforms and promoting public-private collaboration, are realistic mechanisms for increasing the visibility and legitimacy of energy communities within municipal agendas, but the schedules and resources will need to be adapted to each municipality possibilities.

The former councilor also underlined the importance of linking the initiative to broader sustainability and social justice objectives already present in local and European policy frameworks, such as climate action plans. In this regard, the proposed awareness-raising campaigns and advocacy actions were seen as valuable tools for building political consensus and generating wider public support. However, the expert stressed that long-term success will depend on demonstrating concrete results and benefits for local communities, as policymakers are often more likely to support initiatives that can show measurable impacts.

The EPAH energy poverty specialist validated the pathway from the perspective of vulnerable households and energy justice. The expert considered it particularly positive that the ToC places vulnerable populations at the center of the process and recognises the multiple barriers they face in accessing energy communities. The proposed actions related to training, awareness raising, administrative simplification and the creation of support structures were seen as essential for ensuring that participation is genuinely inclusive rather than limited to citizens with higher levels of knowledge, time or resources.

The expert also highlighted the importance of combining structural and immediate interventions. While regulatory reforms and political advocacy are necessary to create enabling conditions, vulnerable households often require practical support in the short term, including assistance with energy bills, understanding consumption patterns and navigating administrative procedures. For this reason, the proposed workshops, information campaigns and intermediary support mechanisms were considered particularly valuable.

Both experts agreed that the pathway for change presents a coherent and credible strategy for advancing inclusive energy communities. They emphasised that the proposed actions reinforce one another and address multiple levels of the system simultaneously, from individual awareness and community participation to institutional coordination and regulatory change. At the same time, they noted that

implementation should remain adaptive and incremental, prioritizing early successes that can demonstrate feasibility, build trust among stakeholders and create momentum for larger-scale transformation.

The experts concluded that the pathway for change provides a strong foundation for promoting more inclusive, democratic and socially just energy systems. Its main strength lies in combining community-led action with institutional transformation, recognizing that lasting change requires both empowered citizens and supportive governance structures.

5.2.7 Preliminary conclusions

The deliberative process generated several important lessons regarding participation, representation and collective learning in the context of inclusive energy communities.

One of the most distinctive features of this case study was the composition of the initiative itself. Unlike many community energy projects that are primarily composed of individual citizens, this initiative is largely formed by representatives of organisations, public institutions and community entities. This characteristic facilitated the inclusion of vulnerable groups and their interests, as many participating organisations work directly with populations experiencing vulnerability and were able to bring their perspectives into the discussions. As a result, vulnerable groups were strongly represented throughout the process. However, this organisational representation may also have introduced certain limitations. Participants often spoke not only from their personal perspectives but also as representatives of their institutions, which may have constrained some positions and reduced the space for more individual or personal viewpoints to emerge.

Another distinctive aspect of the case study was the presence of several bridging actors who simultaneously belonged to the initiative and to the broader regime-level ecosystem, including public administration and third-sector organisations. These actors played an important role in connecting different perspectives, translating between institutional and community realities, and facilitating dialogue across governance levels. Their presence contributed to reducing the traditional divide between grassroots initiatives and institutional actors, creating favorable conditions for co-creation and mutual understanding.

Regarding the quality of interaction, the deliberative dynamics evolved positively across the three panels. Interaction during Panel 1, involving only members of the initiative (innors), was particularly smooth due to the pre-existing relationships and shared understanding among participants. Panel 2, which brought together external stakeholders (outers), was somewhat more complex, as participants came from different sectors and had varying levels of familiarity with the topic and with one another. Nevertheless, the discussions remained constructive. Panel 3, which mixed innors and outers, proved especially successful. A key factor was the role-playing exercise, which encouraged participants to adopt the perspectives of other actors within the system, but bringing in their own knowledge and expertise. This exercise fostered empathy, reduced potential tensions and helped participants better understand the constraints, motivations and responsibilities faced by others, and at the same time facilitate the creation of activities from very different perspectives.

The process was also successful in capturing participants' views. Across all panels, participants actively engaged in discussions, contributed their experiences and reflected critically on the issues under consideration. The methodologies employed allowed a diversity of perspectives to be expressed and incorporated into the analysis, resulting in rich discussions and collectively developed outputs.

Finally, the process can be considered highly participatory. Participation extended beyond the deliberative sessions themselves and included pre-post panel interviews, post-panel reflections and rounds of validation and feedback with the participants. Participants had multiple opportunities to contribute, refine ideas and validate the resulting analyses and pathways for change. This iterative approach strengthened ownership of the process and ensured that the final outputs reflected the collective knowledge and experiences of those involved.

The deliberative process demonstrated the value of combining community actors, institutional stakeholders and bridging organisations in the co-creation of pathways towards more inclusive and socially just energy communities.

5.3 Food Solidarity in Turin (UNITO)

5.3.1 Participants of the Panels (Niche and Regime)

The Kick-off Meeting (KoM), held on 10 December 2025, marked the inaugural event of the deliberative process and recorded the highest level of participation with 11 organisations and stakeholders present, fostering an atmosphere of trust, mutual respect and collective learning.

DP1 was held on **11 February 2026**. The six participating niche organisations represented a diverse range of initiatives engaged in community-based management and food solidarity activities. Collectively, they provide support to entire neighborhoods and local communities, with particular attention to vulnerable groups, including undocumented migrants, people experiencing homelessness and elderly people.

The existing relationships and previous collaboration among participants contributed to a high level of cohesion and mutual trust, creating a constructive atmosphere that positively shaped the discussion. Although the session started with a slight delay and participants initially spent considerable time reflecting during the historical timeline exercise, they gradually became familiar with the vocabulary and tools of systems thinking. This enabled them to engage in a productive discussion, identifying numerous system variables and causal relationships. These were subsequently synthesized by the research team into a CLD by using the Kumu platform.

DP2 was held on **12 February 2026**. Compared with DP1, the session was conducted without significant delays, allowing sufficient time for both the development of the historical timeline and the system mapping exercise.

The eight regime participants represented substantially different governance logics within the regime: large-scale redistribution infrastructure (*Banco Alimentare*); an interdepartmental group at municipal level for food governance (GIPA); third sector actors (*Bagni Pubblici*, *Cascina Roccafranca*, *Rete Case del Quartiere*), charitable institutions (*Sermig*, *Caritas*) and a research group (*Atlante del Cibo*). The diversity of institutional cultures, roles and backgrounds generated many inputs and perspectives that have been crucial for the construction of the CLD. Some organisations were unable to attend due to overlapping commitments.

Finally, DP3 was held on **15 June 2026**. In line with the CO-SUSTAIN methodological framework, the session brought together participants from both DP1 and DP2, with the aim of fostering dialogue between niche and regime actors. To maximize participation, the event was rescheduled in response to requests from several participants, who had cited scheduling conflicts as an obstacle to attendance. Despite this effort, additional organisational constraints and overlapping commitments further limited participation on the rescheduled date. As a result, nine people attended the final session. Nevertheless, the group ensured representation of both niche and mainstream perspectives, as well as a diversity of organisational contexts and practices. At the same time, these absences represent a potential limitation in terms of representativeness and the plurality of perspectives included in the deliberation. This limitation is explicitly acknowledged in the conclusions (Section 5.3.7) and informed the design of the validation phase (Section 5.3.6).

5.3.2 First output: Identification of factors and dynamics + CLDs

The independent CLDs constructed in DP1 (niche) and DP2 (regime) were integrated by the research team into a unified CLD, subsequently presented to and validated by participants during DP3. The Merged CLD is represented in the interactive platform Kumu (<https://kumu.io/VMB96/dp3>) and incorporates sixteen core variables organised across two analytically distinct but causally interconnected subsystems, identified through two analytical criteria: the number and density of causal connections in the CLD (indicating structural centrality in the system) and their positioning in the main feedback loops and leverage point analyses. They are organised below according to the subsystem (niche or regime) in which they originated, even though many of them are shared across both levels.

NICHE SUBSYSTEM VARIABLES

(identified primarily in DP1)

1. Availability of time and resources

The foundational input variable of the niche subsystem. It captures the combined endowment of human, economic, material, and temporal resources available to niche organisations for planning and delivering food solidarity activities. The DP3 proposed these variables as the core part of the LP1, witnessing resource and time stabilization as the structural precondition for any systemic transformation.

2. CAI's active

The quantity and territorial spread of active CAIs. This variable functions simultaneously as an output of resource availability and network building (reinforcing dynamics) and as a source of pressure on the system, as an increased number of initiatives heightens coordination demands and resource competition. In the niche, it reflects the capacity to replicate and adapt, rooted in the third sector and associative environment of Turin.

3. Network creation and coordination

The density and quality of connections between different initiatives active in food solidarity. Denser networks facilitate exchange of information, resources, and skills, enabling collective responses to emerging needs that individual organisations cannot sustain alone. It represents the informal coordination infrastructure that made *Torino Solidale* possible during the pandemic.

4. % of community participation

The amount of relational resources and citizen participation, that strengthens trust and enables collective learning among niche actors. In the CLD, this variable is closely connected to network building and is a key driver of the system's adaptive capacity: it enables organisations to learn from each other's experiences, develop shared methodological approaches, and maintain cohesion across the inevitable fluctuations in external conditions.

5. Social empowerment

The capacity of people involved in food solidarity initiatives (both beneficiaries and volunteers) to act as active subjects and have their own agency, rather than being passive recipients. In the niche CLD, empowerment is driven by community practices by empowering subjects to participate in governance processes and reduce the stigma associated with vulnerability.

6. Emergence of 'invisible' vulnerable populations

The process through which subjects structurally excluded from institutional circuits and mainstream welfare channels, such as undocumented migrants, people without fixed abode, asylum seekers, become reachable and recognised within the food solidarity system. In the CLD, this is driven by the spread of solidarity culture and simultaneously represents an indicator of the niche's added value relative to formal welfare channels.

7. Support services: The set of relational and social practices (socio-educational accompaniment, proximity welfare, community management), that transform food distribution from a logistical transaction into a care process.

8. Transformative practices

The set of operational and relational innovations generated by CAIs that challenge the dominant assistentialist logic of the food solidarity system and demonstrate the feasibility of alternative models. They include the fresh food redistribution model (as opposed to dry food), zero-threshold service design for invisible populations, participatory governance models in which beneficiaries co-design service pathways and the integration of food solidarity with social activation and community-building.

9. Policies on food solidarity

The set of strategies, regulatory instruments, and public programmes that orient the food solidarity intervention system at municipal, regional, national, and European levels.

10. Culture of solidarity

The shared normative and value framework that orients niche actors' practices: food solidarity as a vehicle for social recognition, dignity, reciprocity, and community activation, rather than a charitable response to individual deficit. In DP1, the culture of solidarity was identified as the primary distinguishing feature of niche CAIs relative to mainstream welfare and redistribution actors: it is expressed in zero-threshold service models, in the rejection of stigmatizing distribution practices.

11. Consolidation/autonomy

The degree to which CAIs achieve organisational stability and strategic independence from external funding cycles and regime co-optation pressure. Identified in DP1 as the central internal tension of the niche: consolidation requires institutional engagement (and thus co-optation risk), while autonomy requires distance from the regime (and thus resource precarity)

REGIME SUBSYSTEM VARIABLES

(identified primarily in DP2)

12. Awareness and emergence of food poverty

Public and institutional recognition of the phenomenon, influencing political priorities and resource allocation. In the CLD, food poverty is both the primary driver of the system's mobilization (reinforcing attention and resources during emergency phases) and the variable whose persistence reveals the inadequacy of purely logistical responses.

13. Institutional support

The capacity of municipal, regional, and national administrative actors to support the continuity,



coordination, and legitimation of food solidarity networks, beyond emergency phases. Its variability, high during emergencies, declining in ordinary phases, generates the oscillatory pattern that all Life Line exercises documented as the system's most recurrent structural dynamic.

14. Network creation and coordination

The degree of integration between actors at different governance levels (public bodies, third-sector organisations, ecclesiastical institutions, cooperatives) including legal frameworks, accreditation procedures, and shared operational protocols. This variable captures the structural architecture of niche-regime interaction, distinguishing between informal coordination (which is high during emergencies and captured in the niche variable 'network building') and formalized coordination (which requires institutional mandates and produces more durable but less flexible arrangements).

15. Data integration

The degree to which information is systematically shared across public, private and third-sector actors, enabling coordinated resource allocation, logistics organisation and the visibility of otherwise-invisible vulnerable groups.

16. Reduction of social isolation

It represents the degree to which people manage to escape conditions of loneliness, marginalization or social invisibility. It increases when initiatives are not limited to material distribution but create opportunities for meeting, providing strategies and tools for support and greater social empowerment.

17. Welfare culture

The dominant cultural framework orienting welfare and social service, which generally consist in a paternalistic, emergency-response logic that frames vulnerable people as recipients of charitable donation rather than as rights-holders with active agency.

18. Social isolation

The degree to which people experiencing food insecurity manage to escape, or remain trapped in, conditions of marginalization and social exclusion. DP3 participants connected social isolation to the 'invisible populations' dynamic: isolation is both a cause and a consequence of invisibility (people who are isolated are harder to reach) and people who are not reached remain isolated.

19. Resources/capacity

The overall endowment of material, organisational, and human resources, including volunteers, professional staff, logistical infrastructure and know-how, available across niche and regime actors for food solidarity activities.

SHARED AND CROSS-LEVEL VARIABLES

20. Public attention

This variable, at niche level, operates as a booster of resource mobilization and initiative proliferation during emergency phases. At regime level, it is a driver of political priority-setting and resource allocation, but it is structurally volatile, generating peaks during crises and systematic declines in ordinary phases

21. Recognition by institutions

The degree to which CAIs receive formal political and administrative legitimation, with effects on resources, governance access and organisational formalization.

22. Professionalization

The increasing formalization of roles, skills, and organisational structures within the food solidarity sector, driven primarily by regime funding requirements and EU accreditation criteria. Identified in both DP1 and DP2 as a structurally double-edged variable: professionalization improves operational quality, organisational sustainability and access to regime resources, but simultaneously erodes the relational density that characterize CAIs.

23. Torino solidale project and snodi creation (hubs)

Emergency coordination platform created during COVID-19 (2020) that brought together public actors, and niche CAIs in a shared governance framework, establishing 15 territorial hubs (snodi) for food redistribution across Turin.

24. Project design and planning capacity

The ability to design, write, and manage project proposals, including EU and national competitive funding applications.

25. Recovery of surpluses and unsold food

The operational practice of collecting and redistributing surplus food from producers, retailers, restaurants, and large-scale distribution. Identified in DP1 as the primary material flow through which niche-regime cooperation is operationalized, and in DP2 as a key logistics and governance challenge at regime level.

26. Number of initiatives (emergence and scaling up)

The quantity and territorial spread of active CAIs. Reflects both the niche's capacity to generate new responses and the coordination pressure produced by network expansion.

27. Availability of time/resources:

The combined endowment of human, economic, material and temporal resources available to CAIs for food solidarity activities. The foundational input variable of the niche and regime subsystems (in relation to Torino soldiale's *Snodi*) and their primary structural bottleneck.

28. Coverage of territory

The spatial reach of food solidarity initiatives across Turin's urban territory and in particular to peripheral areas with concentrated vulnerability (Barriera di Milano, Aurora, Porta Palazzo, Mirafiori). Identified in DP1 to intercept subjects structurally excluded from centralized welfare circuits. In DP2, coverage was discussed referring to the distribution of solidarity hubs and Snodi across the city through Torino Solidale.

The variable "dry food" was excluded as it was considered less critical from an organisational point of view and less transformative on a cultural level.

5.3.3 Key Feedback Dynamics

The CLD co-produced with participants during the deliberative process maps the Turin food solidarity system as a network of 55 variables connected by 95 causal links. Within this structure, 27 feedback loops were identified and named: 14 reinforcing loops (R), which amplify change and account for the growth, consolidation and institutionalization of food solidarity practices, and 13 balancing loops (B), which counteract change and express the structural limits, tensions and risks that constrain the system. The pandemic-related variables (COVID-19, Lockdown, End of pandemic) enter the map as exogenous drivers and they activate or dampen several of the dynamics described below, particularly B7 and B11.

Reinforcing loops

- **R1. Food solidarity action:** Policies on food solidarity → (+) Support services → (+) Support strategies (*accompagnamento*) → (+) Awareness and emergence of food poverty → Policies on food solidarity. The higher number of policy interventions, laws, revolution, sustain the creation of new support services; through accompaniment strategies, services in turn bring further need to the surface, feeding back into awareness and the higher emersion and related recognition) of food poverty. And theoretically tackle it.
- **R2. Role of information:** Awareness and emergence of food poverty → (+) Information over food solidarity → (+) Research activity and social dissemination on food poverty → (+) Policies on food solidarity → (+) Awareness. Information and research increase the awareness of food poverty, the more it is studied and publicly disseminated, reinforcing the policy agenda and awareness itself.
- **R3. Awareness stimulated by policies:** Awareness and emergence of food poverty → (+) Policies on food solidarity. A tight two-variable loop: policies legitimise and make food poverty visible while awareness generates pressure for further policy action.
- **R4. Role of Education:** Education resources → (+) Awareness and emergence of food poverty → (+) Public attention → (+) Education resources. Educational resources cultivate awareness, awareness attracts public attention, and the higher public attention can lead to new investment into education on food poverty.
- **R5. CAIs' transformative action:** Awareness and emergence of food poverty → (+) CAIs active → (+) Public attention → (+) Education resources → (+) Awareness. CAIs can raise the public visibility of food poverty; visibility feeds educational work and awareness, which in turn stimulate and enrich CAIs operations and projects.
- **R6. Collective action against food poverty:** Awareness and emergence of food poverty → (+) CAIs active → (+) Support services → (+) Support strategies (*accompagnamento*) → (+) Awareness. The higher presence of CAIs expands the supply of support services and accompaniment, which surface previously invisible needs and reinforce collective action.
- **R7. Services and professionalization.** Support services ⇌ (+/+) Professionalization. The expansion of services drives the professionalization of practitioners and organisations, and professionalization increases the capacity to deliver services
- **R8. Public-private integration:** Network creation and coordination → (+) Public/private collaboration → (+) Data integration → (+) Resources/capacity → (+) Network creation and coordination. Networking enables structured collaboration between public and private actors; collaboration supports data integration (e.g. shared information systems), which augments organisational resources and capacity, further strengthening coordination.

- **R9. Trust and mutualism:** Consolidation/autonomy → (+) Trust between initiatives → (+) Organisational/financial mutualism → (+) Informal cooperation between networks → (+) Consolidation/autonomy. As initiatives consolidate and gain autonomy, mutual trust can grow and this can consequently, enable organisational and financial mutualism and informal cooperation, which in turn reinforce consolidation.
- **R10. Role of policies:** Take over (policy) → (+) Torino Solidale project and *snodi* creation (hubs) → (+) Visible vulnerable groups → (+) Coverage of territory → (+) Project design and planning capacity → (+) Recognition by institutions → (+) Take over (policy). The public take-over of food solidarity through Torino Solidale makes vulnerable groups visible and extends territorial coverage; this strengthens design and planning capacity, earns institutional recognition and consolidates the policy take-over itself.
- **R11. Cooptation:** Policy replication → (+) Public attention → (+) Project design and planning capacity → (+) Recognition by institutions → (+) Policy replication. Successful CAls organisational models and practices attract attention, build planning capacity and gain institutional recognition, leading to their replication as policy (also their progressive absorption into the institutional agenda).
- **R12. Political inertia:** Policies on food solidarity → (–) Political and policy inertia → (–) Policies on food solidarity. Two negative links produce a reinforcing dynamic that can lock the system into either of two states: active policy-making erodes inertia, enabling further policies, while prevailing inertia suppresses policy initiative and thereby reproduces itself.
- **R13 Gift culture:** Gift culture and reciprocity → (+) Transformative capacity → (+) Culture of solidarity → (+) Gift culture and reciprocity. The practices of gift and reciprocity nourish the transformative capacity of initiatives, which strengthens the broader culture of solidarity in which gift relations are embedded.
- **R14. Window of opportunity:** Torino Solidale project and *snodi* creation (hubs) → (+) Visible vulnerable groups → (+) Coverage of territory → (+) Distribution of fresh and unsold food → (+) Torino Solidale project and *snodi* creation. The pandemic opened a window of opportunity in which the hub infrastructure made vulnerability visible, extended coverage and scaled up the distribution of fresh and unsold food, results that legitimized and expanded the *snodi* system itself.

Balancing loops

- **B1. Accessibility to funds:** Access to funds → (–) Support services → (–) Welfare culture → (+) Volatility of financial funds and strict rules to access them → (–) Access to funds. This cycle illustrates how stringent rules and requirements for accessing funds affect the ability to provide support services, which in turn erode the welfare culture and the principles underpinning the process of resource allocation, thereby restricting access to resources itself.
- When access to funds is constrained, support services expand to fill the gap; their expansion, however, erodes the (public) welfare culture, which in the panel's representation is bound up with volatile, strictly regulated funding streams that again restrict access.
- **B2. Welfare quality loss.** Welfare culture → (–) Transformative capacity → (–) Professionalization → (+) Standardization of practices → (+) Click-day → (–) Welfare culture. This section describes how a decline in cultural engagement (and political commitment) within welfare systems jeopardizes the transformative capacity of the system itself, and professionalization brings

standardization of practices and dependence on competitive, "click-day" funding mechanisms, which degrade welfare culture.

- **B3. Coordination of CAIs.** Network creation and coordination → (+) CAIs active → (+) % Community participation → (–) Resources/capacity → (+) Network creation and coordination. The higher the network coordination, the higher community participation. But participation absorbs organisational resources and capacity; as capacity is consumed, the ability to sustain further networking and coordination declines.
- **B4. Solidarity in between.** Resources/capacity → (–) Culture of solidarity → (–) % Community participation → (–) Resources/capacity. This cycle illustrates how participation is dependent on the availability of resources and capacities (financial, human and logistical), which in turn are reflected in the level of community participation, thereby affecting the overall level of resources and capacities, producing containment rather than cumulative development.
- **B5. Community participation against social isolation.** Network creation and coordination → (+) CAIs active → (+) % Community participation → (–) Poverty criminalization → (+) Consideration of others → (+) Culture of solidarity → (+) Network creation and coordination. The widespread presence of CAIs and the sense of involvement they can foster within communities and local areas can help to reduce the criminalization of crime and of that whole 'invisible' section of the population. Yet in the panel's representation it is precisely the visibility of stigmatized poverty that mobilizes "consideration of others" and feeds the culture of solidarity.
- **B6. Network creation.** Network creation and coordination → (+) Public/private collaboration → (+) Data integration → (+) Resources/capacity → (–) Culture of solidarity → (+) Network creation and coordination. Institutionalised collaboration and data integration build resources and capacity, but this managerial strengthening erodes the grassroots culture of solidarity on which network creation ultimately rests, capping the integration dynamic.
- **B7. Lockdown's end.** Number of initiatives (emergence and scaling up) → (+) Community practices → (+) Availability of time/resources → (–) Number of initiatives. The proliferation of initiatives consolidates community practices and the shared pool of time and resources, whose feedback on further emergence closes the loop and keeps expansion in check. The loop is strongly modulated by exogenous shocks: the lockdown exceptionally enlarged available time while the end of the pandemic contracted it
- **B8. Food recovery and distribution against food poverty.** Food poverty → (+) Public attention → (+) Distribution and logistics → (+) Recovery of surpluses and unsold food → (–) Food poverty. More initiatives and systems for food recovery and distribution to tackle food poverty raise public awareness of the issue, whilst also improving the distribution and logistics system, which in turn boosts the food recovery and distribution network, thereby combating food poverty.
- **B9. Capacity to respond to new vulnerabilities.** Recovery of surpluses and unsold food → (+) Social empowerment → (+) Access to nutritious and healthy food → (–) Social isolation → (+) Project design and planning capacity → (+) Recovery of surpluses and unsold food. Recovery practices generate social empowerment and improved access to nutritious food. For that reason, participants have outlined how we can reduce social isolation; since isolation is itself a signal of need that activates design and planning capacity, its reduction eases the pressure on planning and increases as a positive indicator for the recovery of unsold food.
- **B10. Vulnerability exit.** Social isolation → (+) Social empowerment → (+) Access to nutritious and healthy food → (–) Social isolation. A manifest social isolation activates empowerment work,

empowerment improves access to nutritious and healthy food, while at the same point, improved access, reduces isolation.

- **B11. End of pandemic and societal response.** Number of initiatives (emergence and scaling up) → (–) Public attention → (–) Availability of time/resources → (–) Number of initiatives. As initiatives multiply, public attention to food poverty declines; the emergency-driven mobilization of people's time and resources subsides with it, and the emergence of new initiatives slows. Together with the exogenous links from End of Pandemic, this loop accounts for the winding down of the exceptional societal response observed during covid-19.
- **B12. Data appropriation risk.** User profiling → (+) Privacy problem and data appropriation → (–) Data integration → (+) User profiling. The dark side of datafication (R8): as data integration enables increasingly fine-grained user profiling, privacy concerns and risks of data appropriation grow, generating resistance that constrains further data integration.
- **B13. Relational model disruption.** Torino Solidale project and *Snodi* creation (hubs) → (+) Centralization of food solidarity practices → (–) Consolidation/autonomy → (+) Torino Solidale project and *Snodi* creation. The Torino Solidale system centralises food solidarity practices, and this process undermines the consolidation and autonomy of grassroots initiatives that represent the relational fabric on which the hub model itself depends.

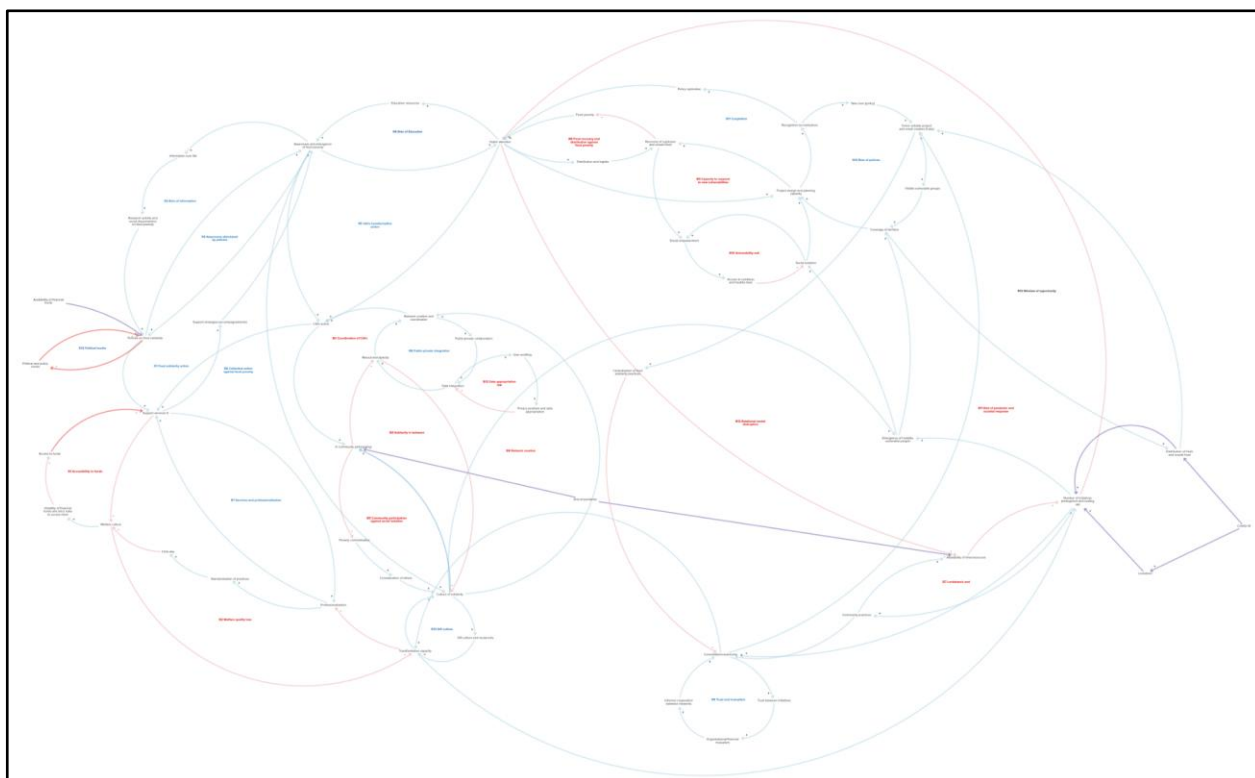


Figure 5.3-1: Causal loop diagram UNITO

5.3.4 Potential for change

During DP3, participants identified three main leverage points among the six pre-selected by the research team. The selected LPs are:

1. Stabilization of time and resources

Meadows level: parameters and buffers

The variable *Availability of time/resources* emerges as one of the most influential output nodes in the system, affecting the *Number of initiatives* (both their emergence and scaling up), the *Culture of solidarity* and *Organisational/financial mutualism*. Its instability, driven by exogenous shocks such as the lockdown and the end of the pandemic, is a primary source of the system's oscillatory behaviour (B7: *Lockdown's end*). Strengthening this loop through more stable, long-term funding mechanisms, dedicated stabilization funds, and support for existing forms of organisational mutualism would reduce the system's reliance on emergency-driven mobilization.

2. Establishing stable spaces for co-design and collective learning

Meadows level: shared paradigms and mental models

The feedback loop indicates that collective awareness reinforces itself through the circulation of knowledge and educational resources. At present, however, this dynamic is largely episodic, emerging mainly during periods of heightened public attention (such as the COVID-19 pandemic). In the merged CLD, the *Culture of Solidarity* is the most highly connected variable. It functions as both an outcome of collective learning processes and as a condition that enables these processes to continue. Institutionalised spaces for dialogue, co-design, and systems-oriented reflection, involving both niche and regime actors - such as the deliberative process itself - can create feedback mechanisms that gradually reshape the mental models through which actors interpret and respond to the system. Over time, this strengthens systemic coherence and improves the capacity for coordinated action. Although interventions at this level are typically the slowest to produce visible change, they also have the greatest potential to influence the system's long-term trajectory.

3. Strengthening information flows and data integration

Meadows level: information flows

The merged CLD identifies a causal pathway linking *Information on SA* to *Research activity and social dissemination on food poverty*, and ultimately to *Policies on food solidarity*, mediated by *Awareness and emergence on food poverty*. This dynamic is reinforced by loop R2 (*Role of Information*). At the same time, *Data integration*, supported by *Public-private collaboration*, strengthens loop R7 (Public-private integration) and improves coordination across food solidarity initiatives. Investing in shared monitoring systems and the systematic production of knowledge, for example through the *Atlante del Cibo*, would strengthen an intermediate leverage point, with effects across the merged CLD. However, closer public-private integration must not allow collective initiatives to be absorbed into the dominant regime logic. As highlighted by loop R11, this could weaken the flexible and informal practices that are central to the adaptive capacity of niche initiatives.

5.3.5 Output of DP3

The ToC co-design, which emerged after each group proposed actions during the role-play, represented a crucial step in translating the insights generated through the CLD into a shared vision. During the role-play, participants reflected on the conditions required to transform Turin's food solidarity system in the long term. The discussion then shifted towards identifying where change could realistically happen and which actors should be involved, having first established how the system currently functions. This process produced a set of intervention pathways, each of them combining concrete actions and mechanisms to facilitate this change. A first priority concerned the **production, integration and operational use of data**. Participants consistently argued that better information should not simply improve the identification of people experiencing food insecurity but should also make visible their capabilities which often remain hidden within current assistance frameworks. Existing digital infrastructures, such as *SolidApp*, were identified as valuable starting points that could be developed into more comprehensive knowledge platforms. Participants explicitly expressed the need to integrate information that would allow for a shift in how beneficiaries are represented: they should not only be considered as recipients of aid, but also as active members of the community whose skills and experiences could contribute to strengthening local solidarity networks. However, this transformation is considered viable only if this information is shared through mutual trust and supported by appropriate legal and ethical safeguards, particularly with regard to data protection. This point was also emphasised during the validation workshop and will be explained further in **Section 5.3.6**. Under these conditions, improved data integration is expected to support more informed policy decisions, facilitate the identification of emerging and often invisible forms of vulnerability, and reduce the current fragmentation of food solidarity initiatives.



Figure 5.3-2: DP3 UNITO

A second area of intervention focused on **governance and collaboration**. It was underlined how coordination and governance systems cannot simply rely on informal relationships during times of emergency, but require stable opportunities for interaction between public institutions, third-sector

organisations, academia, and other territorial actors. For that reason, it was proposed to develop itinerant working groups, regular plenary meetings and permanent co-design platforms where to exchange experiences, discuss challenges and collectively design innovative and non emergential solutions and strategies. These collaborative spaces were expected to generate benefits beyond simple coordination. By encouraging continuous dialogue among actors with different perspectives and expertise, they would facilitate mutual learning, improve logistical organisation, strengthen trust and contribute to a more coherent governance of food solidarity. Participants also recognised that these processes require specific enabling conditions, including dedicated time, organisational resources and facilitation capacities of sustaining participation over time.

Closely connected to this theme was the need to invest in **continuous training**, which should not be considered an isolated activity. In fact, participants described it as an enabling condition for improving the overall functioning of the system. Continuous learning opportunities involving public administrations, universities and third-sector organisations were expected to strengthen professional competences related not only to food solidarity but also to broader issues such as social inclusion, vulnerability assessment and collaborative governance. Participants argued that a better-trained workforce would be more capable of recognizing the multidimensional nature of food poverty, identifying complex needs and supporting vulnerable people through more comprehensive pathways of inclusion instead of limiting interventions to food distribution alone. The effectiveness of these initiatives, however, depend on several assumptions, including the willingness of professionals to engage in continuous learning, the capacity of organisations to value newly acquired competencies and the effective transfer of knowledge into everyday practice.

Participants also identified the importance of introducing new intermediary actors able to connect organisations and sectors that rarely interact directly. In particular, the discussion highlighted the potential role of the **food manager**, acting as a bridge between food producers, retailers, charities and local solidarity networks. As well as improving the recovery of surplus food, this role was also intended to enhance the flow of information between the production, logistics and organisational sectors within the food industry, which is also useful for fostering a culture of solidarity involving both public and private figures.

More generally, participants shared the need to increase dedicated moments to share experiences and best practice among the organisations operating within Turin's food solidarity ecosystem to overcome institutional fragmentation.

Perhaps the most significant outcome of the deliberation process was the gradual reformulation of the system's long-term purpose. While discussions initially focused on improving food surplus redistribution, participants progressively questioned whether reducing waste should remain the primary objective of food solidarity policies. They argued that food waste reduction and food poverty reduction, although related, represent distinct policy goals. A system may become increasingly efficient at recovering surplus food without necessarily reaching those experiencing the most severe or least visible forms of food insecurity. This reflection led participants to propose a broader normative orientation centered on **food justice** rather than food surplus management alone. Within this perspective, the effectiveness of future interventions should no longer be assessed solely through quantitative indicators, such as tonnes of food recovered or meals distributed, but also through measures capturing social inclusion, dignity, autonomy, participation and the capacity to recognise and address structural forms of vulnerability. Participants also noted that existing policy instruments, such as tax incentives for food donations, may unintentionally reward surplus disposal instead of fostering genuine solidarity practices. Reshaping these mechanisms was

therefore identified as a possible long-term policy direction, which can ultimately address and incorporate social justice principles in food solidarity actions.

5.3.6 Pathways for Change + Expert validation

The Theory of Change process began with a visioning exercise designed to stimulate collective reflection around a guiding question: “How would you like Turin’s food system to look in an ideal future?”. The plenary discussion produced a shared and multidimensional vision of change and, despite the diversity of perspective represented throughout the workshop, participants progressively converged around a set of common pathways that define a desirable future for the city’s food solidarity system.

The first pathway emphasised the need for a **more integrated and collaborative system**, supported by the co-production of data and knowledge across public institutions, third-sector organisations, private actors, and the agrifood sector. Participants stressed that integration should not only reduce institutional fragmentation but also make information more actionable, reducing the gap between knowledge production and policy implementation. Within this vision, universities were recognised as key neutral facilitators, capable of supporting systemic analysis, enabling dialogue among stakeholders and translating research evidence into practical knowledge.

A second pathway focused on **shifting from assistance to participation**. Participants envisioned a food solidarity system that is more community-oriented, equitable, and participatory, where people experiencing food insecurity are recognised not simply as beneficiaries of services but as active contributors to their communities. In this perspective, food is understood not only as a means of addressing material needs but also as a vehicle for promoting autonomy, social recognition and civic participation. This implies moving beyond a service-delivery approach towards practices based on shared responsibility and individual agency.

The discussion also highlighted the importance of strengthening an underlying **culture of solidarity** grounded in participation and reciprocity. Participants argued that food solidarity should not be reduced to the redistribution of surplus food but should instead be understood as a broader social and political practice centred on the recognition of rights, relationships and collective responsibility. The concept of a *culture of giving* was frequently invoked to describe a system based on mutual support rather than individualism. Participants emphasised the long-standing existence of solidarity as a social practice, suggesting past experiences of cooperation and using them as valuable examples to design future transformations. In turn, this perspective implicitly challenges approaches that frame food poverty primarily as a technical or logistical issue, advocating instead for a more political and ethical understanding of the matter in terms of food justice and social inclusion.

A fourth pathway concerned the development of a stronger **educational community** capable of addressing food poverty as a multidimensional phenomenon. Participants recognised that food insecurity extends beyond a lack of access to food and encompasses social exclusion, isolation and other forms of vulnerability. Responding effectively to these needs requires the active involvement of a wider range of actors, including schools, universities, civil society organisations and citizens, instead of only relying on specialized service providers. Building a more distributed and locally embedded support network, together with improved mechanisms for identifying emerging needs, was considered essential for strengthening both institutional responses and community-based solidarity. Finally, participants stressed the need for a

long-term strategic perspective capable of overcoming the discontinuity created by short-term projects and emergency-driven interventions.

Table 5.3-1: Shared vision summary as proposed during DP3 UNITO

Dimension	Content	Actions required
Systemic integration	Overcoming fragmentation through operational data and the co-production of knowledge	Permanent working groups; shared monitoring platforms; integrated sectoral policies
People centrality	Shift from charitable and victimizing initiatives to people's empowerment and agency	Multidimensional interventions; valorization of people's competencies
Educational community	Collective responsibility; citizens engagement beyond sector-specific stakeholders; raising awareness on the right to food	School-based interventions; public awareness campaigns; spaces for civic participation
Food justice	Moving beyond a food waste approach towards the recognition of the right to food; distinguishing food surplus from food donation	Reforming fiscal incentives; rights-based food policies; reducing dependency relationships
Long-term strategy	Overcoming project-based discontinuity; food policies extending beyond electoral cycles	Permanent co-design spaces; multi-year structural funding; urban food strategies

Validation by experts

The validation process constituted the final stage of the three deliberative panels. During this phase, the preliminary results emerging from the Causal Loop Diagrams (CLDs) and the Theory of Change (ToC), collectively developed throughout the deliberative process, were presented to a group of experts in the fields of food solidarity and food poverty alleviation.

These experts had not participated in the deliberative panels. They were selected on the basis of their expertise and experience in the field in order to provide independent feedback on the preliminary findings and to strengthen the policy actionability of the proposed pathways for change. The validation session combined elements of a semi-structured interview, and a guided dialogue structured around the project's three validation questions.

Table 5.3-2: Validation session UNITO

Participant n.1	Practitioner with experience in solidarity initiatives; strong rights-based advocacy position. Expert in food solidarity practices.
Participant n.2	Researcher, expert in urban food systems, food poverty and food policy;
Participant n.3	Food policy expert and practitioner; expertise in organisational models and food governance

The validation group achieved balance across the dimensions required by the CO-SUSTAIN guidelines: disciplinary diversity and actor-type diversity. The group was composed by three female experts.

Question 1: Representativeness of the CLD → The validators valued the core feedback loops (funding volatility, trust/mutualism, professionalization-depoliticization, click-day effect) as accurate. In addition, few integrations were suggested such as: expanding "*cultura del dono*" (gift culture) to capture full reciprocity logic; represent user-profiling as ambivalent (add a balancing loop for data governance risk); add "political/policy inertia" as a regime-level structural variable that limit transformative capacity of CAIs; finally, it was suggested to refine COVID-19 as a double-edged variable (opportunity at regime level, but justification for regression to pure food distribution at niche level).

Question 2: Relevance of factors/dynamics → Validators confirmed the relevance concerning the dynamics proposed while, in the meantime, raising concerns about Turin's lack of a coherent food policy and the overall confusion between food policy and welfare policy functions; in addition, it has been critiqued the use of tonnage-based KPIs as measuring upstream inefficiency, rather than communicating real impact in policy action. Finally, it has been outlined the necessity to shift from a charity paradigm to a right-to-food/social justice paradigm, with the urgency to address the gap between CAIs' operational participation and their usual exclusion from the policy design.

Question 3: Pathways for change → LP1 (resource/time stabilization) has been confirmed as the top priority intervention, evidenced by the high absence rate at DP3 of the third sector actors. This was perceived as a factor witnessing the lack of time/resources for these actors and realities. LP2 (co-design spaces) was confirmed as a high-impact LPs, but reframed as formal recognition of existing bodies (GIPA, Atlante del Cibo) rather than going through the creation of new institutions and governmental bodies. LP3 (information flows) was confirmed, contingent on data governance safeguards. In addition, the "food manager" role was endorsed if defined as a system connector (not a welfare case manager). Finally, it was recommended to create rights-fulfillment indicators as an explicit ToC output.

5.3.7 Preliminary conclusions

In the Turin case study, the stakeholder engagement process revealed both strengths and certain structural limitations in the selection of the sample. Among the positive aspects, it is worth noting that the sample ensured the representation of all viewpoints and key actors in the system, while also guaranteeing territorial coverage of the most vulnerable areas and the inclusion of organisations and actors that represent the needs and vulnerabilities of the most invisible segments of the population.

The primary limitation concerns the structural difficulty of directly involving food-insecure beneficiaries in the deliberative process. However, this was a challenge that the research team deliberately chose to address in order to avoid situations of imbalance and potential exclusion during the participatory process. Likewise, despite the implementation of the Access Survey and efforts to accommodate participants' availability through Doodle scheduling, as well as maintaining regular communication and providing ample advance notice, participation remained limited and gradually declined across the three deliberative panels. This limitation is structurally conditioned by the time demands and the availability of resources and times, constrained for both the regime and particularly for CAIs actors. The absence of several key niche organisations from DP3. The validation phase's prioritization of these absent actors addresses this limitation in part.

Regarding interaction within the panels, all three deliberative sessions were characterized by productive and balanced dialogue. No individual or organisation dominated the discussion, and all participants were given equal opportunities to contribute, express their views, and engage throughout the process. Furthermore, DP3 successfully achieved its integrative objective by fostering cross-sector convergence around a shared vision for the future of the food solidarity system, a result that several participants themselves described as unexpected.

The role-play exercise in DP3 generated the most creative, concrete action proposals, alongside the PSM exercise. The Miro real-time clustering enabled genuinely collective co-construction of the ToC structure in a format accessible to participants with heterogeneous digital competencies.

The primary interaction challenge concerned the CLD construction exercise, which proved methodologically demanding for participants without prior systems thinking exposure. The high level of causal abstraction required by CLD methodology created accessibility barriers that were only partially addressed by the facilitation team's adaptations. Several participants contributed more effectively during narrative discussion phases than during formal mapping exercises, suggesting that PSM protocols designed for research contexts may require simplification for a greater engagement of participants.

The deliberative process successfully collected participants' views across multiple registers: historical narratives (Life Line exercises); systemic perspectives and strategies (CLD construction, leverage point prioritization); normative visions (DP3 vision construction); and action proposals (role-play and ToC clustering). The triangulation of these methods provided a multi-dimensional portrait of the food solidarity system that exceeds what any single method could have produced.

The deliberative setting's orientation toward consensus-building may have dampened the expression of fundamental political disagreements that are constitutive of the food solidarity terrain and that are analytically significant for understanding the barriers to transformative change.

According to the research team's perspective, the overall process can be considered genuinely participatory. All the participants were involved on the deliberative and co-design process. Reflecting on the CO-SUSTAIN Turin process against Arnstein's (1969) ladder of participation, the process achieved genuine co-production at the level of knowledge and analytical framing, but now it still needs to show institutional decision-making influence. This finding resonates with D3.1's broader question about the relationship between deliberative arenas and institutional change: participatory processes generate legitimate, grounded, and analytically rigorous outputs, but their translation into policy change requires institutional receptiveness that the process itself cannot guarantee.

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The preliminary conclusions from the Turin case suggest some important points for consideration in the comparative analysis to be carried out under WP4, particularly with regard to the interaction between niche and regime, and how the proposals developed throughout the deliberative process may bring about innovations in terms of governance, organisational and logistical mechanisms, leading to more profound changes in the values and principles that govern the current food solidarity system. This can represent a central working hypothesis that can be further developed in WP4.

5.4 Espoo Small Modular Reactors case study (LUT)

5.4.1 Participants of the panels (niche and regime)

The aim of recruitment for the panels was to have diverse representation from the City of Espoo, including public officials, municipal employees, private-sector organisations, civil society organisations (including representatives of vulnerable groups) and other relevant stakeholders. The participant composition was designed to capture different institutional perspectives, including formal local decision-making and the practical, everyday implementation of municipal policies. Whereas civil society organisations would present the interests and views of the residents of Espoo.

Across the panels, ten participants took part in the deliberative process. The gender distribution was relatively balanced, although women constituted a slight majority: six participants were women and four men. The participants' average age was 50.5 years, and six out of ten held a master's degree or equivalent qualification.

Panel 1 was composed of representatives from energy companies, institutions, and civil servants. Participants included municipal representatives, civil servants from a government agency, representatives from the private sector, and deputy members of the city council.

Panel 2 Participants of the panel constituted representatives from civic organisations and residents of the city of Espoo. Three out of four participants were retirees.

Panel 3 The panel consisted mainly of participants from the two previous panels. The only exception were two substitutes from the same organisation as previous attendees, to replace them as they could not attend. The participants included municipal representatives, City Council members, civil servants from government agencies, representatives of civil society organisations and residents of the City of Espoo.

5.4.2 First output: Identification of factors, dynamics and CLDs

System mapping and drafting causal loop diagrams were the main methods of engagement for the participants during the first two panels. The exercises were conducted in order to explore answers to the guiding questions of the panels. Due to the feedback received during the KoM, the focus of the case study was moved from SMRs to participation in a hypothetical large-scale energy project. Therefore, the overall guiding question for the panels was *“How can participation be strengthened in the preparation and decision-making of individual significant projects in the city?”* The guiding questions sought to underline that the focus of the panels and the case study were on participation and not promoting the building of SMRs.

In addition to the overall guiding questions, both panels had their own specific guiding questions that the participants sought to answer with the system mapping exercise. The first panel's guiding question was *“How can participation be supported to enable impactful participation in the preparation and decision-making of individual large-scale projects?”* The second one focused on the question *“What are the prerequisites for meaningful and impactful participation in the preparation and decision-making process for a single large project?”* Therefore, both panels aspired to identify key factors and dynamics related to improvement of participation in large-scale projects in a city-setting. Although the guiding questions themselves did not include the term SMRs, it was kept as a context for the thought-experiment, but it was underlined in the introduction of the panels that the city of Espoo is not currently pursuing SMRs.

The first panel

[Link to the Panel 1 CLD](#)

The first panel's participants mainly represented energy companies, institutions and civil servants, the emphasis being therefore on the regime level. The panel began by introducing the CO-SUSTAIN project, followed by a tutorial on system mapping and causal loop diagrams. The participants were then asked to draft a timeline of key events and factors that could answer the guiding question of the panel. After this, the participants were asked to describe their timelines to the other participants and moderators. During this part of the exercise, two moderators summarized and wrote down key factors that could be used in the causal loop diagram drafting. The timelines made by the participants were discussed. The participants interpreted the assignment in various ways. Some drew the history of the SMR project in Espoo and its main phases, others interpreted the timeline more from the perspective of local actors and the municipality, focusing on SMR decision-making in the local context. During when the participants explained their timeline, the facilitators identified potential factors for the CLD and wrote them down. After going through all the timelines and collection of all the factors from the participants' timelines and their descriptions, the participants voted for the most important factors that would then be included in the CLD. Thus, the formation of the CLD began. In general, this panel placed more focus on discussion and the first version of the CLD resembled a mind map. The facilitators of the exercise then formed the mind map into a CLD after the panel. The loops identified in the CLDs are named by the LUT team members who facilitated the exercise. The CLDs were then sent for validation to the participants of the panels.

The first panel placed emphasis on top-down participation, knowledge creation, and inclusion. The discussion surrounding the formation of the CLD first centred around SMRs, technical aspects related to it and the enabling factors, such as legislation, for the building process. The panelists themselves noticed that the discussion focused on the technical aspects, which is why the latter part of the panel placed emphasis on brainstorming ways to better engage residents in the city's projects. The participants discussed already existing official channels for participation, such as residents' opportunities to comment on zoning decisions by the city, opinion polls regarding the acceptance of nuclear power or the placement of an SMR and how providing information can be an enabling factor for participation. The participants also discussed how it would be important to plan beyond already existing forms of participation and with an inclusive mindset providing new and innovative forums for participation.

Factors that opened the CLD drafting process were **strategic intent (political will to act)**, **zoning**, and **time**. The strategic intent referred to the regime level, decision-makers and the municipal government and their interest to commit to a SMR project. The strategic intent was seen as a key catalyst in energy solutions such as small modular reactors as the municipality or city must have a clear need and will to promote energy projects of this scale. It was seen as central to participation as well as inclusion of residents in decision-making. Strategic intent was associated with a wide range of factors, which, however, do not form causal relations with each other, but were considered as external motivations. These included **security of supply**, **the pursuit of well-being**, **the pursuit of economic growth**, **financing**, **the interest of energy companies**, and **security**. With security the panelists referred to Russia's war of aggression in Ukraine and how that has raised concerns on security of supply in Finland. The panelists argued that in order to ensure **security of supply** during conflicts, domestic energy production is an essential factor influencing the **strategic intent** and motivation to promote projects such as SMRs. Related to this, the panelists discussed how on the individual level Finnish residents are increasingly invested in energy production related issues,

as high price spikes in market-priced electricity due to the Ukraine war has led to increased general awareness of the prices of imported energy. In addition to security concerns related to Russia's war in Ukraine, the panelists discussed some nuclear power plant accidents such as Chernobyl and Fukushima accidents, and that might influence the public opinion on SMRs negatively.

In addition to this, the participants highlighted **parliamentary** and **municipal elections** as factors influencing **strategic intent**, as well political parties' target programmes. These are key elements that influence decisions regarding nuclear power. The results of the municipal elections have a strong influence on decisions on what kind of energy and climate solutions cities and municipalities are aiming for. Especially when it comes to nuclear power, parliamentary elections are relevant. Under the Nuclear Energy Act of 1987, the government made decisions regarding nuclear facilities. In addition, the Decision-in-Principle required ratification by Parliament. These, in turn, were seen to be influenced by **goals that go beyond the parliamentary term**. The panel discussion did not focus more specifically on the causal relations between the two, mainly the interaction. The factors listed above were seen as factors with a direct effect, rather than a causal effect.

Knowledge dissemination through communications regarding nuclear power and SMRs was made an important element as an enabler of participation. In addition, themes related to **civic competence**, such as how citizens can influence projects in municipalities or cities, were seen as essential themes. In this context, panelists wondered who is ultimately responsible for inclusion, whether it is the city or municipality, the energy companies or the residents themselves. The answer to this question was not found in the panel, but the topic was thoroughly discussed.

The second panel

[Link to the second CLD](#)

The same procedure as in the first panel was repeated during the second panel. The second panel's participants were mainly representing civic organisations and residents of the city of Espoo. It is noteworthy that in this panel the timeline exercise was considered challenging by the participants, which led to some adjustments of the exercise. Instead of drawing a timeline, the participants were instructed to list some key factors that could help to answer the guiding question of the panel. Otherwise, the exercise followed a similar pattern as the first panel: participants described their lists one by one, and the facilitators wrote them down. Afterwards, the formation of the CLD started with a vote on the most important factors.

Similarly to the first panel, the conversation began from a legal and technical context and later focused specifically on public participation from the perspective of local residents. **Legislation** was considered as a starting point which enables the entire SMR project and different pathways for resident engagement. The participants identified the potential window of opportunity for citizen participation to take place during the early stages of the hypothetical SMR project. It was argued that inclusion and engagement of residents would be most meaningful, for example, during the planning of the zoning. It was hoped that during this phase residents would have an opportunity to interact with local decision-makers, which would in turn strengthen the feeling of being heard, thus contributing to residents finding participation meaningful. The panelists highlighted how residents need to feel that their concerns about these initiatives are heard and that their participation is meaningful and impactful and not just a formality for the regime. This was summed up as **dialogue with decision-makers** that became a key factor.

It was underlined by the participants that residents need to know how projects of this scale affect their personal lives, as otherwise they might not find participating interesting or meaningful and worth their time resources. Related to this, the panelists argued that the initiative should be explained to the residents and how it affects the locals, for example regarding the potential SMR's location, because it makes the initiative more concrete for the residents, thus increasing motivation to participate and it became a factor **concrete impact in everyday life**.

The panel concluded that change in the way of communication; storytelling, reaching residents with information consistently and easily would be important in order to increase public participation. Communication was turned into a factor named **knowledge dissemination**. The panelists agreed that an improved approach to communication that considers Espoo's multiculturalism would be essential. As roughly 26% of Espoo residents speak a foreign language as their first language (City of Espoo 2026), it would be important for the city to provide information about the SMR process in multiple languages in order to make information accessible. The panelists also raised the point of communication strategies needing to take different levels of literacy into account, as information in formal Finnish can be difficult to comprehend to those who speak Finnish as a second language. Therefore, information should be provided in plain Finnish as well and through various forms of media, as the elderly might struggle to find information through online platforms. Factors chosen to represent these issues were **Language skills / proficiency** and **accessible language**.

Merged CLD

Link to the [the merged CLD](#)

After both panels, the gathered draft CLD loops were digitalized. Feedback for the draft loops were received from BOKU and based on the feedback and workshop in Krakow the CLDs from both panels were merged. A video was recorded in which a member of the LUT research team explained the factors and loops in Finnish. The video was sent for the participants of the panels, and they had the opportunity to reach out to the research team and comment on the CLD, thus validating the CLD.

Majority of the factors represent the regime level, especially policy and culture. Also, all the loops highlighted are reinforcing loops.

Following is a list of the main loops. The name of the loop is highlighted by quotation marks.

Loops:

"Citizen competence"

Factors: Citizen competence, Motivation to participate, Active participation, Civic society engagement

Loop: A reinforcing loop may emerge if general levels of citizens' competence can be improved upon. The better the residents are informed and have a better perspective on what is going on and what are the conventional ways to have a possible impact, the more likely they are motivated to act and participate. Motivation to participate is linked to active participation, which in turn tends to lead to more civic society engagement. Being active in civic society adds to a person's civic competence.

If civic competence could be improved upon, it might increase motivation to participate, civil society engagement, and understanding of the project's impact on citizens everyday life.



“Knowledge dissemination”

Factors: Knowledge dissemination, Active participation, Forums for meaningful participation, Interaction with decision-makers

Loop: This reinforcing loop illustrates how participants perceived relationships between information sharing and public participation. Increased knowledge dissemination was seen as encouraging more active participation by improving residents’ understanding of the project and opportunities to influence it. Greater participation was perceived to likely increase the demand for establishing new forums for meaningful participation. These forums would then facilitate more chances for interaction with decision-makers. More interaction with decision-makers will then further increase knowledge dissemination.

“Pursuit of well-being”

Factors: Pursuit of well-being, Security of supply

Loop: This reinforcing loop illustrates how participants perceived the relationship between societal well-being and security of supply. Efforts to promote societal well-being in a welfare state context were seen as increasing importance of maintaining a reliable energy supply. In turn, strengthened security of supply was perceived to support societal well-being by providing stability and resilience. Together, these factors create a positive feedback loop.

“Awareness”

Factors: Awareness about process of the project, Citizen competence, Civil society engagement

Loop: The reinforcing loop illustrates how civic society engagement can generate a positive cycle of participation. More engagement in civic society organisations and activities increases residents' awareness about ongoing projects, decision making processes and opportunities to participate. As residents become more informed, their competence and confidence to engage in public matters grows. Higher citizen competence, in turn, encourages further participation in civic society, reinforcing awareness and sustaining the cycle.

“Private interest”

Factors: Interest of energy companies to build an SMR plant, Positive political will for project

Loop: Participants identified a reinforcing relationship between interests of energy companies to invest in a potential SMR plant and political will. Increased investor interest was perceived to strengthen political support for the project, while stronger political commitment was seen making the project more attractive to prospective investors, creating a self-reinforcing cycle.

“Enabling legislation”

Factors: Interest of energy companies to build an SMR plant, Positive political will for project, Enabling legislation

Loop: The loop illustrates the perceived relationship between energy company investment interest, political will and enabling legislation. Greater interest from energy companies was perceived to increase political support for the project, which facilitates more enabling legislation. A more supportive legislation was seen to encourage further investment interest, creating a feedback loop.



“Security of supply”

Factors: Security of supply, Positive political will toward project, Enabling legislation

Loop: This reinforcing loop illustrates how participants perceive the relationship between energy security matters and political support. Increased efforts/attention to strengthen security of supply were seen as generating greater political will to advance energy projects. Stronger political support would, in turn, be seen as increasing the likelihood of more enabling legislation, therefore creating a more favorable environment to advance security of supply.

“Meaningful engagement”

Factors: Motivation to participate, Active participation, Forums for meaningful participation

Loop: Greater motivation to participate leads to more active engagement. As participation increases, the demand for development of forums for meaningful participation also grows. When people have access to forums where they can genuinely contribute and feel that their participation matters, their motivation to participate is further strengthened. This creates a reinforcing cycle between motivation, active participation, and meaningful opportunities for participation.

“Participation in NGOs”

Factors: Civil society engagement Citizen competence

Loop: Greater civil society engagement strengthens citizen competence. By participating in civil society organisations, residents gain knowledge and experience of how political processes and institutions work. They may also interact with other active members of society, exchange information, and develop relevant skills. Increased citizen competence, in turn, makes it easier and more likely for residents to engage actively in civil society, creating a reinforcing cycle.

5.4.3 Potential for changes (Issue(s) identified + Leverage points) feedback loops

As a result of the first and second panels, the main leverage points identified were **zoning, information dissemination, impact forums, civic organisations, strategic intent** and **the reform of the Nuclear Energy Act**. Although the participants in each panel represented different backgrounds and had different guiding questions, it was interesting to notice great similarities in the conversations. Both panels agreed that zoning could be a key leverage point for participation, as during this point of a potential SMR project this is the point where residents’ participation could be most impactful.

Information dissemination was seen by both panels to be an enabling factor for participation. The key difference between the panels was that the first panel agreed that information about the SMR project and its implications to the city residents should be shared, but it was undecided which institution should be in charge of the information dissemination. The second panel however agreed clearly that the responsibility for the information dissemination and participatory action is on the regime level: on the city and the energy companies. The information available should be accessible and easily available.

Impact forums were a factor which was implied in both panels 1 and 2. It was later added to the CLD by LUT research team members, as it was considered necessary for new ways of participation to be possible.

The addition of impact forums as a factor by the LUT team was approved by the panelists. Firstly, it was included and introduced in the video sent to participants, to comment on the merged CLD and secondly during the third panel, when presenting the merged CLD at the beginning of the event. The panelists accepted this addition.

Civic organisations were raised as an important factor especially in the second panel, as they could create statements as one organisation regarding zoning. They were considered a source of meaningful participation for residents.

And lastly, both panels discussed the reform of the Nuclear Energy Act as an important factor that impacts the entire case study and participation in large scale energy projects in general. It frames the setting and the background in which participation takes place and how much municipalities and cities can influence decisions regarding nuclear facilities.

5.4.4 Output of DP3 (actions and ToC) / Co-created solutions

Panel 3 consisted mainly of participants who had attended Panels 1 and 2. Two participants attended as substitutes for colleagues from the same organisation who had participated in earlier panels. Five panelists took part in the session. The panel began with introductions, a presentation of the agenda, and a summary of the work completed during panels 1 and 2. This included presenting the merged causal loop diagram, which combined the results of the two previous panels. Before Panel 3, participants had received a video explaining the merged CLD diagram and changes made during the merging process. The panelists considered the video clear and helpful and agreed that the merged CLD accurately represented preceding discussions. The diagram was therefore approved as a basis for the day's activities.

Agreeing on shared vision

The LUT research team presented a preliminary proposal for a shared vision:

“Large-scale urban energy projects support citizens’ effective participation in both project preparation and decision-making.”

Participants were invited to discuss the proposal and suggest changes. The discussion focused particularly on whether the vision should refer to citizens or residents. The panel agreed that residents would be a more appropriate and inclusive term in this particular context. Following this change, the panel unanimously approved the following shared vision:

“Large-scale urban energy projects support residents’ effective participation in both preparation and decision-making.”

The process therefore combined proposals prepared by the LUT team and discussion, refinement, and approval by the panelists.

Identification and selection of leverage points

The participants were then instructed on the concept of leverage points and how they can be understood as parts of a system where interventions may contribute to wider change. The LUT team presented a preliminary set of leverage points identified from the causal loop diagram before the panel.

Participants were given time to assess the proposed leverage points, suggest changes, and discuss their significance. They accepted the proposed set and were then asked to vote on the three leverage points they considered most important. The three selected leverage points were:

1. **Zoning**
2. **Dissemination of information**
3. **Positive political will towards the project**

These leverage points provided the basis for the role-play exercise and discussion of possible activities.

Role-play exercise

The role-play exercise was mentioned during the introduction to the day and explained in greater detail after the coffee break. The facilitator and other members of the LUT team explained the purpose and structure of the exercise. Participants were also informed that the role-play would be followed by plenary discussions during which they would step out of their assigned characters and return to their own perspectives.

Three stakeholder roles were:

- An energy company representative
- A municipality City Council representative
- A local resident association representative

Each participant was given a role card with a short description of the character and their principal objectives. As there were five panelists, two of the roles were assigned to pairs, while one participant performed the third role independently. The participants responded positively to the exercise and readily engaged with their assigned roles. The opening stage included active conversation, follow up questions and some humor as participants familiarized themselves with their characters. Each role then introduced their character to the rest of the group.

Participants were asked to propose three activities connected to the selected leverage points from the perspective of their assigned roles. The proposals were written on sticky notes and placed on a whiteboard. After they had presented their suggestions, the participants considered similarities and connections between the proposed activities. They then voted for three activities they considered most effective.

The selected activities were:

1. **Early-stage communication:** provide clear, accessible, and high-quality information about the available options at the beginning of the process.
2. **An accessible participation process:** establishing a clear, consistent and accessible way for residents and stakeholders to participate.
3. **Co-creation:** involving relevant stakeholders from the beginning of the process, thereby creating opportunities to address different perspectives early and potentially reduce later disagreements.



The role-play discussion flowed well, and the participants actively contributed from the perspective of their characters. Despite a relatively low number of participants, the exercise produced proposals for further discussion.

Plenary discussion and co-created solutions

After the role-play, participants stepped out of their assigned roles and returned to their own professional and personal perspectives. In the plenary session they were invited to review the three selected activities and propose additions or changes. Following these discussions, participants confirmed that they were satisfied with the selected activities.

The discussion moved towards the concrete actions needed to advance the shared vision. This led to a proposal to pilot a new model of participation within the municipality. A participant referred to an example of land ownership, in which previous owners' sustainability commitments could be transferred to a new owner. This example illustrates how a new type of commitment or practice could become recognised and continue beyond the individuals involved.

Applying similar reasoning to citizen participation, the panel proposed that a new participatory process could first be tested through as a municipal pilot program. If the pilot proved useful, it could provide a practical model that could be repeated, refined and eventually established as a recognised way of organising participation in large scale energy projects.

The proposed municipal pilot program for a new way of participating was the principal Theory of Change output developed during Panel 3. The piloting of an accessible and co-creative participation process would allow the municipality and the stakeholders to test the approach in practice, learn from this and demonstrate its value. This could support wider adaptation, if successful.

Overall, Panel 3 produced a validated vision, three prioritized leverage points, three selected activities, and a proposal for a municipal pilot program. These findings connected to previous CLD work and adaptation to Theory of Change will provide foundations for case study recommendations.

5.4.5 Pathway for change / Validation by external experts'

The pathway to change and preliminary findings of the case study were validated through a meeting with three external experts. The experts for this meeting were identified during the research process based on their knowledge of topics relevant to the case study. Two of the external experts represented academia and one public administration. Together they provided expertise on different aspects of the case study, including citizen participation, stakeholder engagement, and broader context of sustainability transition.

Before the meeting the experts received an information package explaining the overall objectives of the CO-SUSTAIN project, the Espoo case study process and the preliminary findings of the Espoo case study. At the beginning of the meeting, the LUT research team gave a brief presentation about the project and the implementation of the project thus far. This was followed by a Q&A session where experts could ask questions, provide comments, and discuss the interpretation and potential use of the findings.

The overall assessment of the experts was positive. However, further clarification was requested on the selection of Espoo and SMRs as the focus of the case study. Questions were also raised about how the case study was connected to the historical examples examined previously.

The experts also asked about preliminary results of the participatory process, their intended audiences, and how they would be used. In response, the LUT team emphasised that the policy recommendations developed by the entire CO-SUSTAIN project would form one of its main outputs. The Espoo case study would contribute to the broader recommendations.

Attention was given to the inclusion of vulnerable groups. The experts asked for clarification on how these groups had been identified and how they were approached during participation recruitment. The feedback was consistent with feedback from participants themselves. Invitations should have been tailored to the groups being approached, and invitees should have been convinced about how their participation matters and how they can contribute to the process.

The experts also provided feedback on participant recruitment and process in general. Although considerable effort was given to stakeholder analysis, the turnout was lower than expected. Nevertheless, the stakeholder analysis was considered a potentially valuable tool for future projects. The experts noted that limited resources might make it difficult to produce such comprehensive analysis themselves in practice.

In addition to the discussion, the external experts were sent a survey in order to receive more feedback on the research project. The experts considered the project's methods useful for understanding complex systems and valued continuity of the process and expert validation. However, the causal loop diagrams were seen as somewhat demanding, abstract, and difficult to interpret without previous knowledge. Experts also noted that connection between system maps and current theories of participation were unclear, and that causal loop diagrams do not represent power relations sufficiently.

Overall, the validation meeting and the survey reinforced the importance of targeted recruitment and clear communication about the influence of participation. These observations will be useful in future refinement of similar projects and in the recommendations concerning inclusive and meaningful participation.

5.4.6 Preliminary conclusions

In the Espoo case study, the CO-SUSTAIN methodology was applied to the issue of nuclear power, which is known to be a highly controversial and sensitive topic. This was clearly evident in the Espoo case, even though Finland's energy and climate policy is largely based on nuclear power generation, and in the 2020s, public support for nuclear power has been at an all-time high in Finland.

The sensitivity of the nuclear power issue came as no surprise to the research team, but despite that, the occasional heated exchanges affected the atmosphere. In this sense, the nuclear power issue, as a case study, served as a test case for the implementation of the CO-SUSTAIN deliberation process. When evaluating the results of the Espoo case study, it is important to take into account both the impact of the nuclear power issue and the status of the project's planning in the City of Espoo.

The case study focused on a potential small modular reactor in the Espoo city. Originally, a council initiative regarding the plant was introduced in the Espoo City Council in 2017 (Kähärä et al., 2017). Although the city council rejected the initiative in 2018, later, SMR has been mentioned as one option in the City of Espoo's documents. However, there is no such project currently underway in Espoo, unlike, for example, in the neighboring city of Helsinki (Kojo et al., 2026). As a case study, SMR sparked discussion and even irritation among some participants. This was particularly evident in the KoM, where

questions were raised about the selection of SMR as a case study and the project's objectives were called into question.

Due to feedback at the KoM the subject matter of the case study was somewhat reframed. The focus shifted to modes and possibilities of resident participation in large-scale energy projects. However, the hypothetical SMR project continued to be used as an example to help make the proposals and potential practices more concrete during the discussion. After the focus shifted, the mood in the panels was noticeably less hostile. In the later panels, the participants were involved and happy to participate. Another factor that contributed to this was that one participant that had raised the criticism did not participate in the panel stage of the process.

All in all, the number of participants in the Espoo case study deliberation process remained low. This was despite the fact that dozens of invitations and reminders were sent out before each event. Although the CO-SUSTAIN project, its objectives, and events were described in the invitations and their attachments, the invitation process—which relied on email messages—was not sufficient in this case to attract and engage participants. In particular, vulnerable groups need extra attention when contacting and motivating them to participate.

On the other hand, one advantage of the small number of participants in the panels was that each participant was given plenty of speaking time during the panels. In this sense, the panels served as a forum for intensive but relaxed small-group discussions. It should be noted, however, that the goal of the CO-SUSTAIN project was to involve 10–15 participants in panels 1 and 2, not just small groups of 4–5 people.

The deliberation process events lasted several hours, as they included presentations of methods, various exercises, and discussions. Although there were breaks during the panels, the participants' concentration was sometimes put to the test. It should also be noted that the research team applied these methods for the first time in the Espoo case study.

Overall, it can be concluded that the research team—composed mainly of junior researchers and research assistants—succeeded quite well in carrying out the CO-SUSTAIN deliberation process in the Espoo case study.

Further consideration should take into account the comment made by one external expert: implementation of the CO-SUSTAIN process requires significant resources, which may not necessarily be available. Therefore, it would be valuable to consider how a lighter version of the CO-SUSTAIN deliberation process could be developed that would be easier to implement.

5.5 Annelinna District in Tartu (UT)

5.5.1 Participants of the panels (regime, niche and intermediary actors)

The Annelinn deliberation process brought together participants representing different positions within the urban governance system. To analyse these interactions, we draw on the Multi-Level Perspective (MLP) (Geels, 2002; Geels & Schot, 2007), while recognizing more recent developments in transition studies that conceptualize sustainability transitions as processes of collaborative governance, institutional learning and experimentation rather than as interactions between strictly separated regime and niche actors (Loorbach, 2010; Geels, 2019).

In the classical MLP, regime actors represent the established institutional structures, rules and organisations responsible for maintaining and governing existing socio-technical systems, whereas niches provide protected spaces in which alternative practices, innovations and governance arrangements can emerge and develop (Geels, 2002). However, more recent work argues that municipalities themselves may intentionally create such experimental spaces through Urban Living Labs and collaborative governance arrangements. In these situations, institutional actors may simultaneously operate within the existing regime while facilitating innovation and institutional change (Loorbach, 2010; Geels, 2019).

Within the Annelinn case study, **regime actors** (see Table 5.5-1) consisted primarily of organisations with formal responsibility for planning, managing and implementing urban development. These included several departments of the City of Tartu, particularly the Urban Design Department, Municipal Property Department, Urban Management Department, Social and Health Department, together with representatives of the local police. These organisations possess formal planning authority, administrative resources and responsibility for implementing climate adaptation measures and public space interventions.

The niche actors consisted mainly of residents of Annelinn and representatives of local community initiatives and civil society organisations. These included the neighborhood association (Annelinna Selts), the community garden initiative (Tartu Maheaed), the local church community (Tartu Kristlik Risttee kogudus), welfare organisations, local library representatives and, where possible, schools, kindergartens, youth organisations and apartment owners' associations. These participants contributed situated knowledge regarding everyday life in the neighborhood, local priorities, lived experiences and community aspirations concerning climate resilience and public space development. Although the broader regeneration initiative was **organised** by the municipality, residents actively contributed to the co-creation of solutions, governance arrangements and future development pathways.

The Annelinn Living Lab called *Greener Annelinn* also demonstrates the importance of **hybrid and intermediary actors**, whose roles extend beyond a simple regime-niche distinction. The Greener Annelinn initiative, although coordinated and funded by the City of Tartu, functions as an institutional space for experimentation with new participatory governance practices, collaborative planning and nature-based solutions. Municipal staff directly involved therefore occupied a hybrid position: they remained representatives of the existing governance regime while simultaneously acting as facilitators of innovation and institutional learning. Rather than implementing predetermined solutions, they actively supported experimentation, dialogue and co-creation with local communities.

Similarly, the Institute of Baltic Studies and the University of Tartu acted as transition intermediaries, facilitating dialogue, knowledge exchange and collaborative learning between institutional actors and community participants. Transition intermediaries play a recognised role in sustainability transitions by connecting different actor groups, translating knowledge between institutional and community contexts, and supporting experimentation without themselves exercising formal decision-making authority (Kivimaa et al., 2019).

This diversity of participant roles proved essential for the deliberative process. Regime actors primarily contributed institutional knowledge concerning planning procedures, governance constraints and implementation opportunities. Niche actors contributed experiential knowledge regarding everyday use of public space, accessibility, neighborhood identity, social relations and community needs. Intermediary actors facilitated communication between these different knowledge systems and helped participants collectively develop a more systemic understanding of climate resilience and neighborhood development.

Although the recruitment strategy sought to ensure broad representation, participation remained uneven. Institutional actors, particularly specialists from the Urban Design Department and municipal staff directly involved in the Annelinn Living Lab (Greener Annelinn initiative) were consistently well represented. Community participation was also strong, particularly through active residents and established local organisations. However, several groups remained underrepresented throughout the process, including young people, older residents, Russian-speaking residents and apartment owners' associations. These limitations were recognised during the expert validation process and post-panel interviews and informed the final policy recommendations regarding more inclusive and targeted participation practices.

The balance between participant groups evolved across the three deliberation panels. Panel 1 primarily engaged institutional actors in discussions concerning governance structures, implementation challenges and planning responsibilities. Panel 2 shifted the emphasis towards residents and local organisations, broadening the discussion through lived experiences and everyday perspectives. Panel 3 intentionally brought these different perspectives together to validate the causal loop diagrams, identify leverage points and co-create implementation pathways. This sequential design supported mutual learning between institutional and community actors and gradually developed a shared understanding of both systemic problems and potential solutions.

Table 5.5-1: Participants analysed through the Multi-Level Perspective UT

Actor	MLP position	Role in the deliberation process
City of Tartu departments	Regime	Planning authority, implementation, public space management, climate adaptation
Local police	Regime	Institutional perspective on safety and public space
Municipality specialists directly involved in the initiative	Hybrid regime actor / niche facilitator	Living Lab coordination, participatory experimentation, co-creation of nature-based solutions
Institute of Baltic Studies	Transition intermediary	Stakeholder engagement, facilitation, knowledge brokerage
University of Tartu (CO-SUSTAIN)	Transition intermediary	Deliberation design, facilitation, systems mapping and research
Landscape architecture office	Boundary actor	Translation between technical expertise and community knowledge
Residents of Annelinn	Niche	Everyday knowledge, lived experience, co-creation of solutions
Annelinna Selts	Niche	Community mobilization and neighborhood representation
Tartu Maheaad	Niche	Grassroots environmental initiative
Tartu Kristlik Risttee congregation	Niche	Community engagement and local social networks
Apartment owners' associations	Boundary actors	Interface between residents and municipal governance
Local library	Boundary actor	Community hub and engagement platform
Schools, youth organisations and kindergartens	Niche	Representation of younger residents and educational perspectives
Welfare organisations	Niche	Representation of vulnerable groups and social inclusion

5.5.2 First output: Identification of factors and dynamics + CLDs

Social and community factors

Social and community factors emerged particularly strongly across the panels. Participants repeatedly referred to *contacts*, *joint activities*, *community feeling*, *community identity*, *sense of ownership*, *community agency* and *information flows*. Public space was understood not simply as physical infrastructure but as a setting in which repeated encounters can strengthen social relations and belonging. Concrete suggestions included community cafés, meeting places, repair workshops, shared gardening, neighborhood events, face-to-face benches and game tables—places and activities that would give residents reasons to meet and spend time together. Participants described the desired outcome as a "feeling that I am part of the whole", while the current situation was characterized by a lack of ownership and community belonging.

Sense of ownership was closely linked to safety and vandalism. Participants repeatedly expressed the concern that new facilities would simply be damaged—"it will be broken anyway"—but also suggested that active use, joint activities and residents' involvement in creating and maintaining the space could increase informal social control and care for the area. Thus, participation, community interaction, ownership and safety were understood as mutually reinforcing rather than separate issues.

Spatial and environmental factors

The main spatial and environmental factors included *attractiveness*, *safety*, *accessibility*, *diverse greenery*, *health-supporting urban environment*, *functionality*, *slow presence* and *fast through-movement*. Participants described the intervention area primarily as a space for passing through rather than staying and therefore emphasised the need to create "a reason to go outside" and opportunities to experience something along the way.

Suggestions included shade trees, rain gardens, varied landscape forms, seating, outdoor exercise, creative play, quiet resting places and multifunctional meeting spaces. Participants explicitly distinguished between spaces for "simply being" and spaces for active use, arguing that both should coexist. The distinction between *fast through-movement* and *slow presence* became particularly important: improving greenery, seating and activities was seen as a way of encouraging people to stay longer, thereby also increasing opportunities for social interaction. These discussions linked environmental quality and climate resilience directly with everyday use, health and community building.

Institutional and organisational factors

A third group of factors concerned the relationship between residents and the municipality. *City–community cooperation*, *information flows*, *institutional responsiveness*, *community agency* and *innovativeness* were repeatedly discussed. Participants contrasted project-based consultation with the need for regular and continuous cooperation, referring to the current model as a situation where "the window opens and the window closes" depending on whether a project is active.

Previous experiences also influenced willingness to participate. Participants referred to the perception that the municipality often responds with "it cannot be done" and questioned whether participation was sometimes merely symbolic, with decisions ultimately made "somewhere else". Proposed alternatives included regular meetings, a permanent community liaison, neighborhood change agents, clearer

feedback mechanisms and greater openness to resident-led initiatives. Terms such as *real participation*, *continuous dialogue* and *co-governance* therefore reflected a broader expectation for a different culture of city–community cooperation.

External factors

Participants also identified contextual conditions that could enable or constrain local change, including *political support*, *municipal resources* and *physical and social barriers*. Physical barriers included unsafe stairs, winter accessibility and difficulties experienced by older people and people with disabilities. Social barriers included language differences, unequal participation and the difficulty of reaching groups that do not normally participate in formal meetings. These factors were considered important because they determine who can use the space, whose perspectives enter decision-making and whether locally initiated changes can be sustained over time.

From factors to causal dynamics

The discussions showed that participants perceived these factors as interconnected. Joint activities were linked to more contacts and stronger community feeling; community feeling to ownership and care; and ownership to safety and willingness to maintain public space. Similarly, cooperation with the municipality was linked to positive experience, trust, participation and stronger community agency. These recurring relationships formed the empirical basis for the causal loop diagrams discussed in the following section.

Causal Loop Diagrams (CLD)

Our causal loop diagram (see Table A3 in Annex 4) focuses on three interconnected sets of reinforcing dynamics that describe the dynamics in Annelinn with regard to the use and co-creation of public space. The first explains how the quality of public space and social presence sustain inclusive use of public space. The second focuses on cooperation between the Annelinn community and the city government. The third examines how participation and social interaction contribute to the development of collective ownership.

Inclusive use of public space

The first set of dynamics describes how the quality and diversity of public amenities shape the use of public space in Annelinn. We identified that well-designed and diverse amenities support multi-functional use of public space, attracting users from different social, cultural backgrounds and different generations. As a result, social presence increases, which in turn helps residents to accumulate shared public space experiences. However, these shared experiences may give rise to situations where differences in needs and expectations become visible. This may require an organised response to managing the use of public space to ensure it remains safe and inclusive. Bottom-up governance helps coordinate the use and manage shared responsibilities, and support improvements to public amenities, thereby further reinforcing the quality and diversity of the commons. A reinforcing dynamic thus emerges between the quality of public space amenities, increased use, social presence, accumulated shared experiences and bottom-up governance.

Three reinforcing sub-dynamics support this process. **The first** concerns informal social control. Strong informal control reduces vandalism and perceived disorder that strengthens the sense of security and encourages social presence. Conversely, vandalism can trigger a deterioration process in which disorder

reduces use and weakens informal control. **The second** focuses on co-creation. Existing public amenities stimulate residents to generate new ideas and jointly shape the functions of public space. As co-created solutions improve the attractiveness of the area, participation, social presence, and collective ownership increase, supporting further improvements in public space quality. **The third** sub-dynamic links shared public space experiences and inclusive bottom-up public space governance. As shared experiences accumulate, an organised and inclusive public space governance becomes increasingly necessary to manage the space. Effective governance enables experiences to continue accumulating. Together, these sub-loops explain how inclusive public space use can be sustained over time.

Participation dynamics

The second set of dynamics explains how participation develops through interactions between the community and the city government. A first reinforcing dynamic links cooperation, engagement experiences, and participation. Greater willingness on the part of the city to cooperate creates more opportunities for residents to participate and co-create. Through repeated interaction with municipal actors, residents accumulate engagement experiences. When such engagement results in visible and meaningful outcomes, participation is perceived as meaningful and attracts additional community members to participate. Broader participation reinforces the city's willingness to cooperate, further expanding participation opportunities. Conversely, when engagement fails to produce tangible outcomes, participation may be perceived as ineffective, reducing both community and municipal willingness to continue cooperating.

A second participation dynamic centres on community representatives. Inclusive bottom-up public space governance creates channels through which a small group of representatives engage with municipal actors. Their involvement signals organised and credible participation, making cooperation more manageable and predictable for the city. This encourages municipal actors to maintain collaborative approaches and strengthens the role of representative participation as a bridge between the community and the city government.

Sense of ownership

The third set of dynamics explains how collective ownership develops and contributes to the long-term stewardship of public space. Participation in activities strengthens social ties and fosters a sense of community. This process is influenced by contextual factors such as continuity of inhabitation and the proportion of renters, which affect the stability of local social relations. As a sense of community strengthens, residents increasingly perceive public space as a shared responsibility, leading to a stronger sense of collective ownership.

Collective ownership encourages residents to care for, maintain, and improve public amenities, contributing to the quality and diversity of the commons. Improved public space conditions support more intensive and diverse use, attract a wider range of users, and generate new shared experiences. These experiences create favorable conditions for continued participation, reinforcing the relationship between ownership, public space quality, social presence, and long-term community stewardship.

5.5.3 Potential for changes (Issue(s) identified + Leverage points) feedback loops

Having identified the key system variables and their relationships, we explored where interventions would have the greatest potential to influence the broader system. The causal loop diagram revealed several points where multiple feedback loops intersected. From these, we pre-selected the following five leverage points.

1. Inclusive bottom-up public space governance with municipal support if needed
2. Quality and diversity of the commons
3. Intergenerational and multicultural social presence
4. Citizen participation through community representatives
5. Expanded opportunities for co-creation and participation

We pre-selected these leverage points for two reasons. **First**, they occupy central positions in the loop diagram meaning that they converge a large number of relationships within the causal loop diagram. This means that changes that occur at these points are likely to generate wider impact than interventions targeting more isolated variables. **Second**, all five leverage points could realistically be influenced through actions at the community level, possibly in cooperation with municipal actors. Rather than requiring major structural reforms, they represent areas where local initiatives and collaborative projects with the city government could produce meaningful change.

Next, we presented the five leverage points to participants in the third deliberation panel and asked them to validate whether these accurately reflected their understanding of the Annelinn dynamics. Participants largely confirmed the relevance of all five leverage points. Discussions highlighted the need for more opportunities for residents to participate in joint projects and cooperate with the city, the importance of active community representatives who could act as intermediaries between residents and municipal institutions, and the potential of bottom-up governance approaches to create more inclusive and locally supported forms of neighborhood development. Participants particularly emphasised the importance of creating spaces that encourage encounters between different generations and cultural groups and highlighted the need for diverse and attractive amenities that support different forms of everyday use.

Following the validation exercise, participants were asked to prioritise the leverage points through voting. Two leverage points received the strongest support: **intergenerational and multicultural social presence, and quality and diversity of the commons**. These were perceived as the most influential intervention points because participants viewed them as directly affecting several reinforcing dynamics simultaneously. Unlike other leverage points, both connect multiple reinforcing dynamics simultaneously and therefore influence a broader range of outcomes.

Intergenerational and multicultural social presence occupies a particularly important position because it links public space use, informal social control and the development of collective ownership. Greater social presence increases opportunities for interaction, the accumulation of shared experiences and the emergence of informal social control, while also creating conditions under which a stronger sense of community and ownership can develop. Participants therefore viewed social presence not only as a desirable outcome but also as a mechanism through which other positive dynamics are activated.

Similarly, **quality and diversity of the commons** connects several reinforcing processes. High-quality and multifunctional public amenities encourage public space use, stimulate co-creation and support the

development of collective ownership. Participants repeatedly emphasised that physical amenities should not be understood merely as infrastructure but as resources that enable social interaction, community activities and participation. Improvements in the quality and diversity of the commons were therefore expected to strengthen several reinforcing loops simultaneously, including those related to social presence, co-creation, participation and ownership.

Together, the two prioritized leverage points reveal that participants viewed **physical and social dimensions of public space as closely interconnected**. Discussions consistently suggested that physical improvements alone would not generate lasting change without opportunities for interaction, while social interaction itself depended on the availability of attractive and multifunctional public spaces. Participants therefore prioritized leverage points that combine spatial improvements with social processes, seeing them as the most promising entry points for activating wider system change.

We subsequently organised the final discussion around these two leverage points that focused on the development of practical pathways for intervention and implementation. Participants were divided into two working groups and asked to explore them through a role-play exercise. These two groups considered how different actors could contribute to strengthening the selected leverage points, what barriers might emerge during implementation, and what forms of cooperation would be necessary to sustain change over time.

The group focusing on **intergenerational and multicultural social presence** explored how public spaces could better support encounters between different social groups and strengthen everyday interaction within the neighborhood. Discussions emphasised activities and meeting opportunities that could bring together residents of different ages, cultural backgrounds and interests. Participants viewed such encounters as an important mechanism for strengthening trust, community ties and informal social control. They also highlighted that more diverse social presence could help reduce feelings of exclusion and increase residents' sense of belonging and ownership of public space.

The group focusing on **quality and diversity of the commons** concentrated on the functional qualities of public space. Participants emphasised that public amenities should support multiple forms of use and remain adaptable to changing community needs. Particular attention was given to multifunctional meeting spaces, opportunities for community activities, and small-scale amenities that encourage residents to stay in public space rather than simply pass through it. Discussions repeatedly linked improvements in the quality of the commons to broader social outcomes, suggesting that attractive and well-maintained public spaces create the conditions under which participation, social interaction and collective ownership can flourish.

Taken together, the discussions shifted the focus of the deliberations from individual problems towards strategic opportunities for intervention. Rather than addressing isolated issues, participants identified a small number of highly connected intervention points capable of influencing several reinforcing dynamics simultaneously. This provided the basis for the subsequent development of co-created solutions and implementation pathways.

5.5.4 Output of DP3 (actions and Theory of Change) / Co-created solutions

Participants identified three priority actions during DP3:

- community events that bring people together,
- a community café operating through a seasonal or mobile food truck model, and
- activities aimed at increasing the participation of the Russian-speaking community.

Although these actions differ in their focus, they point to three complementary pathways for strengthening community life in Annelinn. The **first** focuses on creating recurring opportunities for interaction through community events. The **second** seeks to establish a physical and social meeting point through a community café. The **third** addresses the inclusion of groups that currently participate less in neighborhood life. These proposals share a common objective: creating more opportunities for interaction between residents from different social, cultural and generational backgrounds. Participants linked such interaction to stronger community ties, greater trust and a stronger sense of ownership of public space.

An important finding of DP3 is that the proposed solutions focused less on physical transformation itself and more on **activating social processes**. This is particularly interesting because one of the two selected leverage points was the quality and diversity of the commons. However, once discussions moved towards concrete actions, participants did not treat physical infrastructure as an objective in itself. Instead, amenities such as benches, food facilities, gardening spaces and community meeting places were valued because of their ability to bring people together. Public space improvements were therefore understood primarily as tools for enabling interaction and community-building.

Food emerged as one of the strongest recurring themes across the discussions. Participants repeatedly referred to food, cooking and gardening activities as practical ways of connecting people who might not otherwise interact. The proposal for a community café or mobile food truck appeared independently in different discussions and later became one of the highest-ranked actions. Participants associated food-related activities with relatively low barriers to participation and with opportunities for intercultural exchange. Food was therefore not viewed simply as a service but as a means of creating opportunities for residents to meet, spend time together and build relationships.

The discussions also revealed a strong connection between social interaction and **collective ownership**. Participants repeatedly argued that public space improvements are unlikely to be sustainable unless residents develop a sense of responsibility towards them. Community events, food-related initiatives and shared activities were valued because they were expected to reduce anonymity, increase familiarity between residents and strengthen community feeling. In this understanding, ownership is not a starting point but something that develops gradually through repeated interaction and shared experiences. Participants therefore viewed social activities as an important pathway through which care for public space amenities and long-term stewardship could emerge.

This logic was particularly visible in the proposal for community events. The highest-ranked action focused on recurring activities capable of bringing residents together through shared experiences. Examples included neighborhood celebrations, collective cooking activities and other forms of informal gathering. Participants viewed these activities as relatively easy to organise and capable of generating visible results within a short period of time. Their importance, however, was not limited to the events themselves.

Participants argued that recurring activities could gradually strengthen trust, reduce social distance and encourage wider community participation.

The proposal for a community café followed a similar logic. Discussions focused on a small-scale and flexible initiative that could create a regular meeting place while remaining feasible to implement. Participants suggested that a seasonal or mobile format would allow experimentation without requiring major financial investments. The proposal combined community initiative with municipal support, where community actors would organise activities and the municipality would provide enabling infrastructure and permissions. The expected value of the initiative lies not primarily in food provision but in its **capacity to create social interaction and generate new community initiatives over time**.

The proposal concerning the **inclusion of the Russian-speaking community** introduced another important dimension. Participants acknowledged that linguistic, cultural and generational divisions strongly shape neighborhood dynamics. However, discussions did not focus primarily on formal integration measures. Instead, participants emphasised the importance of creating shared experiences to overcome this divide. The most developed proposal involved a **community theatre initiative** that would bring together participants from different language backgrounds through collective cultural activities. The proposal was intended not only to increase inclusion but also to strengthen social relations.

A further theme running through all three proposals was the importance of **collaborative implementation**. Participants did not assign responsibility solely to either residents or municipal actors. Instead, implementation was expected to rely on cooperation between local organisations, volunteers and city institutions. Schools, libraries, youth centres, churches, neighborhood organisations and municipal departments were identified as potential partners. Community development was therefore understood as a shared responsibility requiring contributions from multiple actors rather than a task that could be delivered by a single organisation.

Participants also demonstrated a clear preference for **actions capable of producing visible and achievable results**. The proposed initiatives were generally small in scale, relatively low in cost and feasible to implement within a short timeframe. This reflected a broader concern that participation processes lose credibility when discussions are not followed by visible outcomes. Small but tangible successes were viewed as important for strengthening trust, maintaining engagement and encouraging further participation.

Taken together, the proposed solutions reveal a coherent Theory of Change. Participants shared the view that lasting neighborhood transformation depends on creating repeated opportunities for interaction rather than on physical redevelopment alone. Community events, food-related activities and cultural initiatives were expected to increase social presence, generate shared experiences and strengthen community ties. These processes would gradually contribute to stronger ownership, greater willingness to participate and increased care for public space. Participants clearly understood physical improvements as means of supporting social interaction rather than as ends in themselves. Through this logic, social activation, participation and collective ownership become the key mechanisms through which long-term change can emerge in Annelinn.

5.5.5 Pathway for change / Validation by external experts/additional participants

The external validation largely confirmed the relevance of the main findings emerging from the deliberative process while also highlighting several conditions that will influence whether the proposed solutions generate longer-term change. Rather than challenging the direction identified through the panels, the experts reinforced the central assumptions. This underpinned the proposed pathway for change and provided additional reflections regarding implementation and inclusiveness.

Visible outcomes as a condition for change

The experts emphasised that participatory processes are unlikely to generate long-term engagement unless residents can clearly see how their contributions lead to concrete actions. One of the greatest risks identified was that participation remains limited to consultation and generation of ideas without producing real change. Such an outcome may weaken trust and reduce willingness to participate in future initiatives. The experts therefore stressed the importance of communicating outcomes back to residents and showing how their input has been incorporated into subsequent activities. Visibility of outcomes was one of the central messages and was seen as an important mechanism for maintaining trust and continued participation.

Continuity and local ownership

The experts also stressed the importance of continuity. They noted that many participatory processes struggle to generate a lasting effect because activities often end when a project finishes. Sustainable neighborhood development was therefore linked to ongoing opportunities for engagement over longer periods. Particular importance was attached to neighborhood organisations and community networks that can organise activities and support continued cooperation with municipal institutions. In this respect, local ownership was viewed as an essential condition for turning short-term participation into longer-term community development.

Inclusive participation remains a challenge

The validation discussion pointed out that several groups remained less visible throughout the deliberation process, particularly young people, older residents and residents facing language barriers. To overcome this, the experts suggested that future participation processes should take place through institutions and/or in locations that these groups use in everyday life, such as schools, youth centres and community facilities. They also emphasised the importance of addressing language barriers in the Annelinn neighborhood. Inclusive participation was therefore seen as important not only for ensuring broader representation but also for reaching a wider range of residents.

Validation of the proposed pathway for change

Overall, the experts supported the general direction identified through the deliberative process. They agreed that sustainable neighborhood development depends not only on physical improvements but also on strengthening social relations and cooperation between residents and city government. At the same time, they emphasised that successful implementation depends on three closely connected conditions: visible outcomes, continuity beyond the project period and inclusive forms of participation. Together,

these conditions provide a foundation for transforming the proposed solutions into longer-term community development within Annelinn.

5.5.6 Preliminary conclusions

Overall, the deliberative panels illustrated how urban Living Labs can function as collaborative governance arenas where municipalities, researchers and communities jointly experiment with new approaches to urban resilience and climate adaptation. Rather than positioning regime and niche actors as opposing groups, the Annelinn case demonstrates how sustainability transitions can emerge through partnerships that combine institutional authority, scientific facilitation and community knowledge in a shared process of experimentation and learning.

Representation and inclusion

The deliberative process succeeded in mobilizing a core group of motivated residents, community organisations and municipal representatives. However, one of the clearest lessons learned is the difficulty reaching beyond already active and engaged participants. Despite targeted invitations, several groups remained underrepresented, particularly young people, elderly residents, Russian-speaking residents, people with disabilities and residents who tend to be less active. We learned that different groups require different recruitment approaches, and that workshop-based participation alone is unlikely to achieve broad representation. Future deliberation processes would benefit from outreach in everyday community settings and from more multilingual participation formats.

Deliberation and interaction

Interaction within the panels was generally smoother than expected. Participants from different backgrounds engaged respectfully with one another and no major interpersonal or intercultural conflicts emerged. Even discussions on potentially controversial issues such as safety, vandalism, alcohol consumption in public space or inclusion of Russian-speaking residents did not create polarization. Instead, participants peacefully shared their experiences and suggested practical solutions. While this reflects a constructive discussion culture, it may also mean that some disagreements and competing interests remained unexplored. Although moderators played a crucial role in balancing participation, older and more vocal participants tended to dominate some discussions, while younger and quieter participants contributed less actively. This suggests that well-trained moderators are essential for ensuring an inclusive and balanced deliberation process.

Participation and creation of solutions

The process successfully collected participants' views and generated a rich understanding of residents' needs and concerns. Participants discussed themes such as community cohesion, trust, cooperation with the municipality and the need for more opportunities for everyday interaction. Post-panel interviews suggested that the deliberation process did not radically change participants' views but helped clarify existing concerns, improve the understanding of local challenges and generate concrete ideas for action.

The strongest methodological lesson learnt concerns the relationship between participant contributions and abstract system mapping. Participants engaged most actively with discussions grounded in lived experience and practical examples. In contrast, system mapping and questionnaires were more difficult for participants to engage with. Moderators translated participants' personal stories into system maps. This raises an important question about the balance between participant-generated knowledge and facilitator interpretation. While participants later validated the outputs, future deliberative processes could involve participants more directly in interpreting relationships and constructing system maps.

From deliberation to implementation

Post-panel interviews and validation activities repeatedly showed that participants judge deliberative processes not by the discussions themselves but by whether visible action follows. The process helped build relationships, strengthen trust and identify active community members but participants stressed the need for continuous engagement and long-term cooperation beyond individual projects. The main challenge is not organising a single successful deliberation but creating long-term structures that sustain participation beyond individual projects. In this sense, the most significant outcome of the process may not be the specific solutions that were proposed but the recognition that lasting neighborhood transformation requires ongoing collaboration, relationship-building and local ownership rather than one-off participation exercises.

5.6 Activism - Westbahn area in Vienna (BOKU)

5.6.1 Participants of the panels (niche and regime)

Participant recruitment

Participant recruitment deliberately aimed for a diverse mix of niche- and regime-level actors, in order to capture the range of perspectives relevant to the Westbahnhof case. Potential participants were identified through desktop research complemented by a snowballing approach. Invitations followed by email and by telephone conversations.

On the regime-level, recruitment addressed a broad spectrum of institutional and political actors. These included several municipal departments of the City of Vienna (e.g., MA 18, MA 20, MA 21a, MA 22, MA 25), city councilors, or the real-estate management division of ÖBB as property owner, representatives of political parties (e.g., SPÖ, ÖVP, NEOS, the Greens), alongside urban development and planning offices, and civil society initiatives active in the area (e.g., Westwärts, Wir machen Wien). However, recruiting regime-level actors proved particularly difficult and politically sensitive. Because the “Mitte 15” planning process was already at an advanced stage, several institutional actors - municipal departments in particular - declined to partake. As a result, regime-level participation was considerably harder to secure than initially anticipated.

At the niche-level, recruitment focused on actors associated with the Aktionsplattform WESTBAHN PARK.LIVE. Recruitment of this group started with a project presentation and a group interview and was complemented by members of our research team taking part in events organised by the WESTBAHN PARK.LIVE initiative (e.g., MONWALK - a guided tour through the Westbahnhof area), in order to build trust.

5.6.2 First output: Identification of factors, dynamics and CLDs

Deliberative Process

As described above, three panels were carried out to create a common system understanding of the niche and regime level dynamics as well as a Theory of Change. The first two panels focused on system understanding within the regime and niche level. For this, system mapping through causal loop diagrams was the main method. The panel followed the steps for participatory system mapping as laid out in the manuscript. The overall guiding question for both panels was:

How can creative and activist forms of political participation make future urban development processes in the field of climate protection and climate change adaptation more democratic?

In addition to the overall guiding question, we prepared a specific guiding question for each panel that was focused on the aspects of the particular level (i.e. regime/niche):

- 1) *How can decision-makers implement climate-resilient urban development in a just and equitable way?*
- 2) *How can collaborative initiatives help shape climate-resilient and climate-just urban development in a sustainable way?*

After modifying and agreeing on the guiding question with participants of each panel, the key dynamics providing insights into the guiding question were identified. Based on this, key dynamics and factors were elicited and mapped.

Panel 1

In the first panel, participants were primarily regime-level actors, although several also bridged into the niche level (e.g., GB*, AK Wien, and *dérive Zeitschrift für Stadtforschung*). This reflects the blurred boundaries that characterize this case, particularly between the cultural regime and the niche. The panel began with a check-in and a brief presentation of the Co-Sustain project, followed by an introduction to system mapping. The participants were then asked to draft the behaviour over time of key factors that were relevant to the dynamics related to the guiding question of the panel.

The participants identified nine behaviours over time that they viewed as key for understanding how decision makers can implement climate-resilient urban development in a just and equitable way. The discussions around these highlighted several issues around the implementation of climate-resilient and socially just urban development. One important issue raised was green spaces. While planned green-space targets are being maintained, actual green-space share is declining, and surface sealing is rising. Accessibility was emphasised as a dimension extending beyond visible disabilities and as district-dependent, with the potential for tensions between climate-adaptation measures and barrier-free design. A key issue is that of finances. A dedicated participation and climate budget is viewed as essential for positive developments in the long-term and this is seen as a major constraint at the moment. While participation has gained prominence in recent years, it is seen to remain fragmented across isolated projects and is frequently reduced to procedural or acceptance-related questions rather than thorough participation. Participants noted that civil society input is still sometimes perceived by politics as a "disturbing factor". A recurring message across contributions was the need for higher quality participation processes that begin when a project begins, are inclusive and not geared towards achieving a certain outcome. Finally, they should carry binding influence on decisions; without these conditions, participation risks remaining symbolic.

Based on the topics emerging from these behaviours over time, the main underlying factors were elicited. By connecting these factors through causal links, the CLD of Panel 1 as displayed in Figure 5.6-1 was created. The CLD encompasses 28 factors, which form 13 loops. Participants devised two balancing loops, both of which describe dynamics around how the 'political commitment towards just and equitable resilient urban development' can lead to progress in this regard. Progress in this can then reduce the 'economic impacts of climate change on the city', which causes 'political commitment towards just and equitable climate-resilient urban development' to weaken. If the commitments are weakened, 'negative economic climate impacts' increase, which pushes 'political commitment' up. This balancing dynamic can create a lock-in or a limit to the growth of commitment.

The remaining loops that were created are reinforcing loops. These loops can explain acceleration of factors into one direction. The shortest and most direct reinforcing feedback is between the 'willingness of people to be part of participatory processes' and 'public understanding of democracy' (what people understand by democracy /how people think that democracy should work). 'Public understanding of democracy' was discussed as an important factor but is only part of this and one other reinforcing dynamic. As 'democratic understanding' is positively linked to the 'willingness of the population to be part of participatory processes' and thereby drives 'climate resilient just and equitable urban development' and 'political commitment towards participation', 'the quality and quantity of participatory processes' moves in the same direction, meaning 'democratic understanding' is reinforced. Both reinforcing loops around democratic understanding can create an effect of acceleration of democratic understanding - or a rapid decline. Whether one or the other takes place, depends on the direction these feedback loops get pushed.

Another reinforcing dynamic arises from the feedback between the ‘political democratic understanding’ and the ‘political commitment towards participatory processes’. ‘Political democratic understanding’ is also linked to one more reinforcing dynamic. An important factor of this positive feedback loop is the ‘commitment to results’, through this it reinforces ‘just and equitable climate-resilient urban development’ through ‘political commitment’ as well as ‘quantity and quality of participatory processes’. ‘Political commitment towards climate resilience’ is also linked to several positive feedback loops that strengthen ‘just and equitable climate-resilient urban development’ through more ‘inclusive green spaces’ and ‘public attention through media’. The participants also identified factors which are impacted by the dynamics but do not directly feedback, such as ‘image of the city’ and ‘available budget for participation’. Factors that impacted the dynamics but that were not part of feedback dynamics include ‘available resources (time, money etc) for participation’, ‘level of being affected’, ‘lobbying for climate’, ‘juridical risk’, ‘public support and demand for living space’.

On the one hand, the many reinforcing loops present an opportunity to intervene in the system by driving them in the desired direction, such as ‘increasing available resources’, ‘the commitment to results’, ‘quality and quantity of participatory processes’ as well as driving ‘public attention (media)’ in the direction that leads to more ‘political commitment towards climate resilience’. This could lead to the acceleration of desired outcomes with relatively small efforts. On the other hand, weakening the balancing loops can represent an opportunity to overcome limits that keep ‘political commitment towards climate resilience’ locked and limit the potential for efforts to accelerate.

Beyond changing loops’ directions and strengths, changing structures could also represent an opportunity to intervene. In the current version of the CLD those structures would concern the connections around ‘political commitment’ and ‘budgets’.

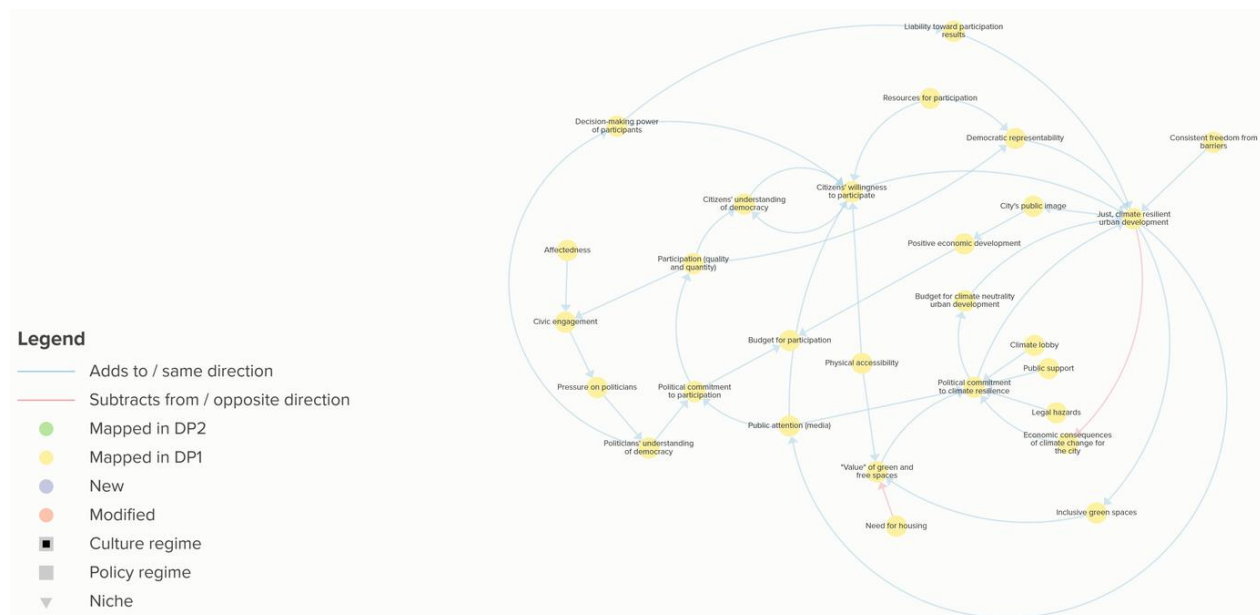


Figure 5.6-1: Digitalized CLD of Panel 1 BOKU

Panel 2

The panel began in the same fashion as Panel 1 with an amended guiding question for the PSM process. The participants identified behaviours over time at the niche that they viewed as key for understanding how the initiative operates at the niche level. Those reference patterns covered a broad range of topics. The discussions around these highlighted several interrelated issues that shape the development of the initiative and how it can contribute to climate-resilient and socially just urban development. Participants emphasised that media presence - across traditional and social media - is crucial for making alternative visions visible, generating public attention, and exerting pressure on political decision-makers. Petition campaigns targeted on-site actions, artistic interventions, and creative public-facing formats such as visionary walks were seen as important tools for mobilizing support and increasing the initiative's political influence. At the same time, the success of these activities is strongly linked to internal group dynamics, the number of active members, and the capacity to sustain motivation, with internal conflicts and political setbacks potentially weakening mobilization. Another key point was the importance of building networks and reaching multipliers as well as collaborating with other initiatives, researchers, and scientific institutions to strengthen arguments through shared information and evidence. Participants also stressed that civil society participation can be undermined by hidden agendas and informal agreements among political and economic stakeholders, which limit the effectiveness of participatory processes and can lead to frustration or failure. The tension around green spaces was raised: Even though planned park area may increase in absolute terms, development pressures are also rising, and the overall share of green space is perceived to be declining.

The CLD created in Panel 2 is much larger than the one of Panel 1, as it includes many more factors and dynamics. At the core, the CLD describes the dynamics of the initiative explaining the previously explored behaviours over time. Based on the factors and connections made between them, the CLD encompasses 158 feedback loops, of which 66 are balancing and 92 are reinforcing. Many of the bigger loops act in parallel, meaning that reinforcing and balancing dynamics go through almost the same variables but differ with regards to few variables. A key factor for most reinforcing and balancing dynamics is 'available time capacities to do work in the initiative' as well as the 'strength of the political narrative'. While a larger number of members increases the total hours that can be spent on the work of the initiative, it also creates additional administrative and coordinating burden, which can keep the initiative to a limit or oscillating number of active members instead of continuous growth. The factor 'strength of the political narrative', also, has the potential to keep the initiative from growing or in an oscillating dynamic, as it affects the 'motivation of members' either through more direct paths or through the 'media attention around the initiative'.

For the reinforcing dynamics it is interesting that the same key factors can foster continuous reinforcement of the same dynamics. On the one hand reinforcing dynamics arise from the 'initiative's efficacy'. On the other hand, the dynamics arise from a rather counterintuitive feedback path between the 'disappointment of initiative members' because of the 'success of the political narrative', which can also affect the 'number of active initiative members' which impacts 'time capacity due to administrative and coordination activities' as well as it can actually drive 'creativity' if the frustration is dealt with and not just put aside.

For the reinforcing dynamics, it is notable that the same key factors can sustain and amplify these processes over time. On the one hand, reinforcing dynamics emerge from the 'initiative's efficacy' and the positive link to 'creativity' and thereby, positive 'media attention for the initiative' as well as the

‘number of active members’, affecting ‘available time resources. On the other hand, the dynamics also arise from a less intuitive feedback loop: disappointment among initiative members, triggered by the success of the political narrative, may reduce the number of active members and increase the time burden associated with administrative and coordination tasks. At the same time, if this frustration is processed constructively rather than suppressed, it may also stimulate creativity.

Driving reinforcing loops into the desired direction can be a leverage point at the initiative level too but due to the fact that these reinforcing loops are linked more balancing loops, they can also be more limited as the balancing loops ultimately limit them in gaining strength or drive them in the opposite (undesired) direction. This is especially the case when two reinforcing dynamics are triggered in opposite directions and thereby strengthening the balancing loop rather than perpetuating the desired behaviour throughout the entire system.

The ‘disappointment of the initiative’ due to the ‘strength of the political narrative’ and how to deal with it was discussed among the participants as a point of intervention. While not dealing with the disappointment would not significantly change the proportion between balancing and reinforcing feedbacks, interventions that stabilize membership numbers seem to be more effective to foster dynamics that help the initiative in the long-term.

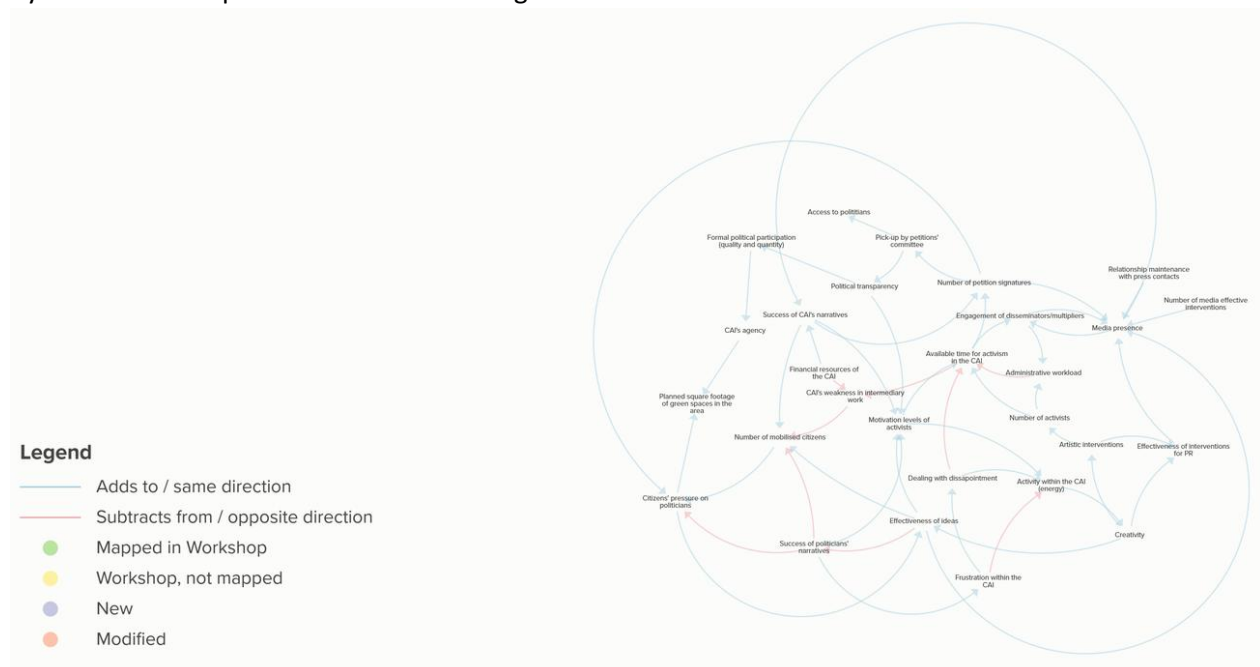
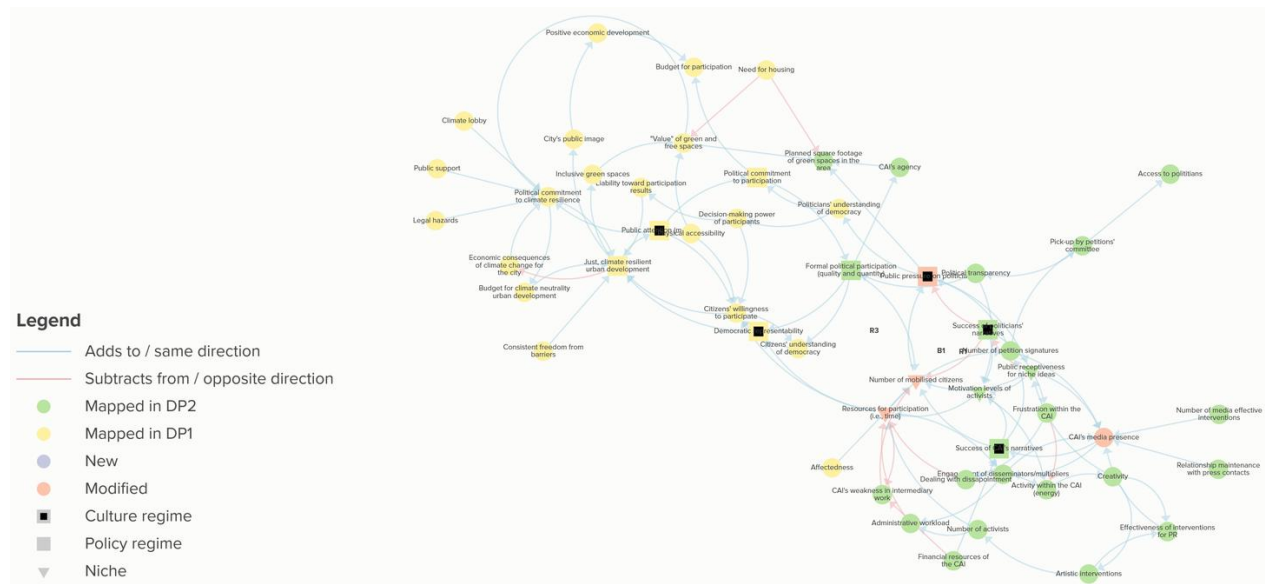


Figure 5.6-2: Digitalized CLD of Panel 2 BOKU

Panel 3

For panel 3 the CLDs from Panel 1 and Panel 2 were merged to identify leverage points across levels. The two CLDs were merged in two steps: i) factors that were the same or had the same meaning were merged into one and thereby, connections between the two CLDs were established through these variables and ii) common knowledge connections between the factors of the two CLDs were added by BOKU's research team. The merged CLD encompasses 225 loops. This means new feedback loops and additional dynamics became apparent through the merge. Roughly 39% (88 loops) are balancing and the remaining 137 loops (60%) are reinforcing. Out of the 57 new feedback loops 37 are reinforcing and 20 are balancing. For

reinforcing dynamics, many of the feedback loops come from the positive connections between the transparency of political decision making, quality and quantity of participatory processes and the number of reached and mobilized people. Around these connections, reinforcing dynamics that are more embedded on the initiative's side are linked to signatures for petitions. The number of people reached and mobilized through the quality and quantity of participatory processes, which is also strongly influenced by the feedbacks on the regime level, drives and is driven also by the number of reaching multipliers, media attention of the initiative as well as the direct positive link of available time resources and collected signatures for the petition. This drives reinforcing dynamics at the initiative level around the initiative's creativity as captured in the CLD of Panel 2.



One leverage point would be driving the reinforcing dynamics in the desired direction. Balancing dynamics can create a lock-in and can limit the effect of reinforcing feedback loops by either acting as a limiting factor or turning the balancing behaviour in the opposite direction. Hence, breaking existing lock-in structures or creating new structures that can create desired effect would be a necessary leverage point to achieve long-term change. Based on this analysis, the following leverage points were presented as a starting point for the ToC in Panel 3:

- *Strengthen the quality and quantity of participation through political commitment [Reinforcing dynamics regarding media presence and the willingness to participate]*
- *Time capacity for working in the initiative [Limiting "wrongly" directed reinforcing dynamics]*
- *Number of (mobilised) people reached [New structures to overcome resource bottlenecks and leverage potential at the regime level]*

After discussing with the participants an additional leverage point was added, because the media was seen as central to many of the dynamics that currently drive the system in an undesired direction.

- *Influence the city's external image through (international) media contacts*

Furthermore, a vision formulated by the research team before the workshop was presented to the participants, reviewed for necessary amendments and additions, and then endorsed. The final version of this vision, which served as a reference point for the remainder of the workshop, was:

"Transparent processes and participation between the city and civil society initiatives strengthen democratic deliberation on climate-friendly and socially just urban development. Knowledge, experiences, and needs are systematically integrated so that shared solutions can emerge that are supported by many."

In the next step, the identified leverage points were voted on, and the list was again reduced to three. These were then reformulated as outcomes and used as the starting point for the subsequent Theory of Change exercise. As described in section 4.6.3 the facilitation team adapted the originally developed approach which had included a role-playing exercise in response to the small group size. Guided through a perspective-changing exercise as a full group, participants then developed activities and articulated the positive and negative assumptions underpinning them. Below, we present the digitalized version of the Theory of Change exercise, together with a breakdown and summary of the key elements of each outcome.

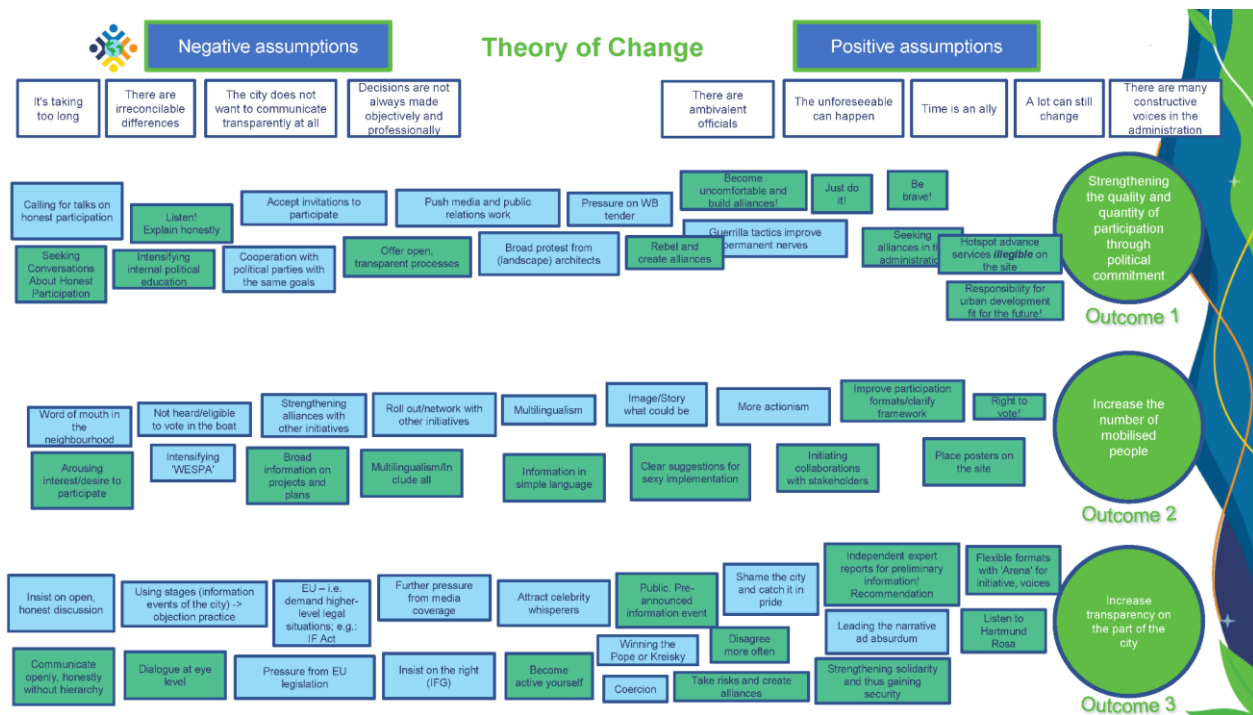


Figure 5.6-4: Digitalisation of the Theory of Change process BOKU

Outcome 1: Strengthening the quality and quantity of participation through political commitment

Suggested activities ranged from more confrontational forms of civic action, such as guerrilla tactics and acts of resistance designed to make participation more uncomfortable for decision-makers, to efforts to build and strengthen alliances with other initiatives and with actors inside the city council and administration. One particularly important ally for future activities was identified as the area management for urban renewal, which was represented in Panels 1 and 3. It can act as a bridge between local communities or initiatives (*the niche*) and the city administration (*the regime*). Although its budget to support local initiatives is limited, it is well placed to mediate between these two spheres and to understand the perspectives of both.

Outcome 2: Increasing the number of mobilized people

To increase mobilization, participants proposed measures that would enable broader political participation, especially among marginalized residents who are often ineligible to vote and/or do not speak German as their first language. In the longer term, this includes advocacy for an expansion of voting rights. In the short term, participants suggested making participation more inclusive by providing multilingual information, using simple language, and clearly communicating proposed actions and next steps. As under Outcome 1, building alliances—particularly with other initiatives—was also seen as an important strategy.

Outcome 3: Increasing transparency within city administration

Proposed activities focused on enforcing the Freedom of Information Act, which strengthens the public's right to access information and requires public authorities to disclose certain information proactively. Some suggestions also included mobilizing celebrity voices to support the claim. As with the other outcomes, building alliances was identified as an important strategy for achieving this goal.

5.6.3 Preliminary conclusions

Regarding the quality of interactions throughout the process, the overarching aim was to foster an atmosphere of mutual respect and trust among participants and to support open dialogue on an equal footing, while taking differences in power and knowledge into account. Based on participants' feedback and external observation, the research team considers this aim to have been achieved.

The implementation of this objective highlighted the importance of careful workshop planning, with room for flexible adaptation, skilled facilitation, and teamwork within the research team, as well as open discussion of challenges between researcher team and participants. Transparency was an important part of building trust, which in turn enabled more open conversations and a stronger commitment to the overall process.

Due to the small group sizes in all three panels, it was relatively easy to keep the process participatory and engaging. The clear structure, together with processes that built on one another, also helped maintain participants' attention and allowed them to follow the workshop's flow more easily. The only exception was the introduction of the participatory system mapping exercise, during which some participants experienced confusion, which slowed the process and required additional facilitation and support.

Motivation was generally high across all three panels, except for moments in panel three, when participants expressed disappointment about the absence of representatives from the city administration. Overall, the interactions between the research team and the participants were open and honest, and the team was able to capture the participants' perspectives, emotions, and insights.

6 CONCLUSIONS

6.1.1 Aim, contents and scope of the deliverable

This deliverable aims to document the design, implementation, and preliminary results of the participatory part of the CO-SUSTAIN project implemented in the six case studies. Its intention is to describe how different stakeholders such as niche and regime level actors were engaged, how participation was conducted in the panels, and how common theoretical and methodological frameworks were applied and adjusted, in efforts to try and identify new and novel pathways towards a more inclusive and just sustainability transition.

The deliverable begins with an outline of theoretical and methodological frameworks used in the case studies. These include stakeholder identification, the identification and inclusion of vulnerable groups, Participatory System Mapping and Multi-Level Perspective integration, Role game, Theory of Change, observations and ethical review and methodological refinement. These methods were selected in efforts to support the identification of relevant stakeholders, to help analyse a myriad of complex sustainability challenges and foster collaborative development of possible pathways to change.

The deliverable then introduces the six case studies and their topics and challenges in regard to their geographical context, time horizon as well as dynamics of local political participation, initiatives, and their interaction with local institutions. The following chapter describes how participants as well as vulnerable groups were identified, selected and contacted, how the deliberative process was organised from the Kick-off Meeting through the three deliberation panels. This chapter also documents the main deviations and adaptations made in applying the common guidelines in each case studies specific context.

The results chapter presents participants involved, and outputs generated by the case studies. Outputs include identification factors in Causal Loop Diagram exercises, dynamics that unfold and resulting causal-loop diagrams, leverage points for opportunities to affect systems, co-created actions and case-specific applications of Theory of Change. The chapter also presents the process of validation by external experts. Finally, case studies reflect on lessons learned from the participatory part of the project, including stakeholder recruitment, the participation of vulnerable groups, what were the interactions like, to what extent methods were able to help capture participants views and the overall character of the participatory process in their specific case.

6.2 Main insights from the case studies

6.2.1 Participation and representation

Across the case studies, stakeholder identification provided basis for finding relevant initiatives (niches) and regime actors, as well as civil society organisations, community groups, private sector actors, public institutions and vulnerable groups. However, the experiences of many demonstrate that engagement of vulnerable groups proved especially challenging. Also, several cases reported low or uneven attendance despite efforts of giving advance notice, reminders, making scheduling efforts and continuing communication.



Reaching individuals who were not already active in community or organisational groups and other networks, was particularly demanding. Depending on the case study, underrepresented groups were young people, older residents, linguistic minorities, people with disabilities, food-insecure beneficiaries and residents less accustomed to participating in organised events, such as these kinds of panels. Email invitations were often insufficient for reaching and motivating these groups. More inclusive processes that might yield more participation, may require more time and resources, such as personalized outreach, cooperation with intermediaries, engagement in other community settings, and multilingual or otherwise accessible participation forms.

Levels of participation of niche and regime level actors had an effect on the discussions and resulting processes. Where representatives from public authorities were lacking, the perspectives shared, and solutions proposed tended to concentrate on niche-level challenges and activities. Cases that had bridging actors connected to both community initiatives and institutional structures were better able to bring together different levels of perspectives and helped promote co-created solutions.

Small participation numbers created both limitations and advantages. Sometimes it restricted the range and scope of perspectives, but then in some cases it also provided ample speaking time and gave room to intense discussions.

6.2.2 Implementation of the participatory process

Interactions in the deliberation panels were generally constructive, respectful, and collaborative. Participants contributed their experiences, understanding and listen to other perspectives, as well as develop shared understandings of the challenges under consideration. The Kick-off Meeting and three panels enabled trust building and collective learning as, participants began the process with describing their own individual experiences, moved towards jointly identifying system dynamics, leverage points and possible actions. Ample planning, sensitive and skilled facilitation, teamwork and good communication were essential to achieving a collaborative atmosphere.

Often reported constructive and consensus-oriented interactions might have meant that some possible disagreements were not fully explored. In some cases, potentially controversial issues were discussed without conflict, so it might be possible that competing interest, fundamental disagreements or less confident perspectives remained unexpressed. Still in at least in one case study controversial topic was commented quite vocally. Some discussions were influenced by participants who were more vocal than others. Facilitation should support respectful collaboration while also allowing places for disagreement, quieter voices and perspectives, that challenge the consensus. At the same time, it is important to remember that the CO-SUSTAIN partners who carried out the deliberation process had different levels of experience with facilitation and the methods that were applied in the case studies: some partners had significantly more experience, while others were facilitating for the first time. During the project, this was addressed by organising internal training.

Implementation of the case studies was based on the idea of practical flexibility. While the main principles of CO-SUSTAIN methodology were followed case study specific approach was needed in the process exercises due to differences in context, such as participant composition, attendance and subject familiarity to participants. For example, in each case study the roles in role-playing for deliberation panel 3 were adapted to suit the case study and context. Another example is that in the Espoo case study, due to criticism of nuclear energy, as the topic, the research team reframed the topic more towards resident

participation in large-scale energy projects. Such adaptations improved the relevance of the discussions, exercises and atmosphere, without abandoning the overall objectives of the deliberation process.

A recurring finding is that from the participant's perspective the methods varied in difficulty. Participants often engaged most readily with personal experiences, narrative discussions, practical examples and responded well to role playing and development of concrete actions. On the other hand, participatory system mapping and causal loop diagram construction were in some cases demanding, especially if participants had no previous experience of similar methods. The abstraction required occasionally led to some confusion and required explanation and mindful facilitation.

6.2.3 Theory of Change and proposed actions

Theory of Change helped the case studies translate identified leverage points from the system mapping exercises to more concrete pathways for actions. Although the case studies are very different in their context several common patterns can be found in the proposed actions. In many cases participants did not focus so much on technical or infrastructure solutions, but instead focused on strengthening participation, improving information flow/dissemination, building organisational capacity, creating more stable forms of collaboration and improving connections between community initiatives and public institutions.

A related theme occurred in which the the significance of collaboration and bridging between different actors and governance was highlighted. Several cases proposed that efforts should be made to create spaces for coordination, co-design or dialogue. Proposed actions aimed improve relationships and information flow between actors, groups and regime to improve the possibility for the participation to have a concrete impact.

Common emphasis in findings was participation, communication and capacity building. Proposed actions include awareness campaigns, training, multilingual and accessible information, participation and advocacy plans, community events, and new mechanisms for involving residents in the decision-making processes. Several cases noted that these actions would be important to consider in regard to vulnerable and less active groups especially, as they are less likely to participate through conventional means. ToC reflects that understanding the broader dynamics of participation requires enabling conditions. Such as accessible information, ample opportunities to participate and organisational resources.

Taken together ToC seems to indicate commonality in which concrete activities generate immediate outputs that are aimed to strengthen participation, increase knowledge, coordination, organisation, and political support, thereby improving conditions for wider change in the long term.

Pathways vary considerably between the case studies but demonstrate that common methodological framework enabled participants to move from mapping system dynamics to leverage points and then towards concrete actions.

6.3 Preliminary conclusions and next steps

The six case studies demonstrate possibilities as well as challenges, of applying common participatory framework across diverse set of contexts. The CO-SUSTAIN deliberation process created a space for participants to share experiences, ponder system wide dynamics and their challenges, as well as identify leverage points and endeavor to develop new and novel pathways to change. At the same time, the cases show that participation is context dependent. Stakeholder and initiative composition, existing



relationships, institutional conditions, availability of resources, the particular issue at hand and familiarity with methods, heavily influence outputs that are being created.

Meaningful participation requires more than inviting many stakeholders. It requires a well-tailored and planned recruitment process, accessible and convenient engagement methods, capable and mindful facilitation. Additionally, the connection between the participants, their contributions and the possibility that they may lead future actions and have their intended consequences need to be believable and feasible. Motivation to participate requires good reasons to emerge. This is especially relevant during the recruitment process of vulnerable and less active groups. This needs to be considered in future projects like these, as the presence or absence of any specific stakeholder group affects the process, the understandings formed, and solutions created.

The findings presented in D3.1 should be understood as preliminary and part of a longer process. The case studies provide empirical base for analysing, inclusion, the deliberative process of the panels, the lessons learned from them, and the capacity of participatory processes to affect and contribute to sustainability transitions.

D3.1 provides both a record of the participatory part of process and a foundation for the next analytical stages of CO-SUSTAIN. The lessons and outputs of D3.1 will inform the ongoing impact assessment and comparative analysis, as well as help inform the subsequent project level conclusions and policy recommendations.

The CO-SUSTAIN research project moves forward to WP4, during which an impact assessment (T4.1), which examines the effects and outcomes of the participatory process, will be conducted. A comparative analysis between the CLDs created during the case studies' deliberative panels will be conducted and analysed with a multilevel perspective lens (T4.2). Additionally, the previous research steps during the historical examples and the case studies provide the basis for creating recommendations for policy makers to support participation in sustainable transition (T4.3).



Figure 1: logo of the CO-SUSTAIN project

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ANNEX(ES)

Annex 1: Agenda Template for Deliberative Panel I and Deliberative Panel II

6.3.1.1.1.1 Agenda Item	6.3.1.1.1.2 Duration	6.3.1.1.1.3 Purpose
Part I. Introduction		
Arrival & Welcome, Outlook of the Day	10 min	Welcome participants, explain agenda and roles
Check-in Round	25 min	Personal introductions; build trust and presence
Living Loop Game	25 min	Give people a felt sense of system dynamics and the and explain key concepts
Explaining CLD process and showing a potential result	15 min	Explain the methodology and link to project goals
Coffee/snack break	20 min	Informal interaction
Part II System Mapping		
Drawing Time Graphs	45 min	Understanding behaviours of the system over time
Discussion and definition of systems factors and their linkages	90 min	Collecting relevant factors that influence the system and how they are influencing each other
Summarising system map and identification of leverage points	40 min	For the participants to have a clear and shared understanding of the systems' structure.

Closing round	30 min	Collective reflection and feedback; remind people of their necessary commitment; have their insights heard
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Figure 6.3-1: Agenda Template for Deliberative Panel I and Deliberative Panel II (chapter 2.2.5.4)

Deliberative Panel III

6.3.1.1.2 Introducing the merged CLD

Prior to DP III, the research teams merged the two CLDs from DPI and DPII into one unified system map. This was done to enable participants of the final panel to work with a single, integrated representation of the system, making overlaps, commonalities, and potential linkages visible to them. The unified map also provided guidance in locating potential intervention points (leverage points) within the system, from which a Theory-of-Change-inspired action pathway was then derived.

6.3.1.1.3 Introducing a Vision

A key element necessary to identifying intervention points and to create a meaningful draft of the action pathway (ToC) was the introduction of a shared vision for the transformation of the system. The vision was formulated by the facilitation team prior to DPIII, drawing on the guiding questions from DPI and DPII. This was done to form a clear image of the future, agreed by all participants to act as a lighting tower to orientate the further process.

6.3.1.1.4 Creating a Theory of Change from multiple perspectives using Role Play

The leverage points previously derived from the merged CLDs were reformulated as Outcomes (i.e., sub-goals that further articulate and operationalise the overarching vision). The Outcomes then served as the starting point for the subsequent workshop phase, in which participants were guided through a structured role-playing exercise (see Section 3.2.4) to develop a draft Theory of Change by working backwards from the Outcomes and collectively brainstorming the necessary outputs, activities, and inputs to achieve them. In this exercise, participants deliberately adopted roles and perspectives different from their real-life positions. In a summarising panel discussion, the different perspectives were then merged into one unified Theory of Change.

6.3.1.1.4.1 Agenda Template for Deliberative Panel III (chapter 2.2.5.4)

<i>6.3.1.1.4.2 Agenda Item</i>	<i>6.3.1.1.4.3 Duration</i>	<i>6.3.1.1.4.4 Purpose</i>
Part I. Introduction, Shared Vision and Leverage Points		
Arrival & Welcome, Outlook of the Day and Check-in Round	30 mins	Welcome participants, explain agenda and roles; Personal introductions; build trust and



		presence
Presenting the Merged CLD	20 min	Explain the merging process; Highlight factors, connections and feedback loops, important for potential interventions (leverage points)
Presenting the pre-drafted vision and check for amendments and approval	20 min	Introducing and exploring the question, 'What is the change in the system that we want to see long term?'. Finding consensus in the group
Presenting the pre-drafted leverage points, check for amendments, additions and approval	25 min	Introducing and exploring the potential interventions in the system. Finding consensus in the group
Part II - Creating a Theory of Change from multiple perspectives using Role Play		
Select 2-3 Leverage Points through voting process	15 min	Checking participants level of agency
Derive Outcomes from the leverage points and divide into different groups for role play	10 min	Collecting relevant factors that influence the system and how they are influencing each other
Brainstorm outputs, activities and inputs to achieve the outcome in each group	45 min	For the participants to have a clear and shared understanding of the systems' structure.
Come together in the plenum to review the results and create a unified Theory of Change	30 min	Collective reflection and feedback for next steps; remind people of their necessary commitment; have their insights heard
Wrapping up and Closing Round	30 min	Collective reflection and wrapping up the process; outlook on follow up activities and closing

Annex 2

Table 6.3-1: Database of actors and stakeholders for KoM and DPs for the Alpujarra Energy Community UGR (chapter 4.1.1)

Category	Stakeholder name	Attendance			
		KoM	DPI	DPII	DPIII
Social actor	Alpujarra Energy Community		X		
Social actor	Alpujarra Energy Community	X	X	X	X
Public actor	Granada Energy Office, Provincial Council	X			X
Public actor	Orgiva town council (councilor)	X		X	X
Social actor	Semillistas Association	X		X	
Social actor	San José de Calasanz Public School	X			
Social actor	Rural Public School Alféizar in Tablones	X			
Social actor	Orgiva Youth Centre	X			
Economic actor	Penta community	X			X
Vulnerable actor	El Romero Occupational Centre	X			X
Resident	Individual	X			
Resident	Individual	X			
Social actor	Alpujarra Energy Community				
Economic actor	Olive Mill Almazara La Flor De La Alpujarra S.C.A.				
Social actor	"Pueblo de Bayacas" Residents' Association				
Public actor	Orgiva town council (mayor)				
Public actor	Orgiva town council (councilor)				
Public actor	Orgiva town council (councilor)				
Public actor	Orgiva town council (councilor)				
Public actor	Lanjaron town council (mayor)				
Public actor	La Taha town council (mayor)				
Public actor	Lanjaron town council (councilor)				

Public actor	Trevelez town council (councilor)				
Public actor	Orgiva town council (councilor)				
Social actor	CooperaSE Energy Services Cooperative				
Social actor	Say No to Towers Platform				
Social actor	Andalusian Network of Energy Communities				
Vulnerable actor	Pasos Association				
Social actor	Cultural Association of the Villages of Taha				
Social actor	Waldorf School Cultural Association of the Alpujarra				
Social actor	UNESCO Club of the Alpujarra				
Social actor	La Burra Verde Foundation				
Social actor	Virgen de los Remedios Senior Residence				
Social actor	La Inquieta Poqueira				
Social actor	Official Language School of La Alpujarra				
Social actor	Punto Vuela Orgiva				
Social actor	La Fábrica Lanjarón				
Social actor	Ecologistas en Acción Granada				
Vulnerable actor	La Morada Women's Association				
Vulnerable actor	Socio-Cultural Association Huella Meraki				
Social actor	Home care coordinator				
Vulnerable actor	Association of Women of Órgiva for Equality				
Economic actor	Las Torcas Organic Foods				
Economic actor	Alacena Begoña Herbalist				
Economic actor	Carmen's Eco-Shop				
Economic actor	Atenea Bookstore Orgiva				
Economic actor	Organic Bakery La Espelta				
Economic actor	Herbalist Enjoy Without Barriers				

Economic actor	Funes Brothers Oil Factory				
Economic actor	Joises Beekeeping				
Economic actor	Al Andalus Store				
Economic actor	Manuel Navarro Oils				
Economic actor	Granada Honey				
Economic actor	Mirasol Hotel				
Economic actor	Taray Hotel				
Economic actor	Puerta Nazarí Hotel				
Economic actor	El Semáforo Hostel				
Economic actor	La Trinchera Alpujarra				
Economic actor	Atlántida Library				
Economic actor	Onconature				
Economic actor	Azahara International				
Economic actor	Gallego Printing				

Annex 3

Table 6.3-2: Database of actors and stakeholders for KoM and DPs for the Turin food solidarity system (chapter 4.3.1)

ID	Organizzazione / Attore	Gruppo	Partecipazione
SH3	Fondazione Porta Palazzo	nicchia (DP1)	Sì
SH4	Cecchi Point	nicchia (DP1)	Sì
SH6	Eco dalle città	nicchia (DP1)	Sì
SH15	Associazione Fa Bene!	nicchia (DP1)	Sì
SH22	Arci Torino	nicchia (DP1)	Sì
SH40	Mirafiori Cascina Roccafranca (Roberta Molinar)	nicchia (DP1)	Sì
SH10	CAAT Scpa - Società Consortile Centro Agro-Alimentare Torino	stakeholder (DP2)	No
SH13	Banco Alimentare	stakeholder (DP2)	Sì
SH34	GIPA Gruppo Interassessorile Politiche Alimentari Federica Giuliani - Funzionaria amministrativa Comune di Torino	stakeholder (DP2)	Sì
SH24	Ass. Mosaico	testimone (da non coinvolgere ai tavoli)	Sì
SH42	Panafricando	testimone (da non coinvolgere ai tavoli)	Sì
SH49	Operatori del Mercato libero scambio "Barattolo"	testimone (da non coinvolgere ai tavoli)	Sì
SH5	Bagni Pubblici di Via Agliè	stakeholder (DP2)	Sì
SH1	Rete case del quartiere	stakeholder (DP2)	Sì
SH49	Unità Pastorale Migranti	stakeholder (DP2)	Sì
SH12	Supermercato NovaCoop	testimone (da non coinvolgere ai tavoli)	Sì
SH47	Sermig	stakeholder (DP2)	Sì
SH11	Università di Torino	stakeholder (DP2)	Sì
SH28	Caritas	stakeholder (DP2)	Sì
SH7	Action Aid	stakeholder (DP2)	No
SH7	Città di Torino	stakeholder (DP2)	No
SH36	Mais	testimone (da non coinvolgere ai tavoli)	No
SH7	Camminare Insieme	testimone (da non coinvolgere ai tavoli)	No
SH26	Manituana	testimone (da non coinvolgere ai tavoli)	No
SH9	Fondazione compagnia SanPaolo	stakeholder (DP2)	No
SH21	Acfil Associazione Culturale Filippina Piemonte	stakeholder (DP2)	No
SH	Hare Krishna	stakeholder (DP2)	No
SH50	Gruppo Abele	testimone (da non coinvolgere ai tavoli)	No
SH32	Food Not Bombs	nicchia (DP1)	No
SH14	Associazione Solidarietà Alimentare	stakeholder (DP2)	No
SH50	Unione Buddista	stakeholder (DP2)	No
SH23	Ass. Arteria	nicchia (DP1)	No
SH2	Associazione Eufemia	stakeholder (DP2)	No
SH17	Il Giardino Ristorante	stakeholder (DP2)	No
SH18	Comitato di Aurora	stakeholder (DP2)	No
SH30	Damamar	stakeholder (DP2)	No
SH43	Rete ONG	stakeholder (DP2)	No
SH8	Associazione Educadora	testimone (da non coinvolgere ai tavoli)	No
SH19	Alberto Saluzzo	testimone (da non coinvolgere ai tavoli)	No
SH33	Food Pride	testimone (da non coinvolgere ai tavoli)	No
SH37	Marco Giusta	testimone (da non coinvolgere ai tavoli)	No
SH38	Maria Vasile	testimone (da non coinvolgere ai tavoli)	No
SH41	Moschee via Saluzzo es.	testimone (da non coinvolgere ai tavoli)	No
SH29	Coop via Madama	testimone (da non coinvolgere ai tavoli)	No
SH45	Santa Rita Girarrosti	stakeholder (DP2)	No
SH46	Scuole	testimone (da non coinvolgere ai tavoli)	No
SH16	Mercatari	testimone (da non coinvolgere ai tavoli)	Da contattare
SH28	Chiese	testimone (da non coinvolgere ai tavoli)	Da contattare

Table 6.3-3: Identification and selection of participants and vulnerable groups UT (chapters 4.5.1 & 4.5.2)

Table A2:

Kickoff meeting, 09.01.2026

Stakeholders	Invited people	Attended
Residents	4	3
Tartu City Government departments	5	5
Community organisations	2	1
Local library	1	1
External organisations (NGOs, think tanks)	5	1
Organising team (University of Tartu)	10	10
SUM	27	21

Panel 1, 06.02.2026

Stakeholders	Invited people	Attended
Tartu City Government departments	17	10
External organisations (NGOs, think tanks)	7	3
Local police	1	1
Local library	1	1
Organising team (University of Tartu)	8	8
SUM	34	23

Panel 2, 08.02.2026

Stakeholders	Invited people	Attended
Residents	7 named + 7 housing association s	13
Community organisations	3	3
Tartu City Government	1	1
Local library	1	0
Youth representatives (school, youth centre)	5	0
Elderly day centre representatives	2	0
External organisations (NGOs, think tanks)	3	3
Organising team (University of Tartu)	8	9
SUM	30 + 7 housing association s	29

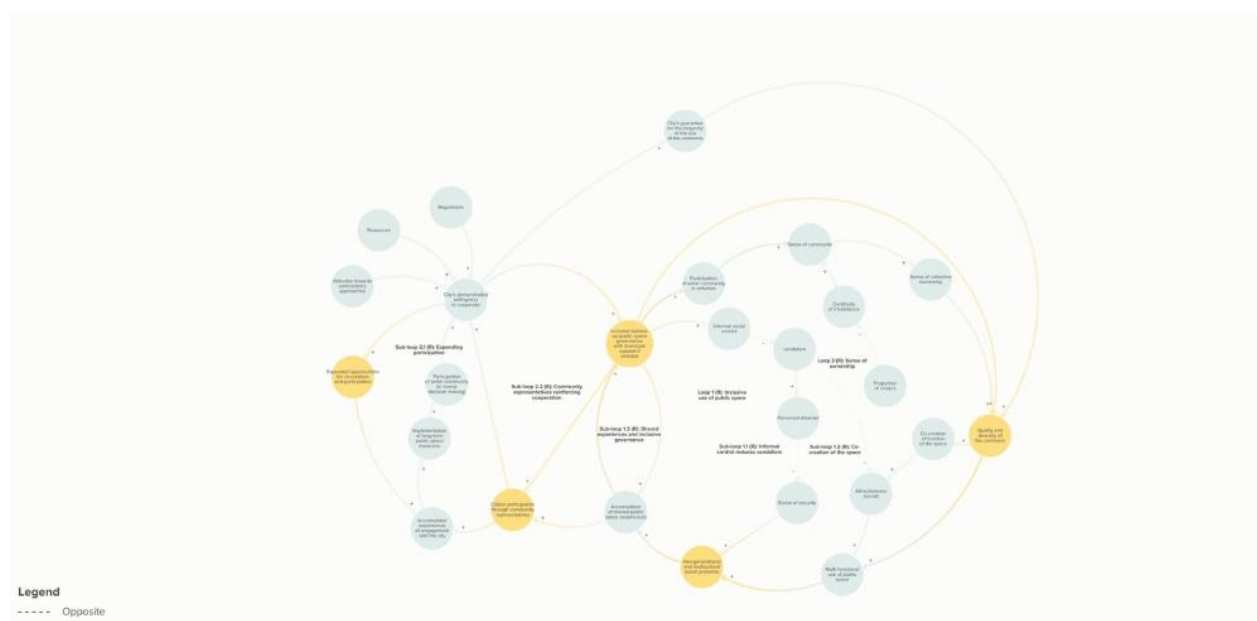
Panel 3, 12.05.2026

Stakeholders	Invited people	Attended
Residents	15	5
Tartu City Government departments	10	1
Community organisations	4	3

Local police	1	1
Local library	1	0
External organisations (NGOs, think tanks)	6	2
Organising team (University of Tartu)	10	9
SUM	47	21

Table A3: UT Causal Loop Diagram

Figure 6.3-2: Causal Loop Diagram UT



Annex 5: BOKU Panel summaries

[Panel I summary](#)

[Panel II summary](#)

For Panel III, the final summary and report is still in progress.