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DUST | Democratising jUst Sustainability Transitions

Deliverable 1.3: Synthesis research report

DUST : Work Package 1, Task 1.3

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Abbreviation list

Term	Description
APES	Actor-Process-Event Scheme
BG	Bulgaria
D	Deliverable
DE	Germany
FLL	Futures Literacy Lab
JST	Just sustainability transition
JTF	Just Transition Fund
LEC	Least-engaged community
MLG	Multi-level governance
NL	Netherlands
PL	Poland
RFLL	Regional Futures Literacy Lab
SE	Sweden
STEP	Stakeholder engagement and participation
TC	Territorial capital
WP	Work package
WS	Workshop

1. Introduction

This deliverable (D) 1.3 summarizes the research findings from the project Democratising jUst Sustainability Transitions (DUST) and documents the research process undertaken during the project's duration. Building on theoretical, conceptual, and methodological frameworks developed in work package (WP)1, research facilitated an analysis of citizen participation in place-based policymaking oriented towards just sustainability transitions in WP2 and 3, as well as the experimental testing of participatory instruments in living labs, referred to as Regional Futures Literacy Labs (RFLLs), in this context in WP4 and 5. Intermediate steps of synthesis ensured that the scope, depth, and determining factors of citizen participation that were identified during the early analytical WPs were targeted in the later experimental WPs. Against this background the main research findings that are presented in chapters of this report can be read as a consecutive elaboration of the projects' main question: How can the delivery of place-based policies for just sustainability transitions enhance citizen participation and trust in democratic governance, especially among least-engaged communities (LECs)?

The report is structured by the main research phases of the project and the chronological delivery of the scientific reports during these phases. Table 1 lists the deliverables and highlights those synthesizing intermediate research findings. Sub-chapters on individual deliverables first briefly introduce these through highlighting the objectives of underlying research tasks and summarizing the methods used. The main element of each sub-chapter is a list of main findings from research.

Table 1 DUST scientific reports.

No	Deliverable name	WP	Lead partner
Theoretical, conceptual, and methodological frameworks			
D1.1	Theoretical and conceptual framework	1	TUD
D1.2	Methodological framework	1	TUD
Scope, depth and determining factors of citizen participation in just sustainability transition initiatives			
D3.1	Assessment of representative and deliberative forms of civic participation in just sustainability transition measures	3	STRATH
D2.2	Citizen survey: Assessing participation in just sustainability transition policies	2	UZH
D2.3	Actor-Process-Event Schemes (APES): Mappings of processes and actor networks in multi-level just sustainability transition policies	2	UZH
D2.4	**Factors influencing participation: Opportunities and barriers for active subsidiarity in just sustainability transition policies**	2	CSD
D3.2	Civic participation of least engaged communities in the deliberative governance of just sustainability transitions: (Digital) facilitators and barriers	3	STRATH
D3.3	Media analysis: The role of social and traditional media for civic participation in just sustainability transition initiatives	3	CSD

D3.4	**Civic participation of least engaged communities in just sustainability transition initiatives: Scope, depth and determining factors**	3	STRATH
Design-led territorial and digital instruments for citizen participation in just sustainability transitions			
D5.3	Citizen Learnings Report: On involving least engaged communities in just sustainability transition policies	5	NR
D4.4	Evaluation and handbook of Regional Futures Literacy Labs (RFLLs): Design-led territorial and digital instruments for citizen participation in just sustainability transitions	5	TUD

1.1. Key objectives of the DUST project

The DUST project developed and operationalised novel participatory instruments for proactive and strategic citizen engagement in sustainability transitions. It combined design-led territorial tools with digital tools for citizen deliberation at scale. The project addressed a defining societal and democratic challenge for Europe, namely, to hear the voices of LECs, especially in structurally weak regions dependent on energy-intensive industries. Building on the concept of 'active subsidiarity', the project employed an innovative mix of research methods and experimental citizen participation to understand the determinants of participation in decision-making on sustainability transitions at different levels of government, and to develop effective policy recommendations for the inclusive engagement of civil society.

Specific objectives addressed were:

1 – The DUST project developed a novel assessment framework, informed by the concept of active subsidiarity, which involves qualitative and quantitative measures to analyze the scale, scope and form of citizen participation in deliberative and representative forms of democratic decision-making in place-based approaches to just sustainability transitions. Applied to multiple case studies from different regional institutional contexts across Europe, it compared participation in policy decision-making arenas and processes under key place-based policy interventions at EU, national and sub-national levels.

2 – Research using mixed methods was undertaken in the case study regions to investigate the factors, mechanisms, and institutional frameworks that enhance or hinder citizen participation as part of democratic life. Survey research, social and traditional media analysis, and in-depth qualitative research provided a deep understanding of how multi-level, place-based policy interventions respond to the concerns of communities especially vulnerable to sustainability transitions, and how these communities perceive policymaking.

3 – Participatory experiments were conducted in four of the case study regions to test the potential of a hybrid format that applies innovative design-led territorial and digital tools for citizen participation in just sustainability transitions. The experiments focused on involving LECs. Results of the experiments showed how these novel instruments empowered communities by enhancing their ability to anticipate and envision regional structural change, building capacity through consensus formation in a pluralistic and inclusive decision environment, and positioning themselves more strategically and forcefully in democratic life at scale.

4 – Building on these insights, the project delivered a set of policy recommendations and methodological guidance for civil society organizations, the EU, national and subnational governments, and academia to support the delivery of place-based policies for just sustainability transitions that enhance citizen participation and trust in democratic governance, especially among the LECs.

1.2. Theoretical and conceptual framework

Deliverable: D1.1 Theoretical and conceptual framework

Project month: 4

Lead partner: TUD

Building on a cross-disciplinary review of scientific literature from the fields of public policy, the democracy studies, spatial planning, and spatial design, the DUST Task 1.1 delivered a comprehensive theoretical and conceptual framework guiding the DUST project's research. Rounds of literature inquiry first gathered theoretical notions on the key concepts underlying all DUST research (Table 2). These notions were used to position and focus the research on the intersection of concepts. Secondly, by distinguishing between LECs' willingness and ability to participate in policymaking the inquiry established an analytical framework to capture determinants of LECs' participation. Lastly, the review gathered existing insights into the benefits of and barriers to territorial responses to just sustainability transitions that democratise place-based approaches through maximising participation of the LECs. Results of this literature study were ordered to build an up-to-date foundation for upcoming research in an analytical, instrumental, and communicative dimension.

Table 2 Key concepts in the DUST research in overview.

Definition	Sources
Just sustainability transitions	
Sustainable development is defined as development that meets present needs without compromising the needs of future generations. The concept of just sustainability combines sustainable development with social-ecological justice goals and offers a space for exploring and promoting distributional, procedural, and restorative justice in sustainable development. While the above concepts concern normative aspirations, the concept **sustainability transition** describes the slow, evolutionary process of realizing these.	(Grin et al., 2011, Grossmann et al., 2022, McCauley & Heffron, 2018, Moodie, 2025, Purvis et al., 2019, United Nations, 1987)
Place-based approaches	
Place-based approaches recognize that the relative costs and benefits of development policies have political, economic, and social consequences with a clear territorial dimension. Against this background, they typically (1) use regulatory and strategic frameworks to articulate a logic or vision for development, (2) use multi-level governance structures to mobilize local actors to contribute to decisions, and (3) target the needs and potentials of specific territories or communities.	(Barca et al., 2012, Green, 2023, Medeiros & Rauhut, 2020, Rodríguez-Pose & Ketterer, 2020)
Citizen participation	
The term citizen participation refers to the involvement of citizens in policymaking and service delivery. While there are various definitions of citizen participation, they all emphasize its direct impact on policy formulation and implementation, with the focus on direct participation, where citizens are actively engaged in decision-making, rather than indirect participation, where citizens elect others to represent them.	(Arnstein, 1969, Callahan, 2007, OECD, 2022)
Deliberative democracy	
Deliberative democracy involves weighing and reflecting on preferences, values, and interests regarding matters of common concern. It is the opposite of aggregative democracy in which votes are counted. Deliberation emphasizes community involvement and collective decision in a state of disagreement and highlights legitimacy as the key defining element of democracy.	(Bächtiger et al., 2018, Callahan, 2007, OECD, 2020, Thompson, 2008, Mansbridge, 2015)

Community	
A community is a collective of individuals that share a perception of common identity and feelings of belonging, interests, values and norms, a territorial place, and/or distinct roles policymaking and political decisions. Within the DUST research, 'community' is further defined vis-a-vis sustainability transitions and related policymaking. Rationales behind this definition are: (1) transitions are experienced differently across and within regions but have consistently significant impacts on distinct societal groups, (2) groups are affected by transition policies to different degrees, (3) there are normative, ethical reasons for defining communities in transition policymaking, and (4) there are pragmatic reasons to focus on community involvement in sustainability transition policymaking.	(Adger, 2002, Carley & Konisky, 2020, European Commission, 2020, 2022, OECD, 2021, Pasetto et al., 2019, Wang & Lo, 2021)
Multi-level social governance	
Multi-level governance (MLG) refers to a political system in which authority and decision-making are shared across multiple levels of government - local, regional, national, and supranational (e.g., the European Union). It emphasizes cooperation and interaction among these levels rather than a strict hierarchy. The concept of social governance emphasizes sociality, community, and interdependencies between 'territorial proximity' and communities' capacity for collective action.	(Hooghe & Marks, 2002, 2016, Morgan, 2018, p. 42, Rhodes, 1996)

1.3. Methodological framework

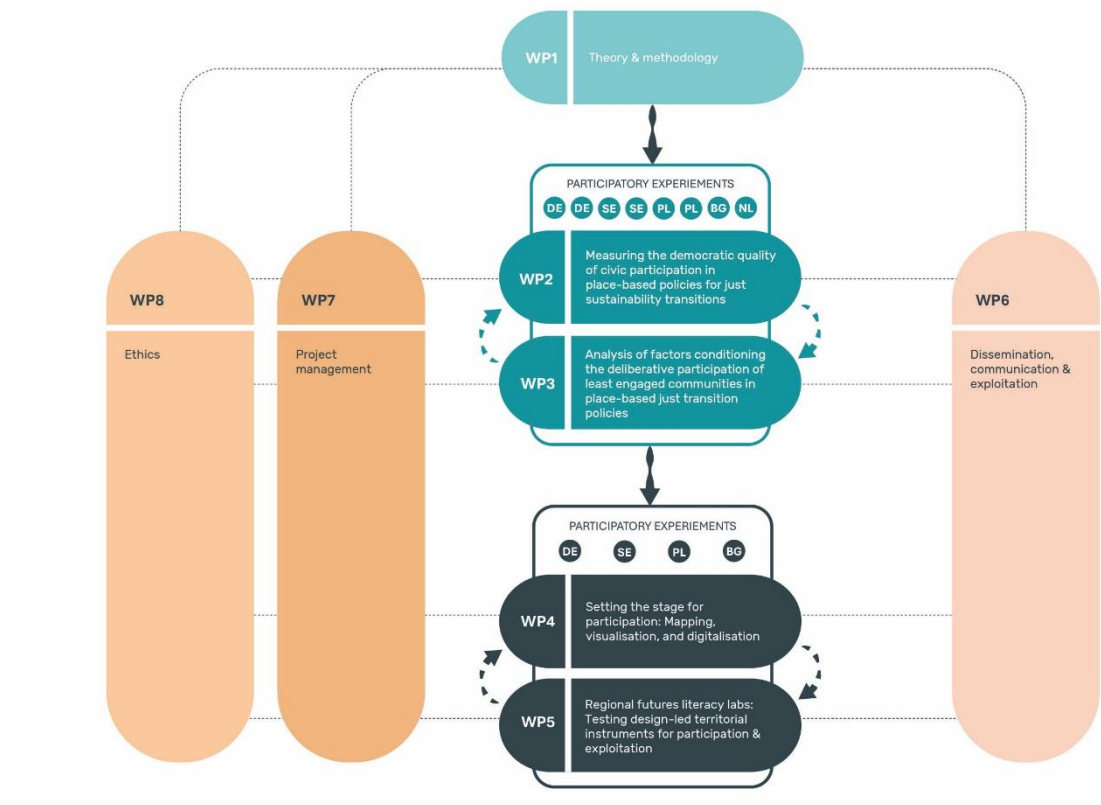
Deliverable: D1.2 Methodological framework

Project month: 4

Lead partner: TUD

In the DUST Task 1.2 a methodological approach was established to respond to the project's main objectives. To reach the intended depth of knowledge, the accordingly implemented methodology had two principal characteristics (Figure 1). First, it was characterized by two consecutive phases of analysis and experimentation. WP2 and 3 focused on in-depth case study research in eight regions, where it assessed recent experiences with citizen participation among LECs in key policies oriented towards sustainability transitions. Drawing on the results of the earlier case study analysis, the experiments tested instruments for participation in four of these regions in WP 4 and 5. A second main characteristic of the DUST methodological approach was its close alignment between individual WPs. WP2 and WP3 ran in parallel to recognize interdependencies between results generated by different methods. The parallel implementation of WP4 and WP5 respectively emphasized interactions among participants during experiments (WP5), and the remote analysis and representation of results from these interactions (WP4). This combination allowed for both attention to the performance of participatory instruments under specific contextual givens, and a comprehensive, comparative perspective on performances. A more detailed account of methods used is also presented in the Chapters 2 and 3.

Figure 1 The DUST methodological approach in outline.



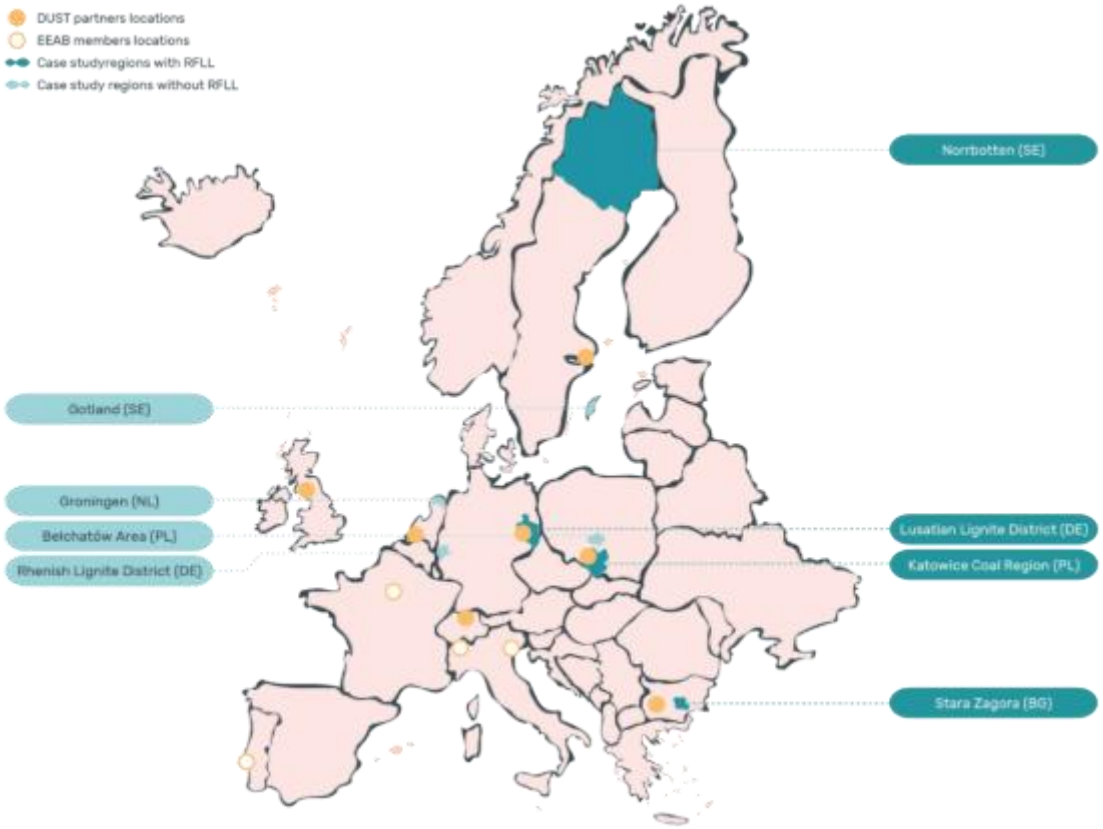
1.4. Case study regions

DUST multiple case study research in WP 2 and 3 covered eight regions in five European countries. Four of these regions became locations of experiments in WP 4 and 5. Regions were selected due to their strong reliance on energy-intensive industries, such as coal mining, gas extraction, cement, or steel industries. Furthermore, they were chosen because they are eligible for the European Union's Just Transition Fund (JFT). To ensure that research findings are applicable across a wider set of contexts, the selection also sought for varieties. Regions chosen differ strongly in (1) their socio-economic and geographic conditions, (2) the scope and composition of place-based policies, (3) national governance style and planning system, and (4) the strength and phase of the ongoing transition. Table 3 lists the selected regions and Figure 2 shows their location within Europe.

Table 3 Main characteristics of the DUST case study regions.

Region	Location	Type	Key industries	Case study research	Participatory experiments
Norrbotten	Northern Europe, SE	Intermediate region, remote	Iron ore mining, steel	x	x
Lusatian Lignite District	Central Europe, DE	Intermediate region, close to a city	Lignite mining	x	x
Katowice Coal Region	Central Europe, PL	Predominately urban	Coal mining	x	x
Stara Zagora	South-East Europe, BG	Predominately urban	Lignite mining	x	x
Gotland	Northern Europe, SE	Predominately rural, remote	Minerals mining, cement	x	
Rhenish Lignite District	Central Europe, DE	Predominately urban	Bituminous coal mining	x	
Bełchatów Area of Transition	Central Europe, PL	Intermediate region	Lignite mining	x	
Groningen	Western Europe, NL	Intermediate region	Natural gas extraction	x	

Figure 2 DUST case study regions.



2. Case study research : Scope, depth, and determining factors of citizen participation in just sustainability transition initiatives

The common objective of WP2 and 3 was to identify and explore variables that condition participation of less engaged communities in the deliberative governance of sustainable transition initiatives. More detailed objectives of the research are presented in Table 4. WP2 and WP3 worked in tandem on the multiple case study research, generating complementary insights and allowing for cross-validation and triangulation of findings from different perspectives and using different research methods.

In WP2 the Actor-Process-Event Scheme (APES) software was applied to produce insights on the intensity and comprehensiveness of public participation across different types of stakeholders, arenas at different governance levels, and phases of the policy process. A population survey generated quantitative insights on citizens' perceptions on just sustainability transitions policies and their prospective participation therein. The qualitative methods used in WP3 were informed by these insights in conducting more granular in-depth' exploration of participation in practice. Semi-structured interviews with practitioners in sustainable transition policies revealed rationales behind participatory tools and perceptions of their implementation. Focus groups with less engaged communities explored and compared their perceptions on participation in these policies. WP3 also included an assessment of how participation is affected by narratives of the sustainability transitions across a range of traditional and social media. During the stages of WP2 and 3 findings were twice synthesized in the deliverables D2.4 and 3.4, with particular attention to the upcoming experiments in the DUST WPs 4 and 5.

Table 4 WP2 and 3 research objectives in overview.

WP	Title	Objectives
WP2	Measuring the democratic quality of citizen participation in place-based policies for just sustainability transitions	Mapping and measuring the intensity and comprehensiveness of stakeholder and citizen participation place-based policies for just transition at the relevant levels of government (though STEP index and APES scheme).
		Identifying social groups facing barriers in participation in place-based policies for just transitions at different levels of government and of factors that influence those barriers.
		Identifying opportunities for 'active subsidiarity' in multi-level policy-making processes.
WP3	Analysis of factors conditioning the deliberative participation of LECs in place-based policies for just sustainability transitions	Identifying and categorising place-based measures related to just sustainability transitions in the case study regions.
		Exploring the factors that facilitate or impede the proactive participation of the LECs in deliberative forms of decision-making for just sustainability transition policies (incl. role of digital tools).

		Analysing the role of social and traditional media for participation of citizens in transition measures.

2.1. Assessment of representative and deliberative forms of civic participation in just sustainability transition measures

Deliverable: D3.1 Assessment of representative and deliberative forms of civic participation in just sustainability transition measures

Project month: 8

Lead partner: STRATH

Objectives

The aims of Task 3.1 were to map out diverse methods of participatory democracy and place-based transition measures in order to provide a comparative analysis of place-based policies, spatial plans, and instruments related to sustainability transitions in DUST's case study regions. In particular, the objective was to assess the range and depth of participatory practices, the arenas in which they took place, their inclusivity and outcomes, and to identify some of the LECs in those territories. This was used to build an analytical framework to explore the relationship between the dependent variable (inclusive deliberative governance of just sustainability transitions policies) and independent variables (contextual factors and features of participatory mechanisms), to inform the quantitative and qualitative research performed in WP2 and WP3, and to provide a comparative analysis of the relationship between these variables, thereby informing the focus of the experimental stages of DUST (WP4–5).

Methods

Task 3.1 was based on comparative research undertaken by partners in DUST's eight case-study regions. To facilitate detailed assessment, academic partners in case study regions were requested to first identify a range of place-based measures (defined according to key characteristics - multi-level systems of governance arrangements, a specific territorial focus and an integrated approach to development) in their territories and then select three for analysis. Subsequent case-study research was predominantly based on documentary review. This involved analysis of secondary sources including policy reports and documents related to place-based measures (e.g. territorial strategies, programme documents) and to participatory practices (e.g. calls for participation, records of participation, evaluations of completed participatory practices, etc.), and exploring academic and grey literature, incl. media sources where relevant. In cases where case study partners were directly involved in the formulation of analysed place-based measures and/or in the participatory practices identified, data based on observations were also collected.

Main findings

Capacity, not interest, is one of the main barriers to the participation of communities in transition measures

- LECs are often interested but lack time, skills, financial resources, and organisational capacity to participate meaningfully.

- Sustainability transitions raise concerns due to their long-term, complex, and interconnected social, economic, and environmental impacts.

Persistence of top-down governance limits engagement

- National-level retention of decision-making power reduces opportunities for deep civic participation.
- Concerns over complexity, uncertainty, and limited local capacity discourage delegation to local levels.

Defining stakeholders can unintentionally exclude groups

- Early policy assumptions about 'affected' or 'eligible' groups often marginalise certain social actors.
- Despite formal inclusion criteria, participation is frequently dominated by a narrow set of actors, with limited involvement of civil society organisations and citizens.

Prior awareness-building is a key prerequisite

- Marginalised communities need support to understand their rights, develop confidence, and recognise opportunities to participate.
- Awareness initiatives can foster new forms of citizenship through social movements and civil society engagement.

Mismatch between institutional and community geographies

- Participatory processes are constrained when institutional decision-making scales do not align with community attachments to place.
- Functional regions, while important for economic and infrastructural planning, are abstract and lack democratic spaces for community voice.

Complex coordination structures can deter participation

- Multiple boards, committees, and networks create opportunities but also complexity and opaque accountability.
- Excessive governance layers discourage participation, particularly for groups with limited capacity and social capital.

Unequal distribution of social capital affects participation

- Regions with higher levels of education and wealth see more civic engagement.
- Complex deliberative practices can further disempower less organised or resourced communities.

Political commitment shapes participatory outcomes

- Stronger engagement occurs when participatory arenas are closer to decision-making power, especially at municipal level.
- Processes perceived as informal or external to state-led mechanisms receive less political support.

Digital tools offer potential but remain underused

- Digital platforms improve information sharing and dialogue (e.g. participatory mapping, virtual consultations).

- Their use is mostly limited to low-intensity participation, with limited evidence of impact on engaging marginalised communities.
- Greater potential exists when digital tools are combined with interactive and visual methods to support inclusive, scenario-based participation.

2.2. Citizen survey: Assessing participation in just sustainability transition policies

Deliverable: D2.2 Citizen survey: Assessing participation in just sustainability transition policies

Project month: 12

Lead partner: UZH

Objectives

Task 2.2 aimed to deliver original, empirical knowledge on citizens' preferences regarding participation in deliberative governance. It involved designing, deploying and analysing a comprehensive survey across the five DUST EU countries, with a specific focus on the DUST Just Transition Fund (JTF) regions in these countries. The research aimed to address four specific objectives: (1) to assess citizens' awareness of climate policies and their positions on climate issues, (2) to analyse the structure of citizens' participatory attitudes, specifically testing the earlier established theoretical model of 'ability' and 'willingness' to engage, (3) to identify the key factors driving these attitudes, such as socio-demographics, political trust, and social capital, with particular attention to identifying LECs, and (4) to explore citizen preferences regarding the design of participatory processes, such as deliberative citizen forums. Ultimately, this work aimed to generate data for the Stakeholder engagement and participation (STEP) Index (a tool for measuring participation in just sustainability transition policies developed in the DUST Task 2.1) and provide evidence-based insights for further qualitative analysis and, more broadly, to policymakers seeking to foster more inclusive forms of governance in regions transitioning away from energy-intensive industries.

Methods

The research employed a comprehensive cross-national survey conducted across five EU countries: Bulgaria, Germany, the Netherlands, Poland, and Sweden. The study utilised a dual-structured sampling approach, collecting over 9,000 responses split between nationally representative samples and oversamples from designated JTF regions. The survey design included modules on socio-demographics, social capital, climate attitudes, and political factors. To measure participatory attitudes, the study operationalised the theoretical 'ability/willingness' model, validated through scaling and factor analysis. Additionally, a conjoint experiment was embedded to assess preferences for the design of deliberative citizen forums. This experimental component presented respondents with hypothetical scenarios varying across eight attributes (e.g., topic, selection method, outcome authority). Data were analysed using regression models to identify drivers of engagement and marginal means to determine design preferences.

Main findings

There are three parts to the main findings.

- First, the research **validated a three-dimensional structure of participatory attitudes**: 'Able' (internal efficacy), 'Unable' (external barriers), and 'Unwilling' (negative institutional perceptions), that is consistent with the DUST conceptual framework. In

terms of attitudes and their determinants, regression analysis identified specific drivers of 'least engaged' profiles revealing that:

  - **Institutional Trust:** This emerged as the dominant factor driving unwillingness to participate, low trust eclipses other variables in predicting disengagement.
  - **Socio-demographics:** Women and those with lower education levels are significantly more likely to perceive external barriers (higher 'Unable' scores).
  - **Knowledge Gap:** Low political interest and a lack of awareness regarding democratic innovations correlate strongly with an inability to engage.
  - **Regional Context:** Somewhat surprisingly, being located in a Just Transition Fund (JTF) region had a negligible impact on participatory attitudes compared to national samples.

- Second, the conjoint analysis of **citizens' design preferences for deliberative forums** revealed that they see such democratic innovations as complements to, rather than replacements for, representative democracy. Preferences were surprisingly consistent across countries: citizens favoured expert-led discussions, financial compensation, and inclusive 'open' participation. Crucially, regarding decision-making power, citizens preferred outcomes validated by referendums rather than binding decisions by the forum itself, indicating a desire for wider democratic validation.
- Third, the survey revealed significant **disparities in climate policy awareness**, with citizens in wealthier member states showing surprisingly lower awareness of EU-level initiatives compared to Poland and Bulgaria. More specifically, factor analysis identified a disconnect between environmental attitudes: while general concern is high, it does not automatically translate into a willingness to incur personal transition costs. This highlights a climate change gap between concern and commitment.

2.3. Actor-Process-Event Schemes (APES): Mappings of processes and actor networks in multi-level just sustainability transition policies

Deliverable: D2.3 Actor-Process-Event Schemes (APES): Mappings of processes and actor networks in multi-level just sustainability transition policies

Project month: 12

Lead partner: UZH

Objectives

This task aimed to generate systematic and comparative insights into how and to what extent stakeholders are involved in the formulation and implementation of place-based just sustainability transition policies in coal-dependent EU regions. It sought to operationalise and apply the Actor-Process-Event Scheme (APES) as a tool for mapping and analysing participatory dynamics across MLG settings. More specifically, the research pursued four main objectives: 1) to trace who participates, when, and how in key just transition policy processes (distinguishing between public authorities, private actors, social partners, scientific organisations and civil society), 2) to assess the breadth, depth and intensity of stakeholder engagement across different phases of the policy cycle (decision-making and implementation), 3) to examine how participatory configurations vary across regions, governance levels and policy instruments, and 4) to identify recurring patterns as well as structural asymmetries in stakeholders' participation in just sustainability transitions. The application of APES alongside the population survey (D2.2) and the STEP index ultimately generated preliminary empirical evidence for assessing the democratic quality of just sustainability transition processes.

Methods

The APES software provides a practical tool to trace and compare how different actors participate in shaping place-based just sustainability transition policies across coal-dependent EU regions. APES builds on qualitative case study material to code stakeholder participation along three analytical dimensions: actors (governance level and sector of activity), process phases (decision-making and implementation), and participatory events (ranging from information provision to partnership). Seven of the eight DUST case study regions in five EU Member States were examined, each focusing on one key policy instrument (Territorial Just Transition Plans or equivalent regional or national transition programmes). Once coded in the APES software, case study information is automatically transformed into an actor-process-event scheme, yielding insights into the intensity, diversity and comprehensiveness of actor engagement throughout just transition initiatives.

Main findings

The main findings of APES highlight several overarching patterns regarding stakeholder participation in place-based just sustainability transition policies.

- **Participatory configurations vary substantially across regions and policy instruments:** APES analyses reveal marked variation in the breadth and composition of stakeholder engagement, ranging from more technocratic and economically oriented configurations to more diversified and corporatist arrangements. These differences are observed both across and within countries and are associated with regional political cultures, administrative traditions and socio-economic contexts.
- **Participation breadth does not systematically translate into participation depth:** several cases display a relatively high number of participatory events and involved actors, however, these are often characterised by limited interaction and low deliberative intensity. A larger participatory configuration therefore does not necessarily imply stronger influence or more substantive engagement.
- **No consistent relationship emerges between governance centralisation and participatory inclusiveness:** the findings do not point to a systematic pattern linking centralised or decentralised governance structures to broader or deeper stakeholder participation. Both nationally steered and MLG arrangements can produce either narrow or diversified participatory configurations, depending on policy-specific and contextual factors.
- **Civil society involvement is uneven and context-dependent:** while some regions (Upper Silesia or Norrbotten) show more visible engagement of environmental organisations and community-based actors, other cases remain largely dominated by industry representatives and other more traditional organized interests, resulting in differentiated participatory profiles across territories.
- **Implementation phases involve fewer and more selective actors than decision-making phases:** compared to policy formulation, implementation processes tend to show reduced actor diversity, reflecting stronger administrative steering once strategic priorities and funding frameworks have been established.
- **APES makes visible structural limits to participation beyond formal inclusiveness**: even where participatory architectures involve a large number of actors and events, actor involvement is not evenly distributed across policy processes. Some actors are primarily involved during decision-making, others mainly during implementation, while some remain marginally engaged throughout. APES makes these differences in the timing and intensity of participation visible.

2.4. Synthesis: Opportunities and barriers for active subsidiarity in just sustainability transition policies

Deliverable: D2.4 Factors influencing participation: Opportunities and barriers for active subsidiarity in just sustainability transition policies

Project month: 15

Lead partner: CSD

Objectives

Task 2.4 intended to consolidate the evidence gathered through the DUST initiative to date, with a specific focus on tools used to quantify and evaluate participatory mechanisms within transition-oriented policies. It sought to analyze the complexities of engagement dynamics across various policy-making spheres, clarifying the timing, identity, and scale of individual involvement in political frameworks, alongside societal attitudes toward such participation. By examining the conceptual foundations and empirical results derived from these methodologies, the primary aim was to identify the opportunities and barriers for active subsidiarity in transition policy. Within the scope of the project, the task addressed the fundamental question of the depth and intensity of participation in the formulation and execution of sustainability transition measures in a multi-level context. The resulting data enabled the evaluation of the state of engagement and the benchmarking of participatory performance across different territories. This process refined the understanding of systemic barriers encountered by diverse demographic groups and highlighted pathways for promoting active subsidiarity. Ultimately, these findings served to clarify the trajectory toward fostering meaningful engagement within traditionally marginalized or LECs.

Methods

The findings presented in the report D2.4 resulted from a multi-dimensional research strategy designed to evaluate the democratic quality of engagement within sustainability transitions. This analytical framework was constructed upon the synthesis of three primary investigative instruments. Initially, the DUST survey served as an extensive population-level assessment aimed at quantifying participation rates and capturing public perceptions. This was complemented by the Actor-Process-Event Schemes (APES) tool, a specialized mapping methodology utilized to visualize and dissect the interactions between diverse stakeholders and critical decision-making milestones. Furthermore, the study employed a systematic documentary analysis to conduct a review of policy frameworks across eight case study regions. These methodologies were conceptually anchored in principles of MLG and active subsidiarity. By merging quantitative data with qualitative process mapping, the research determined the depth of stakeholder involvement, identifying systemic barriers and strategic opportunities for active subsidiarity within territorial policy configurations.

Main findings

- **Effective utilization of participatory methods:** Opportunities for active subsidiarity lie in the strategic utilization of co-production, co-creation, and dynamic participatory instruments. Regions that successfully align these structures with formal decision-making arenas are best positioned to cultivate active subsidiarity, ensuring that citizen input is funnelled directly into the political process to shape transition outcomes.
- **Tailored communication and capacity-building:** Enhancing active subsidiarity involves acknowledging communities' willingness and capacity to participate. Communication and capacity-building initiatives must be meticulously tailored to region-specific characteristics and unique territorial contexts. A 'one-size-fits-all' approach is insufficient, measures must consider local social group nuances even when policy frameworks originate at the national level.
- **Sidelining of vulnerable groups:** Significant barriers persist regarding inclusivity. The current emphasis on formal stakeholders may inadvertently sideline vulnerable groups, limiting their participation. This remains a critical democratic challenge, as it prevents the voices of those most affected by energy-intensive industry transitions from reaching policy-shaping circles.
- **Unequal distribution of power:** The unequal distribution of decision-making power between actors can severely hinder citizens from engaging in subsequent policy stages. When power is concentrated among institutional stakeholders, it creates a ceiling for interaction, ensuring public involvement remains superficial rather than influencing the core design and implementation of transition policies.
- **Entrenched top-down dynamics:** Bottom-up interaction is frequently impeded by entrenched 'top-down' dynamics in place-based measures. These traditional administrative structures prioritize centralized control, which jeopardizes meaningful participation during implementation. Breaking these dynamics is essential for creating a multi-level process that values local, grassroots input.
- **Necessity of defined roles and responsibilities:** Increasing stakeholder interaction does not automatically guarantee active subsidiarity. Quality participation depends on clearly defined roles and responsibilities for all actors, established from the planning stage onwards to ensure participants understand the scope of their influence and the specific contributions expected of them.
- **Influence of community attitudes and media:** Beyond process design, community attitudes and the role of social and traditional media are decisive factors. These elements shape the depth of deliberative participation within LEC, influencing how transition measures are perceived, accepted, or contested by the public.

2.5. Civic participation of least engaged communities in the deliberative governance of just sustainability transitions: (Digital) facilitators and barriers

Deliverable: D3.2 Civic participation of LECs in the deliberative governance of just sustainability transitions: (Digital) facilitators and barriers

Project month: 19

Lead partner: STRATH

Objectives

Task 3.2 had the overall aim of analyzing the factors conditioning the deliberative participation of communities and citizens in place-based measures for sustainability transitions, focusing particularly on LECs. It focused on participatory mechanisms that allow for dialogue and interaction, especially between representative institutions, communities, and citizens. It applied the framework set out in previous deliverables, which identified three broad categories of factors that affect participation—policy, community, and context.

The main objective was to understand what promotes or impedes deliberative forms of participation with citizens and communities (and how this occurs) through exploring policy and citizen (community) perspectives in different contexts. Of particular interest was the exploration of policy practitioners' perspectives regarding the use of participatory processes in transition policies, especially those targeting citizen participation. This included investigating decision makers' rationales for utilizing, or refraining from, deliberative forms of participation and efforts to engage with diverse socio-demographic groups, especially those that have a stake but tend to be less engaged in policy participatory processes or interventions. Equally important, community perspectives provided a nuanced understanding of the perceptions and expectations of affected communities with regard to sustainability transitions and unpicked the factors (enablers/motivations or obstacles/disincentives) that affect individual and group sentiments towards participation in policies aimed at alleviating the burden of, or facilitating, such transitions.

Methods

This deliverable used qualitative methods to analyse policy-related, community-based and contextual factors that inform the quality of participation in sustainable transition initiatives by less engaged communities. Specifically, empirical data was gathered in the DUST eight case study regions through a series of interviews with policy practitioners at multiple governance levels and focus groups with individuals who belong to less engaged communities in those regions.

Main findings

Participatory practices in policy design

- Public administrations use a wide range of participatory approaches, mostly traditional and expert-driven.
- Participation is often used for knowledge-sharing and consultation rather than shared decision-making.
- Innovative and digital citizen participation methods are rare but aim to improve inclusiveness, rebuild trust, and address long-term social change.

Decision-making power and resource allocation

- Final decision-making authority largely remains with governmental bodies, particularly national governments and EU institutions.
- EU Cohesion Policy and TJTPs offer limited flexibility to adapt to local contexts.
- Funding under the JTF predominantly flows to well-established institutional actors, reinforcing existing governance networks.
- Only one case showed citizens directly influencing project selection, highlighting the rarity of participatory resource allocation.

Policy framing and governance as key enablers or barriers

- Broad, flexible policy framings of sustainability enable greater citizen involvement and recognition of local knowledge.
- Technocratic, sector-focused decarbonisation framings limit incentives to involve citizens.
- Centralised, top-down governance structures, tight timelines, and limited institutional capacities hinder participation.
- Lack of participatory tools, risk aversion, and difficulties engaging less-represented groups are common challenges.

Inclusiveness and community targeting

- Policies focusing on collective prosperity and local benefits are more likely to engage diverse and least-engaged communities.
- Vulnerability-based targeting often relies on intermediaries and representative organisations, with direct citizen involvement more common during implementation.
- Power imbalances persist in participatory spaces, with dominance by large companies and men.

Recognition of citizen knowledge and capacity-building

- Citizen practical knowledge is undervalued, and mechanisms to translate it into policy are weak.
- Despite recognising capacity-building as important, policymakers rarely use participation to build community capacities at the design stage.

Community perceptions and willingness to participate

- Transitions are associated with deep economic, social, cultural, and emotional impacts, often shaped by past experiences.

- Widespread scepticism, distrust, and feelings of exclusion stem from perceived democratic deficits and lack of tangible benefits.
- Trust, perceived relevance, empowerment, clear invitations, accessible communication, and meaningful impact are decisive for participation.
- Barriers are intersectional (e.g. age, education, remoteness), cumulative, and context-specific.

2.6. Media analysis: The role of social and traditional media for civic participation in just sustainability transition initiatives

Deliverable: D3.3 Media analysis: The role of social and traditional media for civic participation in just sustainability transition initiatives

Project month: 19

Lead partner: CSD

Objectives

Task 3.3 aimed to scrutinize the impact of media and communication on just sustainability transitions, specifically identifying how traditional and social media can either facilitate or impede citizen engagement. It sought to analyze the role of media in shaping public perceptions, with a focus on uncovering information gaps, polarization, and potential disinformation regarding place-based policies. By navigating the interplay between communication and participation, the main goal was to provide evidence-based recommendations for policymakers to overcome media-related barriers.

Furthermore, the task aimed to examine the influence of digital communication landscapes on the deliberative participation of LEC. It focused on identifying how specific media narratives can either empower citizens or exacerbate their exclusion from policy-shaping processes. Ultimately, this analysis served to illuminate the path towards more effective and transparent communication strategies, providing evidence-based guidelines for policymakers to foster a more inclusive public discourse. By bridging these communication factors with broader project goals, the task aimed to strengthen the capacity of regional actors to promote active subsidiarity within the multi-level governance of sustainability transitions.

Methods

To explore the impact of disinformation on the public discourse surrounding just transition processes, the research employed an innovative information integrity analysis utilizing real-time media monitoring instruments, specifically SENSIKA and CrowdTangle, alongside various Open Source Intelligence (OSINT) collection techniques. The methodology began with the collection and identification of data on dominant public sentiments and common beliefs related to climate policies.

As a second step, data regarding key narratives and online information sources were collected to map knowledge production and consumption hotspots. The third step involved identifying key stakeholders with a vested interest in transition initiatives, to identify their public social media presence and leadership. Finally, Boolean searches were generated to process and visualize data through a content analysis based on variables such as regional context and socio-demographics. This multi-faceted approach was qualified by the expertise of regional partners to ensure findings are grounded in specific territorial political landscapes.

Main findings

- **Disinformation as a central factor in JST:** Disinformation is not merely a peripheral concern but a central factor influencing public opinion and policy responses to just sustainability transitions. Both traditional and social media have emerged as pivotal arenas where competing narratives battle for dominance, with disinformation strategically deployed by actors to create doubt, generate confusion, and resist transformative changes.
- **Depiction of JST as a threat to sovereignty:** A recurring motif in disinformation narratives is the depiction of JST as a threat to economic stability and national sovereignty. In carbon-intensive regions, these campaigns often portray the transition as an externally imposed agenda that ignores local socio-economic realities and leverages deep-rooted anxieties about job losses and community decline.
- **Asymmetry in narrative dissemination:** Pro-JST narratives emphasizing economic diversification and environmental restoration often struggle to gain visibility compared to disinformation. This asymmetry is partly due to the emotional resonance of anti-transition rhetoric, which is deeply rooted in fear and uncertainty—potent drivers that can overshadow rational discourse.
- **Role of social media algorithms:** Social media platforms have become critical spaces for the rapid spread of disinformation, as their algorithms often prioritize sensational content. This amplifies divisive and misleading narratives, ensuring that even fringe disinformation reaches a wide audience and complicates efforts for balanced, fact-based discussion.
- **Impact on public participation and vulnerable groups:** The impact of these narratives on public participation is profound, leading to pronounced resistance in regions where anti-transition narratives prevail. LECs are particularly vulnerable to disinformation due to a lack of access to reliable information combined with pre-existing socio-economic challenges.
- **Reinforcement of distrust in institutions:** Disinformation narratives frequently tap into and magnify a broader mistrust of governmental and supranational institutions. In some regions, JST is framed not as a cooperative effort but as a coercive policy prioritizing distant environmental goals over immediate national interests.
- **Need for comprehensive mitigation strategies:** Countering pervasive narratives requires a comprehensive strategy including transparent and consistent communication, active involvement of local communities in the transition process, and the promotion of inclusive narratives that align with broader social and environmental justice goals.

2.7. Synthesis: Scope, depth, and determining factors of citizen participation in just sustainability transition initiatives

Deliverable: D3.4 Civic participation of least engaged communities in just sustainability transition initiatives: Scope, depth and determining factors

Project month: 23

Lead partner: STRATH

Introduction

The aim of Task 3.4 was to synthesize the main take-aways from the combination of quantitative and qualitative data across DUST WPs 2 and 3. The common objectives of these were to identify and explore variables that condition the participation of less engaged communities in the deliberative governance of sustainable transition initiatives. WP 2 measured the democratic quality of participation in place-based policies for sustainability transitions, while WP 3 analyzed the factors conditioning this. The synthesis aimed to enhance understanding of these issues, inform policy recommendations, and provide a basis for the experimental elements of DUST research in WPs 4 and 5.

Main findings from synthesis

The analytical framework used in WP2 and WP3 categorised factors that enable or hinder community participation, particularly LECs, in deliberative governance of sustainable transition policies. These factors were grouped into **contextual**, **policy**, and **community** dimensions.

Contextual factors recognise that institutional actors, community groups, and individuals act within broader social, economic, and geographical environments that shape participation.

- **Geography** influences participation by affecting access to resources, mobility, and decision-making. Peripheral and rural regions often face isolation, limited transport, and low visibility, particularly for young people, which constrains engagement. At the same time, such areas can foster stronger local solidarity, trust, and social connectedness, which may support collective action.
- **Economic structure and transition pathways** play a critical role. Regions dependent on fossil-based industries experience transitions as either incremental or disruptive, depending on ownership patterns, historical legacies, political conditions, and levels of uncertainty. These factors shape governance arrangements, trust in institutions, perceived relevance of policies, and the pace and acceptance of change.
- **Public concern and media framing** strongly affect perceptions of sustainability transitions. While climate concern is widespread and polarisation between environmental and economic priorities is generally low in JTF regions, transitions become contested when framed as imposing costs on citizens. Dominant media narratives, often negative, emotive, or amplified by disinformation, emphasise risks, inequalities, and implementation challenges, undermining trust. Counter-narratives that frame transitions as opportunities for growth and regional renewal can mitigate these effects.

- **Social cohesion and civic norms** condition engagement. Socially fragmented communities, particularly in parts of Central and Eastern Europe with legacies of state dependence, show lower civic participation. Perceived unfairness and uncertainty around transitions can further weaken solidarity. By contrast, many rural communities display stronger trust and cooperation, with associations playing an important but uneven role in mobilisation. Young people face distinct barriers due to limited, exclusionary, or weak community organisations.

Policy factors also significantly shape participation, particularly among less-engaged communities.

- **Policy framing** influences who participates and how. Technocratic, sector-specific framings privilege expert input and limit direct citizen involvement. More flexible, territorially and socially oriented approaches, especially those explicitly aiming to build trust, create greater opportunities for community participation, although engaging representative organisations does not necessarily translate into broad citizen involvement.
- **Governance structures** affect participation outcomes. Some multi-level arrangements enable bottom-up engagement through intermediary bodies, but participation is often constrained by centralised decision-making, limited sub-national administrative capacity, coordination challenges across policy areas, and uneven traditions of local collaboration, all of which restrict meaningful community involvement.
- **Targeting and mobilisation strategies** vary across policies. Case study policies used regulatory, socio-economic, or territorial criteria to identify affected areas and groups, but policymakers frequently distinguished between targeting communities as beneficiaries and actively involving them in participatory processes. Engagement often relied on studies and institutional actors, with limited direct outreach to least-engaged communities, although attention to such engagement increased during decentralised implementation stages.

Community factors relate to motivation, capacity, and perceptions that shape attitudes toward participation.

- **Trust** is a central determinant. Widespread distrust in public institutions is the main barrier to participation across DUST countries, though in some contexts it can motivate engagement as a form of accountability. Trust varies by region, history, and age group, with youth using participation to assess institutional openness. Its impact is strongest where trust has been eroded by neglect or perceived corruption.
- **Perceived relevance** drives willingness to engage. Participation depends on whether policies align with communities' lives, values, and expectations. Misalignment, anticipated losses, or externally driven agendas foster disengagement, while locally grounded, transparent framings that allow communities to define concerns enhance empowerment and inclusive participation.
- **Empowerment** shapes engagement strategies. Feeling recognised and able to influence outcomes is crucial. Past experiences, participatory design, and uncertainty affect whether communities disengage or engage actively, particularly where strong networks, representative structures, and high perceived stakes support collective action.
- **Accessibility** affects participation quality. Political, informational, communicative, technical, and physical barriers shape who can engage and how meaningfully. Poorly tailored communication, technical language, and systemic inaccessibility undermine

understanding, trust, and democratic legitimacy, especially among marginalised and post-socialist communities.

- **Perceptions of knowledge** influence confidence to participate. Although communities value lived and place-based knowledge, expert knowledge is often privileged, leading some to undervalue their own contributions. Low participatory literacy, complex information, and intersecting barriers related to education and gender further reduce engagement.
- **Time constraints** limit participation. Work, study, and private responsibilities create structural barriers, particularly for young people, but these can be mitigated through better planning, digital tools, and alignment with local routines.

3. Experimentation : Design-led territorial and digital instruments for citizen participation in just sustainability transitions

The experiments in the DUST WPs 4 and 5 tested a novel hybrid format combining design-led territorial and digital tools for the participation of LECs in place-based sustainability transition policymaking. The format was designed to empower these communities to anticipate and envision regional structural change, to support them in the building of social capital in a pluralistic and inclusive decision environment, and to help the strategic and proactive positioning of their concerns in the multi-level deliberative governance of place-based sustainability transition policymaking and democratic life at scale. Detailed criteria that were established to assess the labs on these objectives are listed in Table 5.

The RFLLs happened in the four DUST case study regions of Norrbotten, Katowice, Stara Zagora, and Lusatia between December 2024 and June 2025. Engaged LECs were a rural community (Norrbotten), generations in mining families (Katowice), a community of citizens (Stara Zagora), and young people (Lusatia). The RFLLs included four analogue and one digital deliberative encounters between LEC members and - at times - policymakers and the public. Building on WP3 research results, the deliberative process started with the formulation of LECs' concerns at the periphery of the public sphere (RFLL workshop (WS) 1), proceeded to translate these concerns into more detailed positions (WS2-3), continued with deliberating these positions among a larger and more representative segment of the public (digital Pol.is application), and concluded with a final dialogue on concrete community-led policy recommendations for place-based policymaking at sectors and levels of government (WS4). During the RFLL processes these encounters were systematically documented, analysed, and represented. Central in the processing of information was the concept of 'territorial capital' (TC), which recognizes the specific development potentials upon which place-based policymaking draws.

A RFLL monitoring and assessment framework, established during Task 4.1, facilitated evaluation of the experiments from both a comparative and case-study-specific perspective. Criteria were structured to trace a policy and community perspective on the labs, and to distinguish the effects of the use of individual instruments. Several criteria were adopted to prolong scientific attention to issues that were examined in the DUST WPs 2 and 3, specifically factors influencing communities' willingness and ability to participate, and policy factors influencing participation in place-based just sustainability transition policymaking. Methods used in evaluation were qualitative text analysis, policy document analysis, methods using Pol.is embedded tools, semi-structured interviews with policymakers and LEC members, questionnaires, and participant observation.

Table 5 Criteria in the RFLL monitoring and assessment framework in overview.

RFLL key criteria	Key propositions for assessment
Social capital	RFLLs build social capital and trust in democratic governance.
Futures literacy, resilience, and adaptive capacity	RFLLs increase the resilience, adaptive capacity of citizens and communities.

Citizen empowerment	RFLLs empower citizens to voice their concerns in the multi-level deliberative governance of just sustainability transitions effectively and efficiently.
Citizen learning	RFLLs enhance citizens' learning about sustainability transitions and place-based policymaking as well as their participatory skills.
Democratic life	RFLLs enable inclusive and transparent citizen participation in democratic life.
Deliberative participatory processes	RFLLs promote deliberative participatory processes, which consider different arguments, weigh the implications of alternative solutions, and facilitate consensus on the basis of these.
Democratic life at scale	RFLLs enable democratic life at scale.
Place-based policymaking	RFLLs support policymaking that builds upon a region's territorial assets and responds to communities' needs.
Local knowledge	RFLLs inject new local knowledge and ideas into policymaking.
Policy co-creation	RFLLs enhance citizen participation in policy co-creation processes.
Narrative construction	RFLLs support the emergence of new narratives about sustainability transitions
Affective communication	Communication in the RFLLs is affective and inclusive.
Visual language	Visual communication about the RFLLs is clear, informative, and persuasive.

3.1. Citizen Learnings Report: On involving least engaged communities in just sustainability transition policies

Deliverable: D5.3 Citizen Learnings Report: On involving least engaged communities in just sustainability transition policies

Project month: 34

Lead partner: NR

Objectives

The objective of accomplishing the Citizen Learning Report in Task 5.4 was to analyse how participation in RFLLs contributes to learning, empowerment, and citizenship development among LECs in regions undergoing sustainability transitions. The research aimed to move beyond procedural assessments of participation by examining RFLLs as non-formal learning environments where citizens develop knowledge, skills, agency, and confidence to engage with complex transition processes. Specifically, the deliverable sought to: (1) assess how RFLL participation influenced participants' understanding of sustainability transitions and policy processes, (2) examine changes in participants' sense of empowerment, civic voice, and perceived ability to influence decision-making, (3) explore how social capital and trust developed through interaction with peers, policymakers, and facilitators, and (4) identify enabling and constraining factors for inclusive learning, with particular attention to communication practices and accessibility. By focusing on citizen learning outcomes, the deliverable contributes to a deeper understanding of how participatory processes can support democratic capacity-building and social justice, particularly for communities traditionally under-represented in formal policymaking and educational settings.

Methods

The analysis drew on a mixed-methods research design implemented across four RFLL case regions. Data collection combined semi-structured interviews with RFLL participants and policymakers, pre- and post-event questionnaires, and systematic participant observation during the RFLL processes. Qualitative data were analysed thematically to capture participants' experiences of learning, empowerment, social interaction, and engagement with futures-oriented methods. Quantitative questionnaire data were used descriptively to assess perceived changes in knowledge, confidence, and attitudes. Particular attention was given to the perspectives of the RFLL participants that were least-engaged community members, defined as individuals with limited prior involvement in policy processes but high exposure to transition impacts. The approach enabled the identification of shared patterns and contextual differences across regions, while foregrounding participants lived experiences of learning and participation.

Main findings

The findings show that RFLLs functioned as meaningful non-formal learning environments for least-engaged communities, supporting multiple dimensions of citizen learning while also revealing structural limitations.

- First, **learning outcomes** were evident across all case regions. Participants reported improved understanding of sustainability transitions, policy trade-offs, and long-term societal challenges. Futures-oriented methods helped participants move beyond immediate concerns and reflect on alternative trajectories, enhancing their ability to situate personal experiences within broader transition dynamics. However, learning depth varied, with participants who already possessed prior knowledge benefiting more strongly from abstract and long-term discussions.
- Second, RFLLs contributed to **empowerment** and civic confidence. Many participants described increased confidence in expressing opinions, engaging in dialogue, and interacting with policymakers. The facilitated and dialogic setting temporarily reduced perceived hierarchies, allowing lived experience to be recognised as legitimate knowledge. At the same time, empowerment was often experienced as situational rather than structural, participants remained uncertain about their capacity to influence actual policy outcomes beyond the RFLL setting.
- Third, the process strengthened **social capital**, particularly bonding and bridging ties among participants from diverse backgrounds. Interaction with policymakers supported trust-building and mutual understanding, although scepticism persisted regarding institutional follow-up and long-term impact. Linking social capital, connections to decision-making power, remained limited.
- Fourth, **communication and facilitation** practices emerged as critical enablers of inclusive learning. Accessible language, visual tools, and careful facilitation supported participation among groups with varying educational backgrounds. Conversely, abstract terminology and policy-oriented language risked excluding some participants, highlighting communication as a key social justice issue.

Overall, the findings indicate that RFLLs can foster citizen learning, empowerment, and social connection among least-engaged communities. However, their long-term democratic impact depends on stronger institutional integration, follow-up mechanisms, and continued support for inclusive, accessible participatory learning environments.

3.2. Evaluation of the RFLLs from a policymaking perspective

Deliverable: D4.4 Evaluation and handbook of Regional Futures Literacy Labs (RFLLs): Design-led territorial and digital instruments for citizen participation in just sustainability transitions

Project month: 34

Lead partner: TUD

Objectives

The RFLL format was developed to involve LECs in deliberating place-based policymaking. To serve this purpose each RFLL involved policymakers and other institutional stakeholders in ongoing key sustainability transition policy measures that correspond to the characteristics of place-based policymaking. After the conclusion of the labs, some of these participants were interviewed. Main questions concerned (1) the aspects of the RFLL format that have influenced the targeting territories and communities in place-based policymaking, (2) the aspects of the format that have influenced cooperation among communities and between communities and policymakers in place-based policies, and (3) the perceived performance of the RFLL components policy co-creation, the adapted FLL format, visual representation, and digital deliberation in place-based policymaking.

Methods

To identify a policy perspective on the RFLL format, semi-structured interviews with two policymakers who participated in each of the labs were conducted. The interviews were carried out after the conclusion of the last workshop in the labs. Interviews used predefined questions, structured around the aforementioned main issues.

Main findings

- **Policy- relevant messages from the RFLLs:** According to policymakers, the RFLLs have increased their perceived importance of the social dimension of sustainability transitions. Insights into LECs' social diversity, lived realities, and awareness of local policy impacts revealed a need to consider LECs' concerns in place-based policymaking to them. The labs also showed LECs' capacities and willingness to participate, including young people's motivation.
- **Enhancing participation in the RFLLs**: Open framing and practical measures were seen to have supported participation in the RFLLs. Identified barriers to participation included weak links to policymaking, mobilization difficulties, and LECs' lack of representation and scepticism towards institutions.
- **Giving communities a voice:** According to policymakers, the RFLLs strengthened LECs' ability to voice their concerns, especially through free expression on issues important to participants. Informality, openness, and co-creation, alongside distance from formal planning and policymaking, supported the expression of positions. Identified barriers included translating positions into concrete policy action.
- **Collaboration and social governance:** According to policymakers, the RFLLs contributed to LECs' social capital and trust through face-to-face interactions, and the

allowance to shape outcomes. Relations between LECs and policymakers were strengthened by listening, learning, and providing insight into decision-making.

- **Targeting policy and governance arenas:** LECs' positions on place-based policymaking were seen to be relevant across national, regional, and local governance levels. The national level was perceived to be important yet sensitive. Non-governmental actors and public audiences were also recommended as target groups.
- **Co-design:** According to policymakers, co-design fostered positive and optimistic perceptions of transitional development. Identified barriers included issue complexity, and mobilizing divers LEC members. It was acknowledged that effective co-design requires local grounding, leadership, feedback, and informal exchange.
- **The FLL format:** Policymakers observed that the adapted FLL format enhanced decision-making by supporting legitimacy, transparency, and forward-looking policymaking, while facing challenges in time commitment, skills, knowledge, and policymakers' readiness.
- **Visual representation:** Visual representation was seen to have bridged gaps between LECs and policymakers, making abstract topics tangible and engaging, especially for young participants, though accuracy and local reflection were occasionally questioned.
- **Digital deliberation:** According to policymakers, digital deliberation promoted conversation, transparency, and wider audience reach but faced participation, contextualization, and institutional uptake challenges. Recommendations emphasize embedding digital tools in policy processes, clear communication, and building institutional capacity for effective engagement.

3.3. Evaluation of the RFLLs from a comprehensive perspective

Deliverable: D4.4 Evaluation and handbook of Regional Futures Literacy Labs (RFLLs): Design-led territorial and digital instruments for citizen participation in just sustainability transitions

Project month: 34

Lead partner: TUD

Objectives

With the core ambition to strategically and proactively position the concerns of LECs in the deliberative MLG of sustainability transition policymaking in mind, the RFLL format was designed as a sequence of steps that alternate active deliberation in four RFLL workshops and one digital application with the remote analysis and representation of results per deliberation. This alternation intended a course that proceeds from the outline framing of conversations by key sustainability transition themes towards a precise positioning of LECs' interests vis-a-vis policymaking at distinct levels of government. The objective of Task 4.6 was to assess if and how deliberation and argumentation shifted across the RFLLs steps to follow the intended course, and to explain shifts by the use of instruments and aspects of the RFLL format. Specifically, the task investigated (1) the performance of the adapted Futures Literacy Lab (FLL) format in increasing communities' understanding of time, and capacity for imagination, (2) if and how the RFLLs promoted deliberative reasoning on place-based policymaking, and (3) if and how the use of e-democracy Pol.is as part of the RFLLs enabled democratic life at scale.

Methods

Task 4.6 focused on a comprehensive and comparative evaluation of the data and intermediate research results that were generated during the RFLLs in case study regions. To assess the projected impact of key place-based sustainability transition policy measures a mapping of a selection of measures per case study region was carried out in Task 4.2 (for results see D4.1). The most important method in generating intermediate results was qualitative text analysis of transcripts of audio recordings documenting the encounters in the RFLL WSs. Results of analysis became available during the Tasks 4.3 and 4.4 to inform deliberation in the consecutive WSs in individual case study regions (for a visual representation of results see D4.2). In Task 4.5, the e-democracy tool Pol.is was used. Data and metadata from Pol.is was collected and analysed using Pol.is embedded tools. An additional qualitative text analysis of the Pol.is results was employed to observe responses by the public to LECs' statements (for results see D4.3). Central in the processing of all text data was the concept of 'territorial capital' (TC), which recognizes the specific development potentials upon which place-based policymaking draws. The framework provided a system of reference, supporting comparative analyses across project steps and case-study regions.

Main findings

The Futures literacy lab (FLL) format in the RFLLs

- **Understanding of time:** The FLL format enables LECs to envision long-term futures and to link these futures to short-term actions and goals. Collective reflection, and sharing

stories and knowledge about regions enhances LECs' understanding of time and triggers learning.

- **Imagination:** The FLL format enables LECs to imagine complex future visions. Variations in complexity are caused by age, diversity of participating LEC members, and the emphasis of discussions on the present, expected, or preferred futures.
- **Changes of perspectives:** LECs change their perspective on transitions and transition policymaking when discussing expected and preferred futures. Local knowledge and sentiments about transitions and transition policymaking influence the likeliness of change.
- **Agency and futures literacy:** The FLL format enables LECs to imagine 'own community futures', offering different and nuanced positions on transition policymaking. LECs foresee having active roles and agency in these futures, which in turn expands their imagination.

Deliberating place-based policies in the RFLLs

- **Openly framing transition narratives:** LECs' narratives structure perceptions of transitional development through the lens of social capitals. Transition policy narratives often pursue comprehensive perceptions of transitions and structure these through the lens of economic diversification. Media narratives emphasize impact of top-down economic and infrastructure development on the ground. Open frames capturing the intersection of these disordered narratives provides for the possibility to restructure understandings and facilitates new argument.
- **Diversifying interests and sentiments:** The adapted FLL approach supports a diversification and expansion of LECs' interests in transitions and transition policymaking. Feelings about transitions and policymaking become more positive. During deliberation LECs add a practical, action-based, and goal-oriented dimension to policies, which they perceive to be abstract and overly positive.
- **Building positions regarding place-based policies:** When building positions regarding place-based transition policies LECs often link intangible social and human to tangible territorial aspects. They frequently promote community empowerment, solidarity among communities in regions, and the consideration of natural and cultural assets. During RFLLs common ground between LEC and policy positions emerges. This common ground is highly context-specific and thus place-based.

Participation and deliberation

- **Motivating participation**: The involvement of a LEC perspective in framing and maintaining LECs' interests as a structuring element for deliberation motivates participation.
- **Stimulating the depth of deliberative reasoning:** The adapted FLL format, a diversity of participating LEC members (specifically members from different generations), and safe spaces for internal community negotiation enhance the depth of deliberative reasoning. Age and cognitive versus affective and experiential knowledge correlate with different mechanisms for gaining depth.
- **Safeguarding the continuity of deliberation:** Continuous deliberation that flows from outline framing to precise LECs' positions is supported through a series of workshops and the systematic processing of input for and output of these participatory encounters.
- **Managing complexity:** Alternating formats for argumentation on broad issues with formats for reducing the complexity of argumentation (such as voting) and workshop

moderation that maintains openness and fosters creativity is essential for deliberating LECs' concerns in a MLG setting.

- **Affective communication:** Affective (visual) communication styles create a friendly and safe space for deliberation, and stimulate collective imagination and emotional expression.

Representation

- **Enhancing legitimacy:** Positioning deliberation at the intersection of LEC and policy interests and the recurring attendance of policymakers increases legitimacy.
- **Reaching out to the public:** Reaching out to the public via the arts is a powerful but highly sensitive endeavour.
- **Balancing participation and representation:** The presence of organized interests and contextual factors concerning transitional development, the comprehensiveness of transition policymaking, and the recognition of LECs therein influence the emphasis on participatory and representational elements in deliberative formats.

Democratic life at scale

- **Scaling-up deliberation via Pol.is:** The e-democracy tool Pol.is broadens participation. However, results from the RFLLs show that smaller publics can also generate intense online discussion.
- **Enhancing transparency in e-democracy applications:** Tracing the relevance of input and output statements for LECs and policymaking increases the transparency of e-democracy application such as Pol.is.
- **Increasing equality through a hybrid format:** Hybrid formats combining e-democracy tools, such as Pol.is, with participatory formats increase equality. Operationalisation of equality in the RFLLs, however, has shown that agenda-setting, thematic framing, and the visibility of smaller but significant positions need continuous attention.

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