Deliverable 5.3:

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

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Abbreviation list

Term	Description
APES	Actor-Process-Event Scheme
BG	Bulgaria
D	Deliverable
DE	Germany
EGD	European Green Deal
ERDF	European Regional Development Fund
ESF	European Social Fund
EU	European Union
FG	Focus groups
FLL	Futures Literacy Lab
JTF	Just Transition Fund
KoM	Kick-off meeting
LECs	Least-engaged communities
MLG	Multi-level governance
NIS3	National Innovation Strategy for Smart Specialisation
NUTS	Nomenclature of territorial units for statistics
PL	Poland
TJTP	Territorial Just Transition Plan
SA	Social Agreement
SE	Sweden
WG	Working group
WP	Work package
WS	Workshop

Executive summary

This report assesses the results of Regional Futures Literacy Lab (RFLLs) experiments conducted as part of the Democratising Just Sustainability Transitions (DUST) project, examining the impacts of the RFLLs from the perspective of participants.

The DUST Project contributes to the democratization of just sustainability transitions through the development and implementation of RFLLs. RFLLs are designed to support least engaged communities (LECs) to use their imagination, anticipation, and futures literacy to build their capacity to change and adapt in response to sustainability transition challenges and opportunities. Implemented through a hybrid format combining interactive workshops (involving LECs, policymakers, and other experts) and digital citizen engagement tools, RFLLs allow participants to: (1) identify and imagine alternative JGT futures; (2) reflect on the implications of these imaginations for current JGT policymaking; and (3) formulate strategic policy recommendations that inform JGT policy processes.

RFLLs were conducted in four European case study regions in Bulgaria (Stara Zagora), Germany (Lusatia), Poland (Katowice), and Sweden (Norrbotten) between October 2024 and June 2025. DUST case regions were selected on the basis of: 1) their classification as structurally weak regions due to their strong reliance on energy-intensive industries; 2) their eligibility for the European Union's Just Transition Fund (JFT); 3) the high potential for socio-economic and environmental challenges posed by sustainability transition on least engaged communities; and 4) ongoing and upcoming important sustainability transition policy interventions. The RFLLs focus on involving LECs within each case region, which are those societal groups that often are more vulnerable to sustainability transition challenges and impacts.

The findings outlined in this report reflect the perspectives of citizens from LECs that participated in the RFLLs. The results are based on data gathered from semi-structured interviews and questionnaires conducted with RFLL participants, and participant observations from RFLL facilitators. The report examines participant views on the main outputs of the RFLLs in relation to five core RFLL monitoring and assessment framework criteria: 1) social capital; 2) futures literacy, resilience, and adaptive capacity; 3) empowerment; 4) learning; and 5) affective communication. The key findings outlined in the report are as follows:

- **Social Capital:** Participants found that the open and inclusive dialogue that occurred within the RFLLs strengthened connections both within communities and between communities, as participants identified common interests and shared policy priorities. Enhanced intergenerational connections were particularly evident as older and younger RFLL participants began to better understand each other's perspectives. The RFLL process also created connections between citizens and policymakers. Policymakers became more accessible and relatable as citizens increased their knowledge and understanding of regional and local policies and policymaking processes. Enhanced social capital and collaboration between regional and local policymakers and communities was viewed as essential for empowering regions and increasing local resilience against the impacts of sustainability transitions.

- **Futures literacy, resilience, and adaptive capacity:** Participants found futures literacy as an enabler for imagining alternative futures in sustainability transitions. The futures literacy process and design of the workshops also helped spurring ideas on how to concretely engage in local and regional policymaking processes. While many

appreciated the long-term focus of RFLL activities, others found distant horizons too abstract, preferring discussions on immediate concerns. Across the case regions where RFLLs were conducted, the open dialogue, visual narratives and being provided with planning timelines were valued for stimulating futures thinking. In addition, personal context and sectoral ties shaped perspectives ranging from retired miners shifting from job security fears to environmental concerns in Katowice, to youth in Lusatia grounding sustainability transition concepts in everyday experiences like housing and mobility. These reflect the different perceptions of adaptive capacity highlighted among the LEC communities involved.

- **Citizen Empowerment:** Participants highlighted that the open dialogue and non-hierarchical structure of the RFLLs helped to reduce power asymmetries between citizens and policymakers. They viewed the RFLLs as providing an important platform for citizens to voice their concerns and perspectives on sustainability transitions. While they thought the policy co-design process empowered citizens in policy formulation, they recognized that decision-making power ultimately resided with policymakers. Participants were hopeful but sceptical and doubtful that the policy recommendations developed in the RFLLs would have little impact and efficacy on the broader direction of sustainability transition policies. Several participants argued that structural barriers to citizen engagement disempowered citizens and reduced their capacity to influence policymaking.

- **Citizen Learning:** Open discussion between RFLL participants fostered different types of cognitive learning related to increased awareness, knowledge, and understanding of 1) the sustainability transitions theme; 2) sustainable transition policy goals and objectives; 3) different individual and community perspectives on sustainability transitions; and 4) policymaking and citizen engagement processes. The interconnection between cognitive learning and participant capacity building is less clear, with mixed responses on the extent to which cognitive learning enhanced participants abilities to engage in future sustainability policy dialogue and processes. Some RFLL participants also noted that participation also contributed to normative learning with interactions and dialogue between participants stimulating a change in mindset. Participant thinking on sustainability transitions was influenced through cognitive learning stimulated by listening to the different perspectives of other participants and finding common ground, which cultivated a stronger sense of community and strengthened networks. Learning, therefore, is an essential cross-cutting criteria that acts as an important enabler and driver for increasing social capital and enhancing regional network resilience and empowerment.

- **Affective communication:** Participants occasionally found it challenging to understand some of the sustainability transition policy and academic concepts and jargon used during the RFLLs, while also expressing personal difficulties using language to express their own views and perspectives. Participants appreciated the efforts of RFLL facilitators to explain terms and concepts when clarification was required. Communication was also deemed most effective and understandable when policy topics were linked directly to regional and local contexts or described in relation to concrete policy examples. Terminological complexity and ambiguity have the potential to create communication barriers between policymakers and citizens. Participants stressed that it is important that the discussions around sustainability transitions are communicated using language accessible and grounded in the regional context.

Overall, these findings highlight positive outcomes in relation to the capacity of citizens to engage in policy discussions and co-design; in addition to the positive benefits that citizen engagement activities, like RFLLs, can produce in relation to increasing citizen awareness, knowledge, and understanding of policies and policymaking processes. The findings also show that affective communication and enhanced social capital and learning are vital enablers for empowering citizens and communities in policymaking and strengthening their resilience and adaptive capacity to respond to the challenges and opportunities presented by sustainability transitions.

Facilitating open and inclusive dialogue with citizens and communities is crucial for building social capital and collaborative regional and local networks which can strengthen the position of local actors in multi-level governance policymaking processes. Most importantly, the results indicate that direct access to and interaction with policymakers can strengthen relationships between citizens and policymakers, as citizens gain greater knowledge and understanding of policymakers' goals and efforts to improve their regions. While relationship building is an important component of trust, it should also be understood as part of a wider set of factors, including power imbalances and the provision of tangible benefits that communities can experience in their everyday lives. Strengthening these relationships and addressing these broader conditions is essential for overcoming the current lack of trust in policymakers and reducing the growing geographies of discontent.

These findings show the benefits of proactive citizen and community engagement. Policymakers, researchers, and societal groups/NGOs can maximize these advantages by facilitating citizen engagement through the regular consultation of citizens and communities in policy formulation, and by creating more permanent platforms that promote dialogue between citizens, policymakers, and other key public-private actors. This can be achieved by devoting time and resources to citizen engagement activities, especially at the early stages of policy formulation. Research organisations can support this process, working closely with policymakers and societal groups/NGOs to enhance their capacities to facilitate citizen dialogue, policy co-design, and the use of different citizen engagement tools.

1. Introduction

Citizen participation in sustainability transitions is important as the shift to carbon neutrality involves profound socio-economic, cultural, and spatial transformations that present a wide array of challenges and opportunities for citizens. In this context, citizen participation is crucial to ensure that sustainability transition policies are accountable, transparent, socially fair, and address citizen's needs. The Horizon Europe DUST Project contributes to the democratization of sustainability transitions through the development and implementation of Regional Futures Literacy Labs (RFLLs). RFLLs combine innovative design-led territorial and digital tools to enhance direct citizen participation in just sustainability transition policy processes.

The RFLLs focus on communities that are vulnerable to the socio-economic and environmental challenges presented by sustainability transitions, but have no, or little, engagement in related policymaking process (e.g. citizens residing in peripheral areas, and specific sectoral workers, such as, miners and employees of mining-related companies). The RFLLs are designed to empower these communities by: 1) enhancing their ability to anticipate and envision regional structural change; 2) provide a platform for communities to voice their ideas and interests; 3) build capacity through consensus formation in a pluralistic and inclusive decision environment; and 4) position their concerns more strategically and forcefully in sustainability transition policymaking processes and democratic life at scale.

Report Aim

The primary aim of this Citizen Learnings Report (Deliverable 5.3) is to present and assess the main effects and impacts of participation in the RFLLs on citizens. The report provides a comparative assessment of the experiences and perspectives of RFLL participants from across four DUST RFLL case study regions (see Figure 2 below). The analysis is structured around citizen assessments of key RFLL criteria within the DUST RFLL Monitoring and Assessment Framework (see Table 1 below).

Table 1: RFLL Monitoring and Assessment Framework

RFLL key criteria	Key features for assessment
Instrumental dimension / output	
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.
Instrumental dimension / process	
Democratic life	RFLLs enable inclusive and transparent citizen participation in democratic life.
Democratic life at scale	RFLLs enable democratic life at scale.
Deliberative participatory processes	RFLLs promote deliberative participatory processes, which consider different arguments, weigh the implications of alternative solutions, and facilitate consensus on the base of this.

RFLL key criteria	Key features for assessment
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.
Communicative dimension	
Affective communication	Communication in the RFLLs is affective and inclusive.
Visual language	Visual communication about the RFLLs is clear, informative, and persuasive.
Narrative construction	RFLLs support the emergence of new narratives about sustainability transitions

In particular, the report focuses on examining RFLL participants views on the main outputs of the labs in relation to five key RFLL monitoring and assessment framework criteria:

- **Social Capital:** strengthening connections between citizens, policymakers, and other experts working with sustainability transitions;
- **Futures Literacy, resilience, and adaptive capacity**: promoting citizens resilience and capacity to adapt to sustainability transitions;
- **Empowerment:** enhancing the role of citizens in multi-level governance sustainability transition policymaking processes;
- **Learning:** increasing citizen knowledge and understanding in relation to sustainability transitions and participatory policymaking processes.
- **Affective communication:** enhancing citizen awareness, knowledge, and understanding of opportunities and challenges presented by the sustainability transitions.

The report assesses these five RFLL evaluation criteria through the lens of participating citizens (representing each case regions' selected LEC communities) to understand the extent to which the RFLLs have contributed towards meeting the objective outputs elaborated below. Underlying this assessment is the RFLL monitoring and assessment framework indicators specifically developed and tailored to evaluate each individual RFLL criteria; in addition to complementary qualitative and quantitative evaluation methods, which have been implemented to record citizen perspectives and reflections throughout the entire RFLL process. The framework was developed in alignment with the overall dimension of the overall DUST research. This report's particular focus on citizen perspectives also builds on previous research and findings in the DUST project on factors affecting participation (see deliverable 3.4: 'Civic participation in just sustainability transition initiatives: Scope, depth and determining factors'). The RFLL Monitoring and Assessment Framework is further elaborated on and evaluated in relation to the RFLL objectives in deliverable 4.4: Evaluation and handbook of the Regional Futures Literacy Labs (RFLLs). This report also sheds further light on the policy perspective and policy relevance.

Structure of the report

The report is divided into eight chapters. Chapters 2 to 6 provide a structured assessment of RFLL participant reflections on five key criteria from the RFLL monitoring and assessment framework, namely social capital, futures literacy, citizen empowerment, citizen learning, and affective communication. Each chapter follows the same structure. The first part defines the core concept, the key proposition underpinning it, and explains how the RFLLs address and assess these propositions. The second part critically analyses the extent to which citizen participation

in the RFLLs has contributed to meeting the respective RFLL output criterion, drawing on comparative insights from RFLL participant perspectives across the DUST case regions. Chapter 7 synthesises the key findings, highlighting case differences and reflecting on the capacity of citizen engagement tools to enhance social capital, citizen learning, empowerment, and futures literacy. Chapter 8 concludes the report and presents recommendations for future research in this field. Regional Futures Literacy Lab

The RFLL Objectives

The Regional Futures Literacy Labs (RFLLs) were implemented in the DUST project to involve the communities most vulnerable in the sustainability transitions across the selected case regions. Results of these workshops were expected to illustrate how such instruments can empower communities by enhancing their ability to anticipate and envision regional structural change, build capacity through consensus formation in a pluralistic and inclusive decision environment, and position themselves more strategically and forcefully in democratic life at scale. More precise, the RFLLs were implemented to meet the following objectives:

- enhance citizen knowledge and awareness of place-based policy interventions;
- build trust between citizens, policymakers, and experts;
- integrate local knowledge in policymaking;
- provide a forum for citizens to communicate their hopes, expectations, and concerns regarding sustainability transitions;
- facilitate the proactive and strategic positioning of citizens in sustainability transitions.

For the strategic positioning, it is important to recognise that it takes place within a multilevel governance context of sustainability transitions. The five RFLL Monitoring and Assessment Framework criteria presented above are applied as a lens to assess to which extent these objectives have been met.

The RFLL Process

The RFLLs followed the same 8 stage process (see Figure 1 below and DUST Deliverable 4.4 for a detailed overview of the RFLL process). As shown in Figure 1, the overall RFLL process consisted of eight interrelated stages including workshops involving citizens, policymakers, and other experts (stages 2, 3, 6, and 8 in Figure 1), the application of the e-democracy deliberative decision-making software tool, pol.is (stage 7 in Figure 1), and three stages in which RFLL facilitators developed foundational content that informed the RFLL workshops (stages 1, 4, and 5 in Figure 1). Citizens from least engagement communities (LECs) across the case regions (see Figure 2 and Table 3 below) were actively involved in the RFLL process through participation in the workshops and engaging with the pol.is tool. However, the findings and results outlined in this report reflects only the perspectives and reflections of citizens that participated in the workshops. Further information about the RFLL in practice and the process, see deliverable 4.4: Evaluation and handbook of the Regional Futures Literacy Labs (RFLLs), chapter 2 'The RFLLs in practice'.

Figure 1: RFLL steps of eight interrelated stages

Figure design: Lukas Höller & Anca Ioana Forgaci, TU Delft

The RFLL Regions

DUST RFLL experiments were conducted in the European case regions of Stara Zagora (Bulgaria), Lusatia (Germany), Katowice (Poland), and Norrbotten (Sweden) between February 2024 and July 2025. DUST case regions were selected on the basis of: 1) their classification as structurally weak regions due to their strong reliance on energy-intensive industries; 2) their eligibility for the European Union's Just Transition Fund (JFT); 3) the high potential for socio-economic and environmental challenges posed by sustainability transition on least engaged communities; and 4) ongoing and upcoming important sustainability transition policy interventions. Figure 2 illustrates the location of each case region.

The RFLL workshops were embedded in four case regions with differences in their socio-economic and territorial character, their governance systems, composition multi-level policies as well as history and current status of citizen involvement processes. The case regions in which the RFLLs took place also encompassed a variety of sustainability transition and participatory processes for guiding the processes (for an analysis on the scope, depth and determining factors of civic participation in the case regions, see DUST deliverable 3.4 'Civic participation in just sustainability transition initiatives: Scope, depth and determining factors').
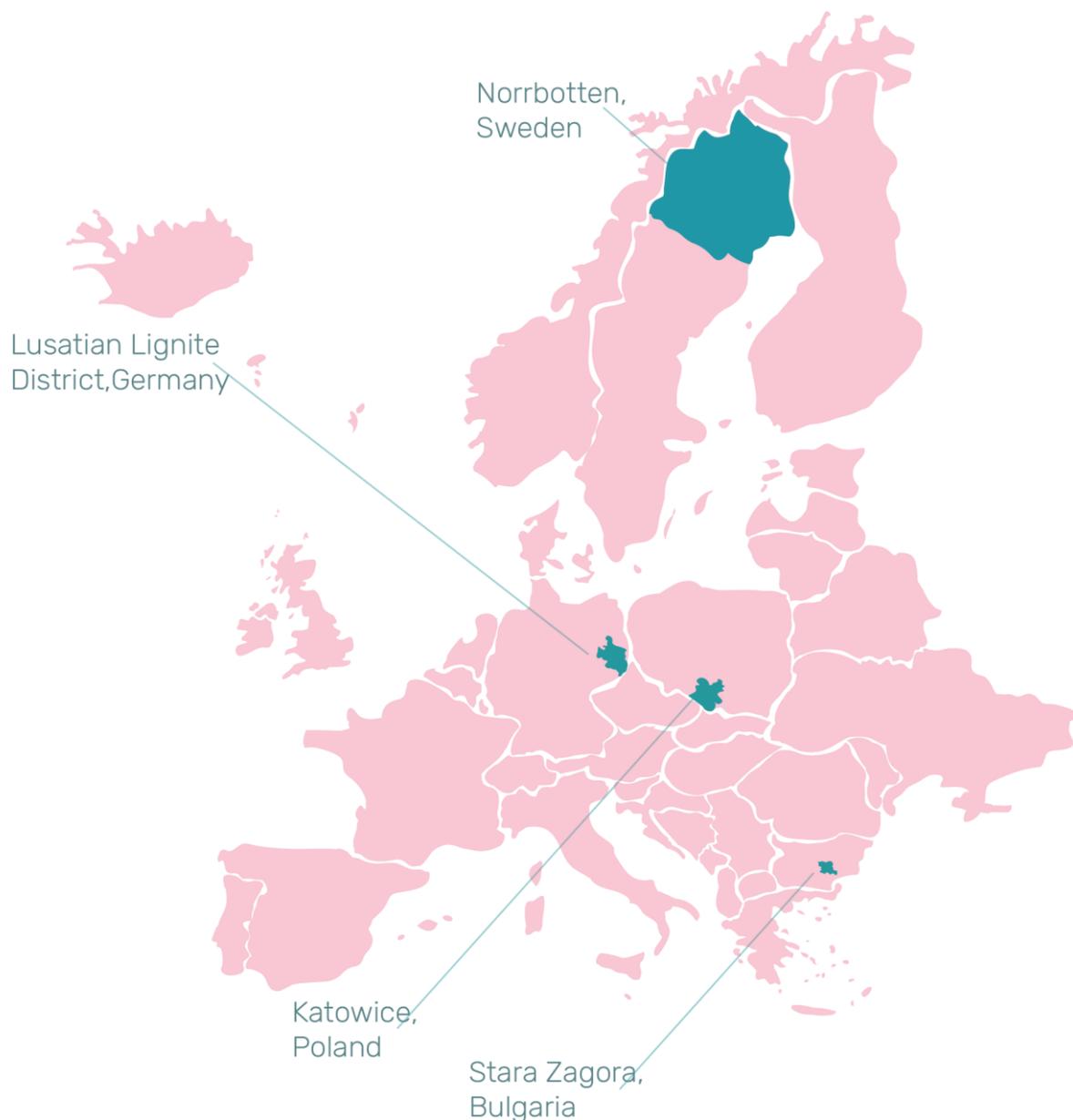
Figure 2: RFLL Case Study Regions in Horizon Europe DUST Project

Map design: Mayomi Basnayaka

RFLL Participants

The RFLLs focused on involving the least engaged communities within each case region, which are those societal groups that are less engaged in policy processes and often vulnerable in the face of sustainability transition challenges and impacts. The DUST project has previously explored the variables that condition the participation of less engaged communities in sustainable transition initiatives (see e.g. Georgieva & Ferry, 2024a). Furthermore, the DUST project developed a definition of 'least-engaged communities' building on the OECD concept (OECD, 2009) that combines two binary categories of non-participants in public engagement: those who are able to get involved but are unwilling to do (the 'apathetic majority'), and those that are unable to participate no matter their willingness. This latter group includes people who

would be willing to engage if the barriers were removed, but it would be a mistake to assume that they all would. The LECs selected in the DUST project should illustrate a diversity of different combinations of ability and motivational factors across different socio-demographic groups that affect access to and willingness for participation as well as how they are affected by the sustainability transition processes in each region.

These Least engaged communities (LECs) were identified through a process of first defining the broad social group of focus, (i.e. a group of residents in the case study region defined by socio-economic, demographic or locational criteria), which later were further defined through input from civil society and academic partners. A more detailed description of the selection process is described in the DUST deliverable 3.2 "*Factors impacting the scale and quality of participation of least engaged communities in deliberative governance of transition policies*" (Georgieva & Ferry, 2024a. As shown in Table 3 below, each case region identified a least engaged community meta group and sub-groups that would be the focus of participation in the RFLL experiments.

The RFLLs addressed in this report involves these LEC communities identified for the case study regions Stara Zagora, Lusatia, Katowice and Norrbotten. In short, the outcomes of the assessment and selection of LECs listed below (table 2) were grounded in various factors. For Stara Zagora in Bulgaria, citizens were chosen due to their unique historical, social, and economic roles within the region as well as due to them being underrepresented in decision-making and policymaking. In Lusatia, the assessment of the LEC communities considered youth of particular vulnerability due to that they will be particularly affected in the future by the decisions made today regarding the transition. Youth also risk outmigration from the region due to lack of opportunities and quality of life factors. In the Katowice region, the mining community, were chosen. This encompass also family members and retirees of the mining industry workers as these are in various ways directly and indirectly affected by proposed sustainability policy measures. Finally, in Norrbotten, was informed by how rural and peripheral residents may hold perceptions of marginalisation in the region's sustainability transition. This due to risk of exclusion, lack of physical availability and comparatively lower socio-economic status that the urban dito (Georgieva & Ferry, 2024b).

This report does not focus specifically on the DUST definition of 'least-engaged communities' to assess RFLL outcomes but rather gauges the RFLL citizen involvement in relation to the RFLL assessment criteria framework as outlined in table 1.

Table 2: Selected meta- and sub-communities for RFLL Case Regions

Case study region	Meta- Community	Sub-communities
Bulgaria: Stara Zagora	Citizens	• Retired employees of the mining and energy sector • Employees of the mining and energy sector • Youth
Germany: Lusatia	Youth	• Female youth (18–30) • Male youth (18–30)
Poland: Katowice Coal Region (KCR)	Mining communities	• Retirees from mining or energy sector • Youth from mining or energy sector families (19–24) • Miners and workers in the conventional energy sector or related industries
Sweden: Norrbotten	Rural communities	• Small rural business owners (Boden municipality) • Youth (18-24) (Boden municipality)

1.1. Data collection methods and materials

This report triangulates the views and perspectives of RFLL participants from different least engaged communities across the DUST case regions. The thoughts and perspectives of RFLL participants were gathered throughout the entire RFLL process using a range of different research and data collection methods.

The results outlined in this report are based on data from RFLL participants gathered using a mix of qualitative and quantitative research methods, including:

Semi-structured interviews

Semi-structured interviews have been conducted with RFLL participants to gauge RFLL participant perspectives on the workshops and their main outputs. The interviews were carried out after all four workshops had been completed in each region. Case study teams carried out the interviews predominantly in an online format with at least one representative from each least engaged community participating in the RFLLs. The semi-structured interviews were based on a predefined interview guide to ensure consistency across participants. Minor adaptations were made during the interviews to accommodate the specific characteristics of the LEC groups interviewed and the regional context, while maintaining alignment with the overall research objectives. Table 2 below outlines the number of interviews conducted and the composition of the interviewees.

Table 3: List of Interviewees

Interviewee	Case region	LEC / sub-community	Age group 18-30 31-45 46-60 61-70 70+	Gender	Date of the interview 2025	Format (face to face/online)
1	Norrbotten	Rural community	46-60	Female	27th June 2025	Online
2	Norrbotten	Rural community	46-60	Female	2nd July 2025	Online
3	Norrbotten	Rural community	46-60	Female	2nd July 2025	Online
4	Lusatia	Youth community	18-30	Female	1st Aug 2025	Face to face
5	Lusatia	Youth community	18-30	Male	1st Aug 2025	Face to face
6	Stara Zagora	Vulnerable group	46-60	Female	8th July 2025	Online
7	Stara Zagora	Youth	18-30	Male	25th July 2025	Online
8	Stara Zagora	Vulnerable group	46-60	Female	30th July 2025	Written response, online
9	Katowice	Older member of mining community	61-70	Male	22nd July 2025	Online
10	Katowice	Youth member of mining community	18-30	Female	23rd July 2025	Online

Questionnaires

Questionnaires were used to assess the participants' perception of the activities carried out in the workshops shortly after they were concluded (when the experience was still fresh in their mind). The questionnaires had a maximum of ten questions and covered assessment criteria that could be judged on a workshop-by-workshop base. The questionnaires were conducted with participating citizens at the end of all four RFLL workshops, thus the questionnaire data collection took place sequentially. While all regions conducted interviews and observations as planned, there were some gaps in questionnaire data and to what degree questionnaires captured comparable results across the cases and in different occasions. Specifically, Lusatia did not carry out questionnaires for RFLL workshops 1–3 due to time constraints. Questionnaires were, however, completed for all four case regions in RFLL workshop 4. This partial absence of questionnaire data has some implications for the comparability and interpretation of results across regions. These limitations are acknowledged and referred to in the presentation of data.

Participant Observation

Participant observation was carried out during the workshops during both the plenary and break-out sessions. Each facilitating project partner for the respective case region were responsible for carrying out participant observations and provide them according to a set template comparable across all case regions. Observation was guided by assessment sheets to quantify the number and diversity of participants. Qualitative aspects were captured in rating scales, notes, or photos.

Table 4: Timing and scope of data collection methods across the case regions

Data collection methods	Case regions covered	Timing
Semi-structured interviews	Lusatia, Stara Zagora, Norrbotten, Katowice	After RFLL WS 4.
Questionnaires	Stara Zagora, Norrbotten, Katowice, Lusatia*	After RFLL WS 1&2, 3 and 4.
Participant observation	Lusatia, Stara Zagora, Norrbotten, Katowice	After RFLL WS 1&2, 3 and 4.

Questionnaires were only sent out to participants in Lusatia RFLL workshops after workshop 4.

Limitation of data

The interview-based dataset is limited in scope, consisting of 2–3 qualitative interviews per case. These interviews aimed to capture nuances of learning aspects from the workshops among each LEC community and region, rather than provide a comprehensive evaluation. Timing also varied for the interviews. Some interviews were conducted shortly after the four workshops were finished (e.g., Lusatia), while others occurred up to eight weeks later (e.g., Norrbotten), which may affect the participants' recall and in turn comparability. Questionnaire responses ranged from 5 to 25 participants per workshop and should be considered indicative rather than representative of all RFLL participants. As previously addressed, questionnaire data collection was uneven across the case regions, with questionnaire data missing from the Lusatian case study region for workshops 1,2, and 3. This limits the comparability of questionnaire-based insights for that region and reduces the overall representativeness of findings. To mitigate this gap, participant observation sheets were used for triangulation, offering additional insights into conversation climate and inclusivity across all four case workshop series.

Report delimitation

This report specifically addresses five RFLL assessment criteria from the perspective of involved members of least-engaged communities (LECs) in case study regions. The DUST project applies further dimensions of the RFLL Monitoring and Assessment Framework to evaluate if and how the objectives of the RFLLs were achieved during the experiments. These dimensions and further evaluation are analysed and presented in the report 'Deliverable 4.4: 'Evaluation and handbook of the Regional Futures Literacy Labs (RFLLs)'. Deliverable 4.4 also further considers aspects of digital participation and the use of the project's e-democracy tool pol.is.

Furthermore, for a deeper assessment of the preconditions for citizen involvement in just sustainability transitions across the DUST case regions, see 'Deliverable 3.4: Civic participation in just sustainability transition initiatives: Scope, depth and determining factors'. Results from the RFLLs are also presented in deliverables D5.1 Citizen position paper, which present the citizens' strategic positions that were negotiated during the labs. Policy recommendations from the RFLLs are also summarized in D5.2 Policy briefs.

2. Social capital

Chapter 2 presents the DUST Monitoring and Assessment Framework criteria related to 'Social capital' and provides an overview of the key empirical results from data collection from interviews, participant observations and questionnaires, structured according to the criteria dimensions. The results of the data collection related to the dimensions of the Social capital criteria are in summary:

- RFLLs fostered open and inclusive dialogue that strengthened connections within and between communities.
- Participants identified common interests and shared policy priorities through these discussions.
- Intergenerational understanding improved as older and younger participants gained insight into each other's perspectives.
- Citizens built stronger links with policymakers, who became more accessible and relatable, while public knowledge of policies increased.
- Enhanced social capital and collaboration between policymakers and communities were seen as essential for empowering regions and boosting resilience during sustainability transitions.

Figure 3: Summary of findings – chapter 2

Theoretical overview and assessment criteria: Social capital

Sustainability transitions are multi-actor processes involving institutional actors, citizens, and other public and private stakeholders (Avelino & Wittmayer, 2016). High levels of social capital between these actors creates the optimal conditions for the smooth development and implementation of effective transition policies (Giacovelli, 2022). Social capital refers to the network connections, friendships, levels of trust, and shared culture, norms and values that facilitate cooperation and collective action within and across communities (Woolcock & Narayan, 2000).

Three main types of social capital are identified in the academic literature: 1) *bonding social capital* which focuses on ties within a community; 2) *bridging social capital* which examines connections between different communities; and 3) *linking social capital* which explores interconnections between individuals and communities with those in positions of power, such as policymakers (Villalonga-Olives & Kawachi 2015). The multi-actor nature of sustainability transition policy processes creates a fertile breeding ground for cultivating all three types of social capital (Peiro-Palomino et al, 2025).

Social capital is a fluid and malleable concept that can evolve both negatively and positively during collective dialogue and action; in other words, collaborative action has the potential to both strengthen and weaken connections between actors depending on the nature of the interactive experience (Adger 2003). Within the context of sustainability transitions, social capital can help communities to organize and share resources in the process of finding common transition positions and goals (Schäpke et al 2017). Social capital is also regarded as an important source of community resilience that can contribute to the capacity of communities to adapt to the challenges and opportunities posed by transitions (Carmen et al 2022).

The DUST project hypothesised that citizen participation in RFLLs can build social capital and trust in democratic governance. The project examined the social capital criteria from different perspectives, including: 1) citizen trust in participatory processes and policymakers; 2) citizens perceived relevance of policymaking; and 3) citizen perceptions on the capacity of participatory

policy processes to strengthen connections and relationships between different actors and communities.

Table 5: Social capital - RFLL key assessment criteria

RFLL key assessment criteria	Assessment criteria	Description
Social capital	LEC's trust in policymakers and policymaking	Participation in RFLLs enhances citizen trust in policymakers and policymaking.
	LEC's trust in participatory processes both immediate term and long term	Involvement in RFLLs enhances citizen willingness to participate in participatory process in the short and long term.
	LEC's perceived inclusivity of participatory processes	RFLL processes were considered inclusive, and citizens could voice their perspectives freely.
	LEC's perceived relevance of policymaking	RFLL participants perceived that policymakers and policymaking address citizens concerns and needs.
	LEC's perceived social influences	Certain actors and groups had greater power or influence in the RFLL process.

2.1. Findings: RFLL participant assessment on social capital

2.1.1. LEC trust in policymakers and policymaking

- **Predominantly negative perceptions towards policymakers and policymaking at the outset of the RFLL workshops:** At the start of the RFLL workshops, the interviewed LEC participants across case regions expressed a mild skepticism towards and a sense of detachment from policymakers. The Lusatia youth interviewees perceived policymakers as distant and primarily concerned with expert-driven decision-making. They were for example described as *"hidden behind bureaucracy"* (interviewee 4, Lusatia). Furthermore, the youth participant exemplified this by elaborating on public officials as the following: *"Before, I thought they just sit in offices and decide stuff without talking to us"* (interviewee 4, Lusatia). Similarly in Katowice, at the start of the RFLL workshop series, participants addressed a poor communication between citizens and policymakers regarding sustainability transitions. An interviewee argued for example that their impression was that *"no one cares",* or *"no one's doing anything"* among policymakers (interviewee 9, Katowice). In Stara Zagora, a participant reflected upon a similar notion, *"Generally, the opinion about people who work for the state isn't very positive [...]"* (Interviewee 8, Stara Zagora). Finally, in Norrbotten, perceptions of policymakers reflected slightly other dimensions. Participants from Norrbotten mentioned that local decision-makers were already familiar and somehow approachable, reflecting an ongoing open dialogue in the community.

- **The interactive dialogue altered citizens' perceptions of policymakers:** The RFLL workshops helped shift perceptions of policymakers among the LEC participants. Across all case regions, interviewees emphasised the workshop format and respectful dialogue as enabling policymakers to seem more relatable and accessible. From the Lusatian RFLLs, one interviewee argued that *"I guess it made me see the whole thing differently. [...] meeting them face-to-face, I could see they do actually know about the problems here [...] I'm still not totally convinced they'll fix everything, but it was good to see they're open to hearing from younger people."* (interviewee 5, Lusatia). This was consistent with

how the mining communities in Katowice described workshops as helping bridge the gap between citizens and policymakers. They also addressed the recognition among citizen participants of genuine effort from public officials. An interviewee illustrated this by saying *"beyond the showmanship, there are people working hard to make life better for ordinary citizens."* (interviewee 10, Katowice). In Stara Zagora, participants described learning more about policies and gaining a sense of credibility in institutional processes. One interviewee, who had initially held negative views of public actors, reflected that the workshop showed that work is being done by both state officials and engaged citizens, which gave them hope that *"the right things are happening."* (interviewee 7, Stara Zagora). Finally, in Norrbotten, the perceptions were more mixed. For some, the workshops reinforced existing skepticism towards political actors, particularly at national level, while strengthening their conviction that civil society plays a vital role in the transition. Others reported a more positive normative shift, finding reassurance in dialogue with decision-makers and feeling more optimistic about long-term sustainability goals. Particularly for the Norrbotten case region, participants highlighted an already rather close connection between local policymakers and their networks. For example, some participants in Workshops 1 and 2 stated that they knew local politicians and have met with them regularly (participant observation RFLL WS 1&2, Norrbotten). These types of personal experiences may also influence the perception of policymakers among the LEC participants. The questionnaire findings on participant attitudes towards policymakers (figure 4) support the qualitative analysis from the interviews that the RFLL interactions altered citizens' perceptions of public officials, though the extent and nature of this change varied across regions. The graph below bundles the results from workshop 1 and 4. In Stara Zagora, respondents indicated a stronger tendency to completely agree that the workshop has changed their attitude toward policymakers. Responses from Katowice and Norrbotten were more evenly distributed, with a slightly bigger share of participants selecting neutral or disagreeing options. Importantly, the results in the chart does not specify the direction of the attitude change (positive or negative change of attitudes) the workshop (1 and 4) has contributed to. However, when triangulated with the interview results with participants and the observation analysis, results suggest a positive change of attitude. Please note that Lusatia as a case region was not included in this part of the questionnaire (see method section).
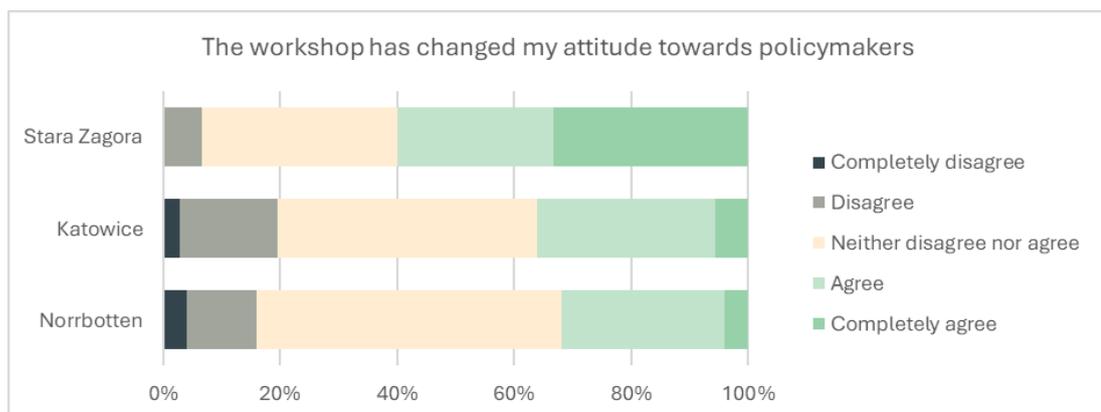

Figure 4: "Today's workshop has changed my attitude towards policymakers" (WS1, WS4)

- **Doubts about the responsiveness of political systems:** Despite improved dialogue, participants across the case regions persisted with expressing lingering skepticism and doubt about the ability and responsiveness of the political systems to effectively guide sustainability transitions. Cautions were particularly expressed regarding further commitment to the workshop outcomes in broader policymaking. In Norrbotten, the respondents felt that key municipalities were missing to ensure that certain local perspectives were covered in the RFLLs and taking the results forward. Furthermore, there were also doubts about how policymaking would adequately meet rural needs discussed in the RFLLs, such as in Norrbotten and in Lusatia. For example, in Norrbotten, there were concerns raised that the RFLL workshops were disconnected from the political reality they experience. Similarly in Stara Zagora, the respondents' answers reflect an underlying skepticism about whether policymakers' engagement in the RFLL workshops would translate into the real policy world. Also, in Katowice and Lusatia, doubts about the responsiveness of the political system remained after their final workshop participation. A youth participant illustrated this saying: *"I think it could have some influence, but it's not like they'll suddenly change everything because of one workshop."* (interviewee 5, Lusatia).

2.1.2.   LEC's trust in participatory processes in both the immediate term and long term

- **Citizen involvement should be more normalized in policymaking processes:** There was a clear wish for continuity and further opportunities to contribute to the work started in the RFLL workshops among the participants. Furthermore, the RFLL participants expressed a desire that citizen involvement should become more normalized in policymaking processes. A participant in Katowice illustrated this, saying: *"[...] it was a great experience. There should be more processes like this to teach society, especially miners and young people, that consultation can and should happen, but there is still a long way to go before we accept this as normal. This was a good start."* (interviewee 10, Katowice). A participant from Stara Zagora echoed this by saying that *"[...] more such seminars should be held, with the participation of local government and competent institutions on one side, and civil society on the other"* (interviewee 8, Stara Zagora). Also in Lusatia, youth participants emphasised that it was worth showing up and hoped for continuity.

- **Skepticism about long-term and immediate commitment of policymakers to citizen engagement:** Despite the aforementioned positive experiences, participants in the case regions expressed doubts about the long-term commitment of policymakers to the RFLL processes. Youth participants in Lusatia, for example, gave some hopefulness to possibilities of making an impact. One of the youth participants stated for example that *"if we keep showing up and speaking together, I think we can push things forward."* (interviewee 4, Lusatia). However, that was conditioned by sustained engagement and follow-up, which on the other hand interviewees were unsure would occur: *"I'm more confident if they keep the workshops going and check back with us. If they keep the workshops going and check back with us. [...] I'm not so sure."* (Interviewee 4, Lusatia). In Norrbotten, skepticism was linked to perceived low political interest and lack of local political representation to take the work further from the RFLL results. In Lusatia, youth concerns were raised about the slow pace and bureaucratic idleness of local politics. On

the other hand, interviewees in Stara Zagora were more optimistic about the long-term potential of the RFLL participatory processes and emphasized the importance of continued citizen involvement.

2.1.3. LEC's perceived inclusivity of participatory processes and policymaking

- **The RFLL format fostered an open and inclusive dialogue:** Inclusivity was understood by interviewees not only in terms of who was present in the workshops, but also how discussions were structured and facilitated. In Lusatia, the collaborative format encouraged active engagement. As one interviewee noted: *"The way the groups were set up helped us find common points instead of arguing."* (Interviewee 5, 2025). This was supported by participant observations in Lusatia, which stated: *"Participants were open and there were no visible signs of discomfort or reluctance to share their true ideas."* (participant observation RFLL WS 1&2, Lusatia). Interviewees referred for example to the mix of policymakers and citizens, small group discussions where participant opinions were broadly included in the collaborative work, without judgement (interviewee 3 & 4, Lusatia). Similarly in Stara Zagora, participants felt that smaller group tasks enabled an equal participation. The RFLL workshops conducted in Katowice were considered inclusive, bringing together a diverse range of communities. A participant noted that *"what impressed me most was the diversity of groups coming together. At political events, people often shout or argue. Here, everyone behaved kindly and respectfully, even when we disagreed. No accusations, no blame, just constructive dialogue."* (interviewee 9, Katowice). Meeting policymakers and engaging in a dialogue with them gave the sense of a low entry barrier to participation and that facilitators were well prepared to arrange a safe environment contributed to this sense (interviewee 9 & 10, Katowice). According to the questionnaire results on the statements "Everybody spoke free and honestly" (figure 5) collected after the final workshop, respondents across the four case regions indicated that a majority completely agree that everyone spoke freely and honestly. This reflects the results from the interviews and participant observations on that the LEC participants perceived the processes as open and inclusive. When asked to what degree a diversity of arguments and opinions were considered in the last workshop (WS 4), respondents broadly agreed to the statement (figure 6).
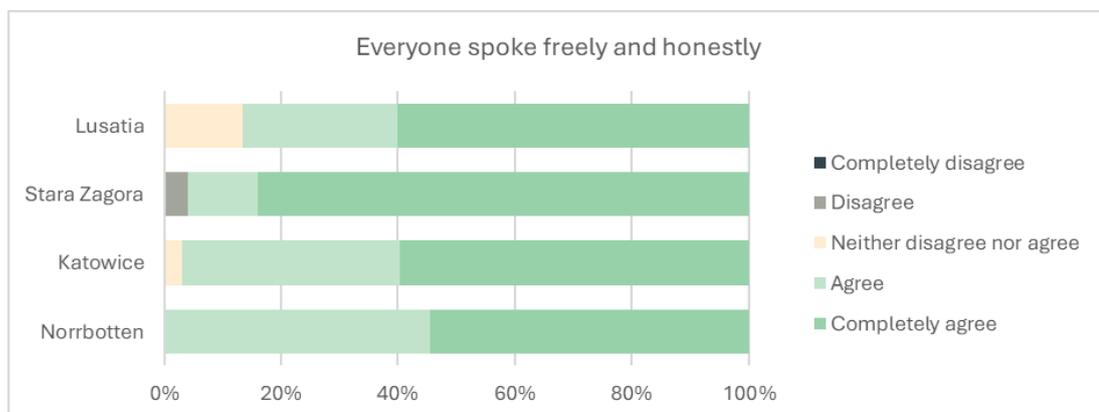

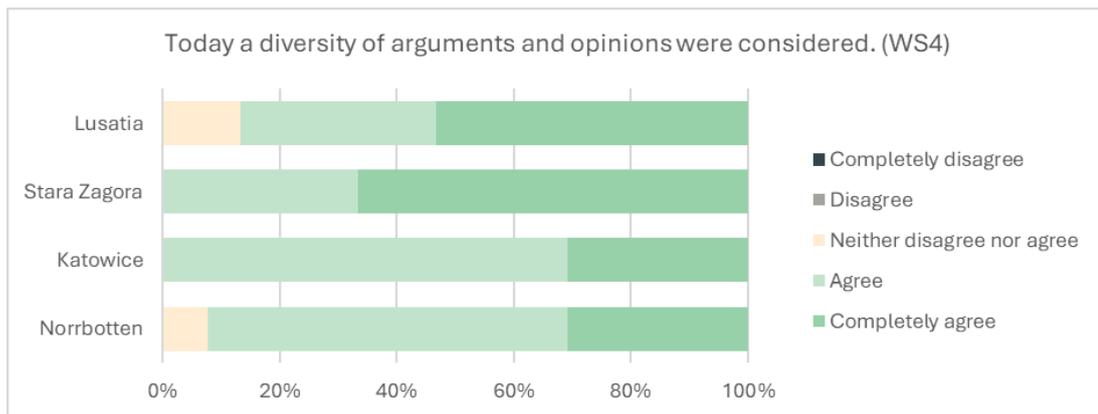*Figure 5: "Everyone spoke freely and honesty" (WS 4)*

Figure 6: "Today a diversity of arguments and opinions were considered" (WS 4)

- **Workshop participatory processes were perceived as non-hierarchical:** Workshop participants emphasised that participatory processes in the workshops need to be grounded in inclusivity, diversity, and respect. In Stara Zagora, the interviewed participants emphasised that all voices were heard in the process. This was illustrated by an interviewee, saying: *"no matter whether it came from an expert, a representative of an institution, or a local citizen"* (interviewee 7, Stara Zagora). A similar notion was stated in the case of Norrbotten, where the participants argued that the participatory processes reflected a non-hierarchical character and that the processes felt open. An interviewee reflected on that: *"All points of view were equally important. I didn't experience any hierarchy, you know? In the groups. That can be strengthening for a network."* (interviewee 2, Norrbotten). According to observations from the Lusatia RFLL workshops, the workshop format enabled an open platform for discussion. In that regard, it was noted in participant observations that several youth participants were more inclined than others to share personal experiences such as perceptions of politics, and experiences with racism, indicating possibilities for citizen participants to address diverse experiences in the RFLL workshops. Facilitating this, it was noted in the participatory observations that *"Across all stages of the workshop, both participants and stakeholders [policymakers eds. note] showed a high degree of openness."* And that *"no participant dominated to the detriment of others. Stakeholders, especially those with institutional roles, sometimes spoke at greater length when, but this was welcomed as valuable expertise."* (participant observation RFLL WS 4, Lusatia).

2.1.4.   LEC's perceived relevance of policymaking

- **Policymaking focusing on issues of relevance to the LEC communities:** Each RFLL workshop engaged specific LEC communities with interest in diverse policies and policymaking processes. Youth participants in Lusatia emphasized the relevance of policymaking aspects that were included in the RFLLs. This was particularly evident when the RFLL addressed everyday aspects of their lives, such as social infrastructures, funding for youth clubs and community support. One interviewee explained: *"For us, the workshops were super relevant. We're constantly dealing with budget cuts and the fear that our youth club might shut down. That's frustrating, especially when you're trying to do something good for the community. [...] Without structure and support, it's just not sustainable. I felt like some people in the workshop really got that."* (Interviewee 4, Lusatia). In Stara Zagora, participants with an NGO or activist background found the workshops particularly relevant. The questionnaire chart showing to what degree

policymakers portrayed the participants' communities in the first RFLL workshop (figure 7), has slightly different results. Participants in Stara Zagora mostly felt policymakers portrayed their needs accurately, while Katowice indicated more scepticism with a larger proportion of respondents stating, "Somewhat inaccurate". Norrbotten on the other hand was leaning toward moderate to high accuracy. In addition to the policymakers' presentations, the RFLL participants also engaged with policy topics through the themes of the discussions, including comparing overlaps and exploring similarities and differences between community preferences and policy plans. In the interview results conducted after all workshops indicated that the respondents felt that the RFLLs engaged issues relevant to the LEC communities.
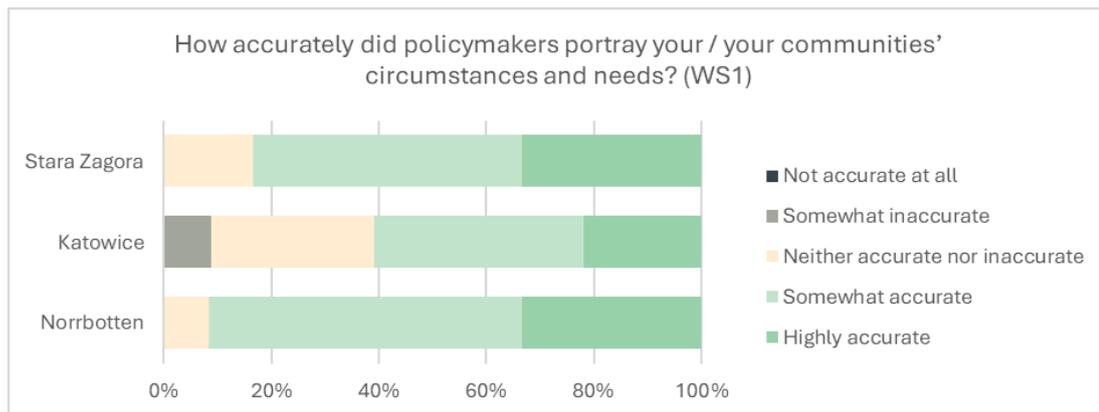
Figure 7: "How accurate did policymakers portray your communities' circumstances and needs?" (WS 1)

- **Policies address local context and specificities:** The rural LEC participants in Norrbotten particularly emphasized the importance of geographically grounded policy topics, such as land-use, conflicts, resource management and service provision. These policytopics were seen as addressing concrete challenges in their region. Especially "*how participants view the strong need for rural development (need for services, cheaper good quality housing, infrastructure)*" (participant observation RFLL WS 3, Norrbotten). In Stara Zagora, interviewees considered the workshops relevant to the future of their local communities and perceived needs. However, perceived relevance to the local context and specificities was also tied to the sense of likelihood of local policy implementation. In Norrbotten, some participants felt the workshops lacked local and regional relevance without political buy-in. For example, an interviewee stated: *"I think political representation was lacking. [..this] municipality in the county didn't send anyone at all. You'd think they would have participated, especially since the workshop was held here."* (interviewee 1, Norrbotten). According to the questionnaire results, when asked about the relevance of sustainability policies addressed in the first RFLL workshop (figure 8), most respondents across Stara Zagora, Katowice, and Norrbotten found the sustainability transition policies to be relevant to them and their community. The majority rated them as either "Somewhat relevant" or "Highly relevant". A few participants considered the policies irrelevant or stated a neutral opinion, particularly in Norrbotten. This may reflect the interviewees notions described above of some material or policies lacking connectedness to local realities. In the interview results, the respondents' views addressed mixed opinions on the RFLLs capturing local and contexts and specificities across the case regions. As stated above, the interview participants tied the expectations to potential local policy implementation and political buy in.
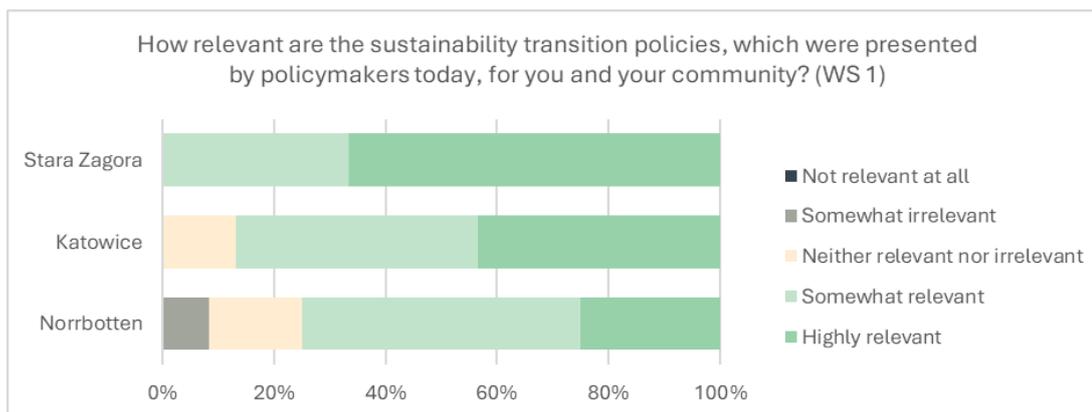
Figure 8: "How relevant are the sustainability transition policies, which were presented by policymakers today, for you and your community?" (WS 1)

2.1.5.   LEC's perceived social influences

- **RFLLs strengthened connections within the LEC communities:** Across the case regions, participants described the RFLL workshops as empowering stronger connections within their respective communities. In Norrbotten, the workshops were seen as reinforcing participants' roles in the rural local associations and helping them to find new platforms for advocacy. In Lusatia, the RFLLs were also felt to strengthen peer relationships. Discovering shared challenges across youth initiatives and other social groups led to new informal networks, with some participants stating a beginning of collaborations on events and projects between networks after the RFLL workshops. An interviewee described this process of creating common ground: *"[...] We've started networking more since then, sharing ideas and even planning joint projects. It's good to know we're not alone. And it helps to see how others are solving problems creatively, like shared tool libraries or mobile workshops"* (Interviewee 4, Lusatia). In the questionnaire for the final workshop (WS 4) of the RFLLs, participants were asked whether the workshop strengthened their connection to people in their community (figure 9). Participants in Stara Zagora and Norrbotten mostly felt the workshop strengthened their local community connection. Katowice and Lusatia illustrate more mixed responses, with a higher share indicating that they feel neutral or only somewhat connected. In Lusatia, more respondents also indicated that they completely disagree with the statement. Overall, the majority of respondents indicate that the workshop had strengthened their connection to their community. But some respondents have been inclined to "completely disagree" or "disagree".

The workshop has strengthened my connection to people in the local community

Legend:
- ■ Completely disagree
- ■ Disagree
- ■ Neither disagree nor agree
- ■ Agree
- ■ Completely agree
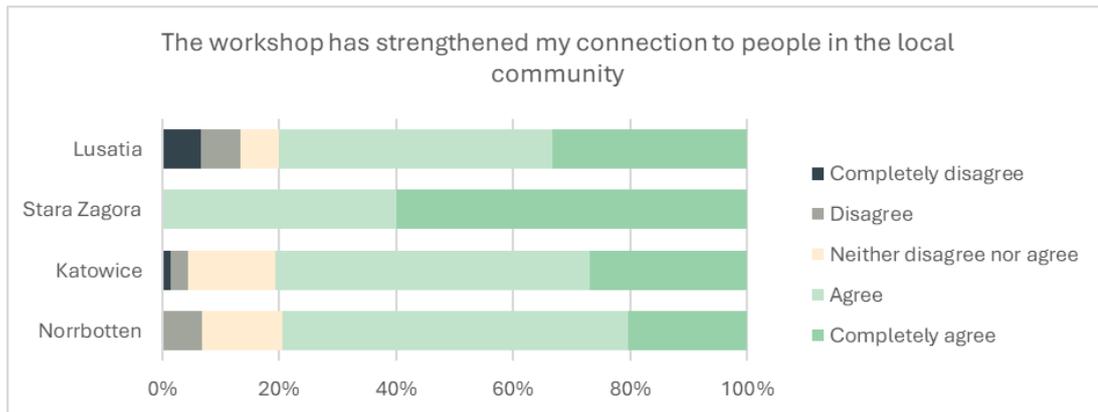
Figure 9: "Today's workshop has strengthened my connection to people in the local community" (WS 4)

- **RFLLs enhanced connections between different LEC communities:** Participants commonly described a growing sense of connection to other communities in their region. In Katowice, one interviewee noted that shared concerns became visible across generations and groups: *"All the concerns I've discussed over the years with family, friends, and neighbours were voiced by different groups during these meetings, from the senior perspective but also with concern from our children and grandchildren."* (Interviewee 9, Katowice). Similarly, in Lusatia, the RFLLs were seen as fostering solidarity: *"I met people from other youth initiatives [...] and we realized we're all dealing with similar stuff. That gave me a sense of solidarity."* (Interviewee 4, Lusatia). In Stara Zagora, proactive discussions and the identification of common goals were described as strengthening connections between participants and contributing meaningfully to their experience.

3. Futures literacy, resilience, and adaptive capacity

Chapter 3 presents the DUST Monitoring and Assessment Framework criteria related to 'Futures literacy, resilience, and adaptive capacity' and provides an overview of the key empirical results from data collection from interviews, participant observations and questionnaires, structured according to the related criteria dimensions. The results of the data collection related to the dimensions of the Futures literacy, resilience, and adaptive capacity criteria are in summary:

- Futures literacy enabled participants to imagine alternative futures for sustainability transitions and inspired ideas for engaging in local and regional policymaking.
- The long-term focus of RFLL activities was appreciated by many, though some preferred discussions on more immediate concerns.
- Open dialogue, visual narratives, and planning timelines were valued for stimulating futures thinking across case regions.
- Personal context and sectoral ties shaped perspectives, from retired miners shifting from job security fears to environmental concerns in Katowice, to youth in Lusatia linking sustainability to everyday issues like housing and mobility.
- These differences highlighted varying perceptions of adaptive capacity among LEC communities involved.

Figure 10: Summary of findings – chapter 3

Theoretical overview and assessment criteria: Futures literacy, resilience, and adaptive capacity

The successful transition to carbon neutral societies and economies relies on the resilience and adaptive capacity of citizens and communities (Friedrich & Hendriks, 2024). The transformative change and impacts associated with sustainability transitions are closely linked to the regional resilience and adaptive capacity of citizens, ecological systems, socio-economic structures, and governance processes (Loorbach et al, 2017; Neuhuber 2025). Regional resilience refers to the ability of an entity or system to recover from a disturbance or disruption (Martin, 2012). More specifically, it refers to a set of regional territorial capitals (e.g. economic, social, environmental, and institutional assets) that enable a region to respond to a policy shock and maintain system stability and durability, while adapting to structural changes and moving towards new development and innovation pathways (Giacometti & Teras, 2019).

Adaptive capacity refers to an individuals, organisations, or community's ability to anticipate, respond, and adjust to change, often through learning, self-organization, and innovation. (Haider et al, 2023). In relation to sustainability transitions, adaptive capacity is a core component of resilience as the capacity to change enables citizens and communities to navigate the impacts of transitions (Bianchi & Richiedei, 2023). Adaptive capacity is increased through building social capital, fostering learning, and utilizing local knowledge (Tittonell, 2020). Enhancing citizens futures literacy can also impact on citizens ability to adapt to change and increase resilience (Miller 2015). Futures literacy refers to the capacities of citizens to understand, anticipate, and use the future as a resource for informing decisions and actions in the present (Karlsen, 2021). This capacity depends on communities' ability to maintain a positive attitude towards the transformation of their places in the face of change and uncertainty and their ability to

"anticipate threats, reduce the impact of these threats by taking pre-emptive action, (and) respond appropriately when these threats materialize (…)" (Dabson et al., 2012, p. 6).

Miller (2018) argues for the importance of 'futures literacy', which is "(…) the skill that allows people to better understand the role of the future in what they see and do. Being futures literate empowers the imagination, ability to prepare, recover and invent as changes occur" (UNESCO, 2021). Futures literacy is a learned process that is facilitated through participation in futures literacy lab settings (Miller, 2007). Futures literacy labs focus on developing the skills of citizens to anticipate and imagine possible, probable, and preferred futures to enhance their capacity to navigate complex and uncertain problems and opportunities, such as sustainability transitions (Mangnus et al, 2021). Literacy labs encourage reflexivity that question existing assumptions and power structures, which can lead to the development of new narrative pathways (Miller, 2015). Developing futures literacy empowers citizens and communities to shape their own futures through enhanced adaptive capacity and resilience (Toivonen et al 2021).

The RFLLs experiment with the use of imagination, anticipation, and futures literacy to build citizens resilience and adaptive capacity. The DUST project hypothesised that participation in RFLLs increases the futures literacy, resilience, and adaptive capacity of citizens and communities. The project examines citizen future in relation to two main assessment criteria: 1) citizens own perception of enhanced futures literacy; and 2) citizen awareness and attitude towards sustainability transitions and climate change.

Table 6: Futures literacy - RFLL key assessment criteria

RFLL Dimension	Assessment Criteria	Description
Futures literacy, resilience, and adaptive capacity	**LECs' perceived futures literacy**	Participation in the RFLLs enhances citizen understanding of time and what can happen with sustainability transitions now and in the future.
	LECs' awareness and attitude towards sustainability transitions and climate change	Citizens awareness and attitudes towards sustainability transitions changed through participation in the RFLLs.

3.1 Findings: RFLL participants assessment on futures literacy

3.1.1 LEC's perceived Futures Literacy

- **Participation fostered a more future-oriented mindset:** Across all four case regions, participation in the RFLLs provided a structured context for reflecting on the future of participants' home regions and how they might engage with it. Both the interviews and participant observations indicated that citizens were encouraged to think beyond the present, articulate long-term aspirations, and relate these to their own roles within their community. This overall tendency was expressed in different ways across cases. For example, a youth interviewee in Lusatia explained: "I [...] started thinking more about the future—like, what kind of city I want to live in." (interviewee 4, Lusatia). In Norrbotten, participants emphasised how the RFLLs helped them imagine future trajectories beyond current constraints, including discussions about the implications of large-scale green investments and future developments beyond job creation (participant observation RFLL WS1 and WS2, Norrbotten).

- **Long-term futures thinking was sometimes perceived as too abstract:**
  While all participants engaged in long-term reflection during the RFLLs, some participants found the longer planning horizon of 10–20 years difficult to relate to. This was particularly evident in cases where participants are more accustomed to short-term planning. For instance, one interviewee in Katowice noted that most citizens tend to think about the near future rather than distant futures, observing that "people are thinking about what's coming in the next year or two." (interviewee 9, Katowice). This suggests that the RFLL's long-term perspective may feel abstract or disconnected for some participants, especially those dealing with immediate and pressing challenges.

- **Thinking about the future can influence actions in the present:** Across the cases, reflecting on possible futures helped some participants connect imagined scenarios with their current decision-making. For many respondents, visualising future outcomes made potential actions more tangible and easier to consider in the present. As one Katowice participant put it: "once you imagine something, it's easier to achieve it." (interviewee 9, Katowice). Examples from Norrbotten illustrate how this dynamic played out in practice. Participants from rural networks valued the "no limits" approach, which enabled them to explore more ambitious and creative scenarios and engage more confidently in forward-looking dialogue. However, several interviewees also highlighted that the exercises had little direct impact on their everyday choices. While some participants felt more optimistic and empowered, others stressed that future visions alone would not overcome structural barriers or shift entrenched behaviours in the region.

- The post-workshop questionnaire further supports this variation. When asked whether talking about the future gave them new ideas for present actions, most participants "agree" or "completely agree" that it did, though responses in Norrbotten were more mixed, including some disagreement (see Figure 11).
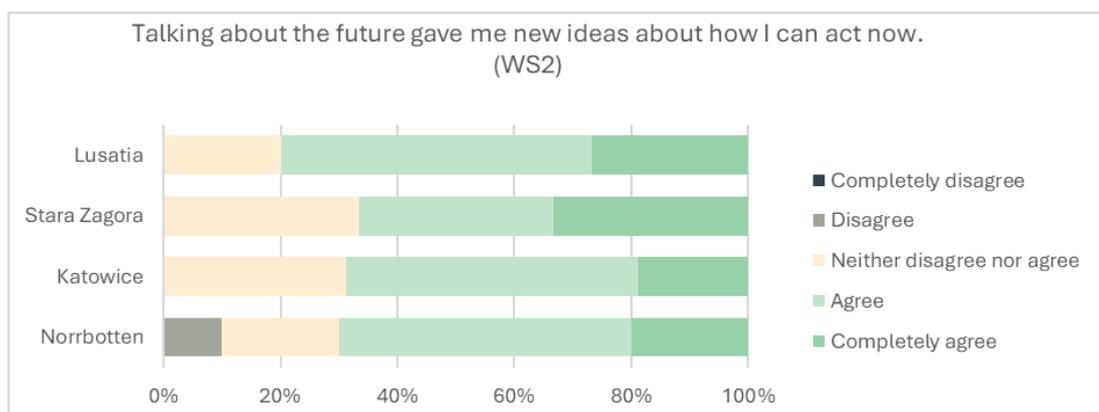
Figure 11: "Talking about the future gave me new ideas about how I can act now" (WS 2, Lusatia only WS 4)

- **Open dialogue and visualisations generated new ideas and thinking about the future:** The RFLL structure and format, based on open dialogue and visual narratives, was viewed as important for stimulating futures thinking and generating forward thinking ideas. A participant in Stara Zagora elaborated on the importance of working in groups and highlighted that the structure and facilitation of the RFLLs workshop was key to enabling proactive futures discussion: "*I fully support the format of the seminars, because—as the saying goes—truth is born in discussion. That is, when all sides present*

their viewpoints and they become subject to dialogue, that generates many more ideas and insights that can be usefully applied in the future by everyone." (interviewee 6, Stara Zagora). This was also supported by the participant observation in workshop 3, where it was noted that *"Participants referred to the imagery repeatedly when articulating their thoughts on topics like generational change, economic renewal, and environmental sustainability, suggesting that the visualization was not just decorative but central to the discourse"* (Participant observation RFLL WS 3, Stara Zagora). Furthermore, the observation material from Stara Zagora noted that *"one participant saw the image as a metaphor for an aging region in need of revitalization, sparking a conversation about demographic challenges"* (Participant observation RFLL WS 3, Stara Zagora). In the Norrbotten RFLLs, it was noted in participant observations that participants addressed that visualisation exercises, such as maps of future Norrbotten, sparked reflection on how different groups (policy actors, citizens, Sámi herders, industries) picture the future. However, to some extent the participants expressed that the future visualisations were partly based on inaccuracies, making some futures representations feel unfamiliar to them (participant observation RFLL WS 3, Norrbotten). In the questionnaire, when asked whether the visualisations used in workshop 3 represent their and their communities' dreams (figure 12), most respondents across the three included case study regions agreed or completely agreed with the statement. In Katowice, responses were more mixed, with some disagreeing. In the Norrbotten workshops, participants were somewhat divided. While most agreed that the elements reflected their earlier discussions from WS2, some felt that the visualisations became rather abstract and difficult to interpret. Participants' perceptions that the visualisations were unrealistic or lacked accuracy can perhaps be distinguished from whether they felt the visualisations helped express their dreams and aspirations. The questionnaire responses reflect a similar pattern: most participants recognised themselves in the visualisations, but some were uncertain about how to interpret the artistic expressions (Figure 12). Lusatia was not included in the questionnaire data collection after workshop 3.
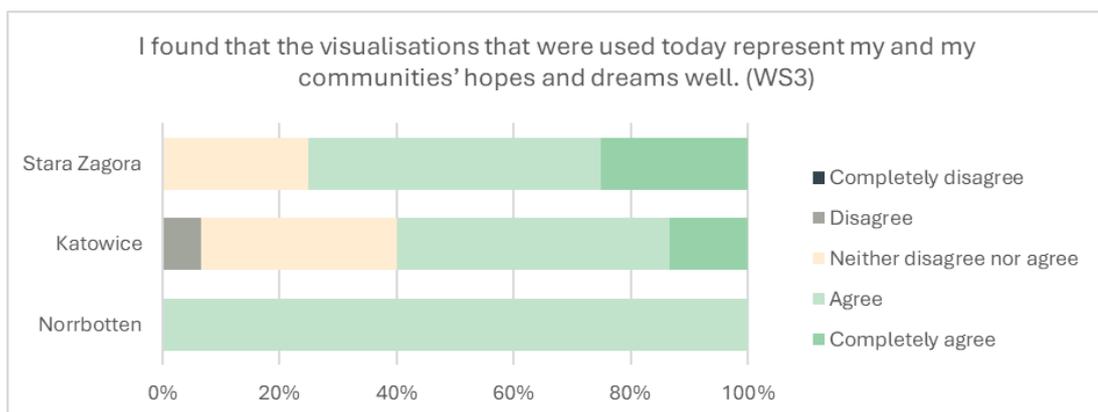
Figure 12: "I found that the visualisations that were used today represent me and my communities' hopes and dreams well" (WS 3)

- **Futures thinking linked to sustainability transition challenges and solutions:** Futures thinking in the labs was strongly linked to citizens' perceptions of sustainability transition challenges and solutions. Observations from the first RFLLs in Lusatia noted that participants valued renaturalisation projects and better mobility options, and that many linked these to making the region more attractive in the future (Participant observation RFLL WS 1&2, Lusatia). In the following RFLL (3), participants elaborated further on future

aspects of the sustainability transition, such as *"concerns over rural areas lagging, cuts to social infrastructure, and youth outmigration"* (Participant observation RFLL WS 3, Lusatia). Participant observations from Stara Zagora also elaborated on the workshop activities where green spaces were part of the visual materials, stating that *"the greenery evoked optimism for a rejuvenated future"* (Participant observation RFLL WS 4, Stara Zagora).

- **Personal context influences futures thinking:** A participant in Katowice argued that changes in their own personal context have influenced the capacity and direction of their futures thinking. They noted that now they are older and retired, they are less concerned about the immediate, short-term impacts of sustainability transitions, such as potential unemployment, but are more focused on the long-term need for transitions to limit the damage caused by coal mining on the environment*: 'My view has changed with my situation. Ten years ago, when my wife and I worked in the mines and closure plans began, we were against it. We feared unemployment and hardship. Now I'm retired, my wife is close to retirement, and our kids aren't in mining, so our perspective has changed. We understand coal must go. It's polluting.'* Interviewee 9, Katowice). In Lusatia, interviewees' understanding of broad concepts like the "sustainability transition" was grounded in their personal, everyday experiences. One interviewee framed it in practical terms, and connected their ideas for the future to personal activities such as participating in the youth club, upcycling events, sharing resources, and cooking together with others. Another interviewee also tied their understanding of a sustainable future to aspects of everyday life, such as free time activities, housing, and mobility. This shows that their personal realities and needs are an important lens through which they imagine and plan for the future. Based on observations from the first RFLLs in Lusatia, some participants *"expressed concerns about the pace of change, rising costs, and potential displacement."* These concerns were not framed as opposition to the sustainability transition itself, but rather as practical challenges in a personal or community context for the future (Participant observation RFLL WS 1&2, Lusatia).

- **Planning timelines helpful for citizens, policymakers, and other stakeholders:** In Katowice, an interviewee noted that it was useful for actors, such as trade unions, to set timelines for transitions. They argued that it would be beneficial if *"this kind of planning becomes the norm"* (interviewee 9, Katowice) as forward-thinking timelines provide workers with temporal clarity on things like acquiring skills development and training for new job positions. Similarly, in Lusatia, one interviewee noted that thinking about the future helped as a planning process reflecting that it helped bridge reflecting about the future and active planning. One interviewee from Lusatia said: *"Before, I thought 'transition' was just about closing the mines and maybe building some wind turbines. But now I see it's about lots of things—transport, housing, jobs, and even making sure people have something to do in their free time. Thinking about the future made me more aware of what's going on around me."* (interviewee 5, Lusatia).

3.1.2 LECs' awareness and attitudes towards sustainability transitions and climate change

- **Participation enhanced positivity towards sustainability transitions in the region:** Interviewees in Katowice argued that participation and learning in the workshops inspired hope and positivity that sustainability transitions could be beneficial for the region. One participant, representing the older mining community, noted: *"Fifteen years ago, if you had asked me what would happen if the mines disappeared in Silesia, I'd have said, disaster, but now, seeing how my kids could thrive in new fields, I'm optimistic, as long as the transformation is handled calmly and fairly."* (Interviewee 9, Katowice). Another participant pointed out that hearing the positive perspectives from other participants increased their desire to stay in the region and support transition change: *"It was nice to hear other young women say that they want to stay in Silesia and feel attached to the region. The workshops and collaboration with the university made me think more about shaping my future here and working on just transition. It inspired me and strengthened my resolve to stay and fight for our region."* (Interviewee 10, Katowice). Another interviewee similarly expressed a desire to support change in the region brought about through transitions: *"If the process is managed wisely and fairly, we will avoid catastrophe. If there's a way to support it, I will, because it's about my children and grandchildren's futures."* (interviewee 9, Katowice). The Stara Zagora interviewees reported that, by attending the workshops, they gained a better understanding and a more positive outlook on the region's potential future. Participants experienced a positive shift in attitudes as the dialogue in the workshops provided clarity and new ideas for the future. For some, a positive mindset was fostered by gaining new knowledge, such as learning about examples from other regions. One interviewee more specifically stated that *"I also received many good and valuable examples of best practices from other regions in Europe, which helped me better imagine what can be achieved in our context"* (interviewee 6, Stara Zagora). More broadly, the positive change in how the participants imagined the future was motivated by the collective effort that emerged during the workshops. For instance, one participant considered that while they did not gain a lot of new knowledge, their own shift in attitude was "the biggest effect of these workshop" attributing this shift to the engagement of diverse participants: *"Just seeing how people speak and that everything is being done properly – that some real work is being done – that was very useful for me. Even the people who weren't from the municipality – just interested individuals – also spoke adequately, and that this information reaches me gives me hope that the right things are happening."* (Interviewee 7, Stara Zagora). However, in Norrbotten, there were some diverging reasoning from interviewees. One participant felt already well informed but got more detailed perspectives from participating: *"I don't know if it changed my views much, but I did gain a deeper insight. You usually hear things more superficially, but this added some depth"* continuing that *"It didn't really change my opinions much—I still hold the same views."* (Interviewee 3, Norrbotten). In addition, some reflections from the participant observation indicated that participants felt there was a limited space for pessimistic opinions regarding futures thinking: *"A narrative emerged that you need to be a positive person if change is going to happen, no space was created for understanding those that may be more pessimistic and why."* (Participant observation RFLL WS 1&2, Norrbotten).

- **Participant perspectives changed as they listened to and understood positions of different communities:** Participant perspectives were influenced or changed upon hearing the viewpoints of other community members. This was particularly the case in Katowice where dialogue between older and younger members of the mining community helped to identify shared concerns and contrasting positions which enhanced understanding and changes preconceived perspectives on the topic. Both interviewees 9 and 10 in Katowice noted that hearing the views of other community members influenced their own thinking and perspectives on the topic. Interviewee 9 in Katowice, representing the older mining community, noted they were influenced by younger mining community participants: *"we heard them express serious, thoughtful concerns about their lives and futures, and show understanding for us old folks. That changed some views."* Similarly, Interviewee 10 in Katowice, representing the younger members of the mining community, highlighted that hearing the perspectives of the older community influenced their own idealistic thinking on the topic, so their perspectives became more practical and functional: *"I became more skeptical, especially influenced by the older participants like miners and retirees...they grounded me, which made dreaming feel harder...our perspectives changed because of what the miners and retired miners said. It didn't cut or wings, but it did change our flight path"* (interviewee 10, Katowice).

- **Adaptive capacity and resilience linked to knowledge gains and networks:** In the Norrbotten case region, perceptions of citizen adaptive capacity centered around participants' ability to respond to the sustainability transition through knowledge, networks, and local associations. Several highlighted that the workshops gave them tools to spread information in their communities and to strengthen advocacy roles in municipal and regional councils. Others underlined the importance of networks, particularly for women entrepreneurs, as a foundation for resilience in the face of industrial and demographic change. Yet some remained skeptical about the political responsiveness of municipalities, seeing this as a limitation to their own adaptive capacity. Overall, resilience was linked less to individual empowerment and more to the strength of local associations and the ability to cooperate across groups to face the challenges of transition.

4. Citizen empowerment

Chapter 4 presents the DUST Monitoring and Assessment Framework criteria related to 'Citizen empowerment' and provides an overview of the key empirical results from data collection from interviews, participant observations and questionnaires, structured according to the related criteria dimensions. The results of the data collection related to the dimensions of the Citizen empowerment criteria are in summary:

- Open dialogue and the non-hierarchical structure of RFLLs helped reduce power asymmetries between citizens and policymakers in the specific processes.
- RFLLs were seen as important platforms for citizens to voice concerns and perspectives on sustainability transitions.
- The policy co-design process was viewed as empowering for the LEC participants, though interviewees acknowledged that final decision-making power remained with policymakers.
- Participants were hopeful yet skeptical about the impact and policy efficacy of RFLL process in broader policy contexts.

Figure 13: Summary of findings – chapter 4

Theoretical overview and assessment criteria: Citizen empowerment

Within the context of sustainability transitions, citizen empowerment refers to the ability of individuals and communities to gain the agency and autonomy required to actively participate in transition policy processes and influence the direction of decisions (Coy et al 2021). Citizens are not passively engaged in policymaking processes based on one-way information sharing and limited consultation but are proactively involved in transition policy processes based on deliberative collaboration and co-decision-making (Avelino 2017). Key aspects of empowerment relate to access to information, capacity building, and the ability to shape policies that reflect local needs, values, and community goals (Segales et al 2023).

Empowerment is also reflected in policymaking processes that attempt to balance and redistribute policy and decision-making power towards citizens and communities (Raj et al 2022). This reduces existing power asymmetries in sustainability transition policy processes that have traditionally been dominated by national government actors and large industrial sectors (Moodie et al 2021). Overall, empowerment provides citizens and communities with greater access, acceptance, control, and influence over transition processes (Lennon et al 2019). Empowered citizens and communities can drive transformational policy change that promotes social justice by ensuring that the benefits and burdens of transitions are distributed fairly and all voices are heard equally in policymaking processes (Ciplet 2022).

The DUST project hypothesised that RFLLs empower citizens to voice their concerns effectively and efficiently in the multi-level deliberative governance of just sustainability transitions. The project examines citizen empowerment in relation to three main assessment criteria: 1) citizens perceptions of the RFLL participatory process; 2) citizen perceptions of power relations in the RFLL participatory process; and 3) citizens perceptions of the results and outcomes of RFLL participatory process on policy direction.

Table 7: Citizen empowerment - RFLL key assessment criteria

RFLL Dimension	Assessment Criteria	Description
Citizen empowerment	LEC's perception of the participatory process.	RFLL participants ability and preparedness to engage in deliberation on the topic of sustainability transitions and the nature of deliberative collaboration with other participants throughout the process.
	LEC's perception of shifts in power relations.	The extent to RFLL participants felt that power lay in the hands of citizens and community representatives rather than policymakers, sectoral actors, and other experts.
	LEC's perception of results of the participatory process (policy efficacy).	The perception of RFLL participants on the impact and influence of RFLL results and outputs on policymaking processes at different governance levels.

3.2 Findings: RFLL participants assessment on citizen empowerment

3.2.1 LEC's perception of the participatory process

- **Participatory processes provide an important platform for citizens to express themselves:** In Katowice, interviewees expressed that they feel that local communities are rarely consulted on issues related to regional transformation, making the RFLLs a valuable opportunity to share their views. One participant stated: *"Often we don't have such opportunities, or do not take advantage of them due to lack of time or interest. This time we had the opportunity and it worked out very positively."* (interviewee 10, Katowice). The same interviewee emphasized that this type of citizen participation can be particularly important for those with a strong interest in specific topics, for example youth. In Stara Zagora, the RFLL workshops were similarly perceived as valuable platforms for expression, especially in contexts where such opportunities may be rare or limited (interviewee 7, Stara Zagora). In the regions of Norrbotten and Lusatia, participants expressed similar notions concerning the RFLLs being valuable platforms for citizens to express themselves. A youth participant in Lusatia stated for example that: *"I could actually say what's on my mind about where I live, and not just to my mates but to people who might be able to change something."* (interviewee 5, Lusatia).

- **Structured participatory processes considered vital for effective citizen engagement:** Across several case regions, participants stressed the importance of the structured RFLL format for enabling meaningful engagement. In Katowice, participants emphasized the need for well-planned events: *"You can't just call people together for a chat, it has to be planned, relevant and engaging. If it's boring, people will tune out or fall asleep. At first, I was hesitant, but from the session, the facilitators created a safe, open space where we could share our views without fear and judgement."* (Interviewee 9, Katowice). In Stara Zagora, experiences focused on the how much time was available for for active engagement and discussion. Here it was felt that limited time hindered the citizen groups to discuss topics in more depth (interviewee 7, Stara Zagora). Interviewees in Lusatia and Norrbotten felt that empowerment came through the deliberative, yet structured format, of the processes that enabled dialogue. For youth participants in Lusatia, it was of particular importance that the structure of the collaborative work in the RFLLs ensured to continuously build on participants' ideas and that facilitators helped follow through with the presented narratives across the whole process. Similarly, the structured participatory design of the RFLLs was appreciated among the Norrbotten

participants was appreciated, with an interviewee stating: *"It wasn't just that we sat and talked in a group, but activities were also conducted by the lecturers where you got to stand in different groups, and that was good for engagement"* (interviewee 2, Norrbotten). Still, some interviewees felt that stronger facilitation could have deepened the discussions, where discussions at time were felt as deferred from the topic on point, as the same interviewee stated: *"We probably didn't always keep the thread. Maybe I could have been better at it."* (interviewee 2, Norrbotten).

- **Regional and local networks motivate citizens to engage in participatory processes:** The LEC groups' contexts played a key role in motivating their engagement in the RFLLs. In Norrbotten, one participant from the rural networks noted: *"Politicians don't realise how much associations contribute to society. They play a vital role and foster a sense of community in rural areas... That's something worth highlighting."* (Interviewee 1, Norrbotten). In Lusatia, shared concerns among youth such as funding for youth clubs or local transport were seen as "door-openers" encouraging their contributions. For youth participants, especially, lived experiences were central to their engagement across the workshops. Another participant from Stara Zagora also emphasised the importance of community and networks as motivator to participate. When asked why participating, an interviewee stated: *"My active civic engagement and my desire to participate effectively in the development of the Stara Zagora community, [...] Also, my work in the field of local development (village community center)"* (interviewee 8, Stara Zagora). An interviewee from Katowice also reflected on broader contextual drivers for their region and country, arguing that that existing governance and policymaking structures within their country can enable citizen participation processes. The participant felt that citizen consultation has grown with the EU membership, stating *"I deeply appreciate what is happening now. I believe this is only possible because we're part of the European Union. The kinds of civic engagement that have been standard in the EU for decades are now reaching us."* (interviewee 9, Katowice). In Stara Zagora, participant observation also noted governance-related drivers to participate and have the voice heard, where there were observed discussions on a perceived lack of state support and that many matters of relevance to the communities are handled at national level, limiting what the region alone can influence (participant observation RFLL WS 1&2, Stara Zagora). In Norrbotten on the other hand, it was noted by a participant that Norrbotten, particularly the local proximity of policymakers and easy to reach local policymakers, facilitates engagement and can serve as an enabler to participate, saying *"I've been in contact with them [policymakers eds note] a lot before too. I think that in both the municipality and in general it is very positive that you are treated very well by the municipality's officials"* (interviewee 2, Norrbotten). This was also addressed in participant observations stating: *"It is important to note how close influential policy makers are to the community in Sweden due to decentralisation."* (participant observation RFLL WS 1&2, Norrbotten).

- **RFLLs enhanced motivation to participate in future participatory processes:** Participants across the cases reported increased interest in future participatory processes after having participated in the RFLLs. An interviewee from Stara Zagora expressed this optimism by sharing: *"I feel significantly more confident and motivated after participating in these seminars. All my known doubts—however small they were— that I may have had, I think disappeared after these discussions and practical sessions."* (Interviewee 7, Stara Zagora). The Lusatia youth participants also expressed appreciation for being heard and for having their contributions taken seriously, especially when others

built on their ideas. They also indicated increased motivation to participate in future processes. One participant illustrated this, stating: *"it's worth showing up and saying what you think. Even if nothing changes right away, at least you've put your view out there."* (interviewee 5, Lusatia). A participant from Katowice echoed the potential interest from young people to further participate: *"there is a small group of young people who are interested in regional policy and really want to be part of consultations like these. So, for that group, the workshops are important."* (interviewee 10, Katowice). For some participants in Norrbotten, the workshops reinforced their determination to share insights through local associations and councils. One interviewee stated for example that *"I'm active in many associations, so I'll spread the word that way"*. She further explained that she would *"share what happened and highlight the differences in perspective between locals and politicians"* (interviewee 1, Norrbotten). After the fourth and final workshop, participants were asked in questionnaires about the likelihood of them participating in similar workshops in the future. A majority of the respondents indicated across the cases that they were likely to participate again. In Norrbotten and Lusatia, a higher share of respondents indicated that it is "Somewhat unlikely" that they would participate again with a few indicating it would be "neither unlikely nor likely" (see figure 14).
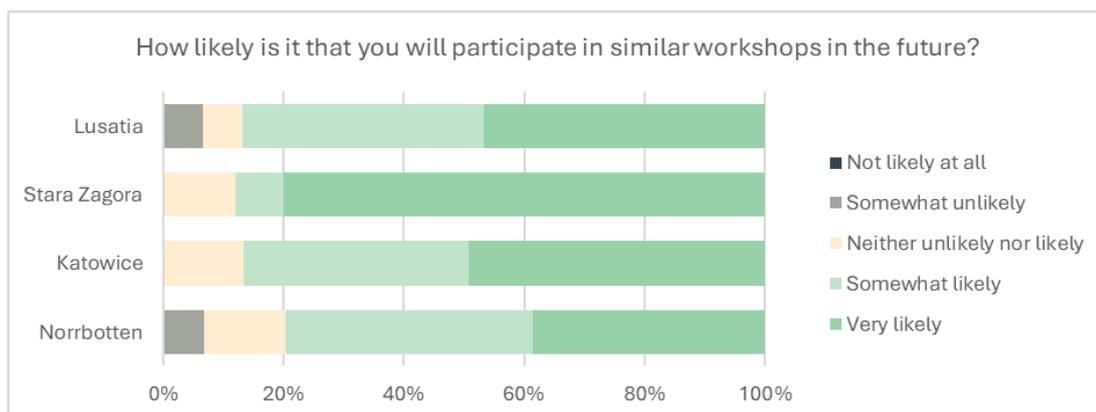
Figure 14: "How likely is it that you will participate to similar workshops in the future?" (WS 4)

- **Participation enhanced willingness to shift from passive observation to active engagement in local sustainability efforts:** Several youth participants from Lusatia also described a shift from passive observation to more active involvement after participating in the workshops, such as attending future events or planning local projects. An interviewee illustrated this by stating: *"The workshops helped me see that this is part of a bigger picture. I also started thinking more about the future—like, what kind of city I want to live in. I want green spaces, places for kids to play, and affordable housing. That vision motivates me to stay involved."* (interviewee 4, Lusatia). Youth participants also highlighted that finding new connections across youth groups fostered solidarity and strengthened their capability to act.

3.2.2 LEC's perception of shifts in power relations.

- **Within the RFLL process, power asymmetries between citizens and policymakers were reduced:** Participants across the cases felt that the RFLL process helped make policymaking seem more accessible, as citizens realized they could engage in discussions on complex topics at the same level as officials. In Katowice, one participant noted: *"It made the process feel more accessible, like it didn't have such a high entry barrier. It humanized the people involved. I realized they're not so different from me or my peers, and their skills aren't out of reach to us."* (interviewee 10, Katowice). Youth participants in Lusatia echoed this, saying that meeting officials during the workshops made them feel their voices mattered, especially when speaking from everyday experience. In Norrbotten, observations indicated that least engaged community (LEC) participants appreciated being listened to by policymakers and felt communication improved: *"Through these meetings it is easier to talk with policymakers... maybe it becomes easier to get across the message you have."* (interviewee 2, Norrbotten). A rural participant however pointed to missed opportunities regarding addressing gender equality, noting that male participants dominated discussions in one workshop, leaving some women partially excluded from equal exchange (interviewee 2, Norrbotten). After the fourth and final workshop, participants were asked whether policymakers appreciated and listened to their input into policy, while most participants agreed that policymakers appreciated their input (as reflected in post-workshop questionnaires), interviews suggested that these power asymmetries balancing effects were contextual to the RFLL workshops. Structural power asymmetries were seen as largely unchanged beyond the RFLL context, meaning the process helped balance power during the workshops (see figure 15) but was seen as most likely having a modest impact on broader participatory power dynamics.
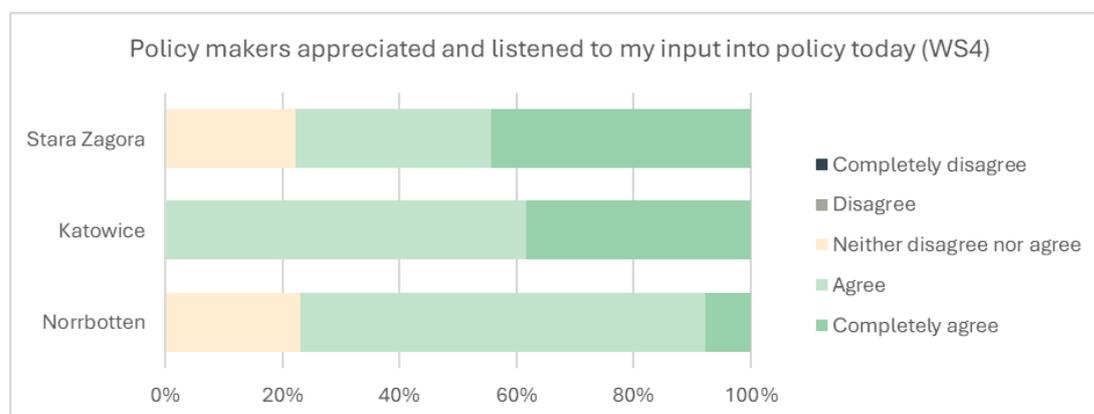
Figure 15: "Policymakers appreciated and listened to my input into policy today" (WS 4)

- **Differences in knowledge and expertise contributed to power imbalances in the RFLL co-creative processes:** Across the case regions, participants acknowledged different degrees or pre-knowledge and pre-existing experiences in participating in policymaking. This was at times felt by interviewees as creating an imbalance of power in the co-creative process across the RFLLs. In Stara Zagora, for example, participants observed that in the earliest workshop, municipal actors were taking up more space in the conversation. One interviewee reflected on that saying: *"The conversation became more about them telling us what was happening than a group discussion."* (interviewee 7, Stara Zagora). Uneven digital

literacy and uneven familiarity with participatory design further impacted the co-creative process. For example, familiarity with digital tools and technical language posed challenges for some participants, leading to potentially differing experiences across groups and individuals. In Stara Zagora, complex digital engagement formats were also observed to discourage participation among certain groups, necessitating careful adaptation to local contexts and user needs (participant observation RFLL WS 3 & 4, Stara Zagora). In Norrbotten, participant observation notes also highlighted that: *"More experienced or confident participants use technical terms or speak with authority on certain topics, possibly creating a divide between those who are well-versed in these discussions and those less familiar with the subject matter."* (Participant observation RFLL WS 1 & 2, Norrbotten). Furthermore, also among participants in Katowice, reflections pointed to uneven preconditions for participation due to differing familiarity with participatory design and deliberative practices. Thus, access to participation was not uniform. This due to participants with less experience in participatory processes or co-creative digital tools felt overshadowed by those with more technical expertise, suggesting that internal imbalances persisted despite the overall RFLL contribution to balancing power asymmetries between different LEC participant individuals, groups and policymakers.

- **Policymakers seen as having the power and responsibility to drive policy change:** While participants felt that the RFLL process levelled the playfield in the relationship between citizens and policymakers in the workshop contexts, they ultimately expressed that policymakers have the main responsibility to drive policy change. Across the case regions, several participants thus viewed power and responsibilities to drive ahead the sustainability transition as primarily held by officials. In Katowice, one interviewee recognized the essential role of policymakers in advancing sustainability transition policy, stating: *"There are many politicians who seriously think about the challenges of restructuring mining. I believe their work could lead to real action."* (Interviewee 9, Katowice). In Lusatia, youth participants also expressed a desire for more meaningful citizen and civil society involvement, while also acknowledging that policymakers hold the ultimate power. One interviewee stated: *"[...] We can bring up ideas, but they're the ones who have to act. I'd like to see a permanent space for youth voices in city planning—not just symbolic, but with real decision-making power."* (Interviewee 4, Lusatia), thus expressing a desire for more long-term and impactful roles for youth in decision-making processes. In Norrbotten some different perspectives were provided, particularly, on the distinction in how local policymakers and their roles are perceived compared to centralized decision-making. In participant observation reporting, it was noticed that participants often discussed centralised policymakers as powerful, but yet disconnected to the northern and local/regional conditions that apply to Norrbotten specifically (participant observation RFLL WS 1 & 2, Nottbotten).

3.2.3 LEC's perception of results of the participatory process (policy efficacy) and shifts in power

Low to modest expectations that the RFLL results will impact policymaking: Across the case regions, LEC interviewees expressed low to modest expectations regarding the influence of RFLL workshops on policymaking. While participants appreciated the opportunity to voice concerns collectively, confidence in political influence remained cautious. In cases where policy impact was considered possible, it was often framed with uncertainty among the LEC groups. In Norrbotten, participants acknowledged that political agendas ultimately set limits, and some doubted the workshops would impact policymaking,

due to limited municipal engagement in the RFLLs. Several participants also questioned whether the insights gathered in the workshops would be followed up, or whether municipalities and regional authorities had the political will to act. Similarly, in Stara Zagora, interviewees indicated doubts about impacts in policymaking. In Katowice, one interviewee shared a comparable level of skepticism: *"Honestly, I'm skeptical. There are so many participatory processes now, but in my experience, they take a lot of time and often don't result in anything meaningful, so I'm not very confident in their impact."* (Interviewee 10, Katowice). In Lusatia, similar sentiments were expressed. In Stara Zagora, the participant observation notes indicated that uncertainty was expressed among participants with concerns about systemic governance failures and implementation possibilities (participant observation RFLL WS 1&2, Stara Zagora). This pessimism was however balanced with consisted use of positive references and terms in connection to the future. In Katowice, one interviewee stated: *"I hope decision-makers, those who shape policy, will become familiar with the results. It would be great if 10% of the ideas were implemented, but even if 1% is used, that would still be something."* (Interviewee 9, Katowice). In Lusatia, youth interviewees emphasized that lasting impact depends on continued dialogue and follow-up. Without this, the process risks being felt as symbolic. As one respondent put it: *"I think it could have some influence, but it's not like they'll suddenly change everything because of one workshop. If they take our ideas and actually put them into the plans they're making, then it's worth it. I'm more confident if they keep the workshops going and check back with us. If it's just a one-time thing, I'm not so sure."* (Interviewee 5, Lusatia). The interview material and participant observation thus suggest that there is an impression among the LEC participants that citizen voices may not always translate into action.

- **Structural barriers reduce policy efficacy:** The case regions in which the RFLL took place are of different characteristics concerning sustainability policies addressed, participatory frameworks, governance processes and types of LEC groups. However, throughout the four case regions, participants expressed concerns about their expectations on impact of the RFLL workshops due to perceived structural barriers in policymaking. Often the desired changes would require engagement with national-level authorities, which were perceived as less accessible. For example, in Stara Zagora, one participant noted structural limitations in policymaking in terms of levels of responsibility in a multi-level governance system: *"some things are regional, and we do have something we can do – specifically in some high schools. But a lot of the education-related matters are at the national level"* (Interviewee 8, Stara Zagora). In Norrbotten, structural implementation barriers were also reflected upon by LEC participants in terms of where responsibility of certain policy-areas is based and where national policies were felt more out of scope. Furthermore, expectations on potential lack of political will or bureaucratic inertia was also seen potential barriers to policy efficacy according to the participants, as addressed by the youth participants in Lusatia (interviewee 4 & 5, Lusatia). In Katowice, the high frequency of participatory events was perceived as a potential barrier to effective policy implementation.

5. Citizen learning

Chapter 5 presents the DUST Monitoring and Assessment Framework criteria related to 'Citizen learning' and provides an overview of the key empirical results from data collection from interviews, participant observations and questionnaires, structured according to the related criteria dimensions. The results of the data collection related to the dimensions of the Citizen learning criteria are in summary:

- Open discussions in RFLLs fostered cognitive learning, increasing awareness and understanding of sustainability transitions, policy goals, diverse perspectives, and policymaking processes.
- Some participants experienced normative learning, with dialogue and interaction prompting mindset shifts.
- Listening to diverse perspectives and finding common ground influenced thinking, strengthened networks, and cultivated a stronger sense of community.
- Learning emerged as a key enabler for building social capital and enhancing regional resilience and empowerment.
- The link between cognitive learning and capacity building and the participants had mixed views on whether it improved participants' ability to engage in future policy dialogue.

Figure 16: Summary of findings – chapter 5

Theoretical overview and assessment criteria: Citizen Learning

Citizen learning refers to a process by which individuals and communities acquire new knowledge, skills, and capacities through participation in sustainability transition processes (Van Mierlo & Beers, 2020). Learning is facilitated through proactive citizen participation in collaborative policymaking processes based on co-decision-making, local and community-led transition initiatives (Huttunen et al, 2022), and scientific research projects with a citizen engagement focus (Aristeidou & Herodotou, 2020).

Participation can promote cognitive learning whereby citizens gain new knowledge and understanding of sustainability transitions (Van Poeck et al, 2020). This new knowledge and understanding improves citizens abilities to reason and reflect on the potential impacts of transitions (Van Mierlo et al 2020). Participation can also foster normative learning which relates to changes in transition norms, values, paradigms and the convergence of opinions (Plummer & Van Poeck, 2020). Exposure to different viewpoints can lead to a shift in citizen attitudes, behaviour, and world views. Normative learning focuses on changing values and what is deemed as appropriate or socially good for a community (Schäpke, 2018).

Both cognitive and normative learning occurs through open dialogue and deliberation that exposes citizens to new information and to consider different perspectives (Stam et al, 2023). Learning can occur at both the individual level (cognitive learning) and community level (normative learning). Both are crucial within a sustainability transition context, as cognitive learning contributes towards enhancing citizens adaptive capacities and resilience; whereas normative learning can create a stronger sense of community and strengthen support around collective transition initiatives and action (Scholz, 2017).

The DUST project hypothesised that participation in RFLLs will enhance citizens' learning about sustainability transitions, place-based policymaking, and participatory skills. The project examines citizen learning in relation to three main assessment criteria: 1) increased knowledge

about sustainability transitions; 2) enhanced understanding of sustainability transitions; and 3) strengthened knowledge of participatory processes.

Table 8: Citizen learning - RFLL key assessment criteria

RFLL Dimension	Assessment Criteria	Description
Citizen Learning	LECs' knowledge on the topics of sustainability transitions and climate change	Participation in RFLLs has enhanced citizens knowledge of sustainability transitions and their ability to form opinions on these topics.
	LECs' understanding of sustainability transition and climate change policies	Participation in RFLLs has enhanced citizen understanding of sustainability transitions and climate change policies and their ability to form opinions on these policies.
	LECs' knowledge about / skills for participation in policymaking and policy co-design	Participation in RFLLs has enhanced citizen knowledge of and capacities to engage in deliberative participatory policymaking processes.

3.3 Findings: RFLL participant assessment on citizen learning

3.3.1 LECs' knowledge about sustainability transitions and climate change

- **Participation contributed to LECs' knowledge and understanding on sustainability transitions and climate change themes:** Interviewees consistently reported that the workshops triggered new interest and encouraged them to reflect on sustainability and climate change issues in more detail than they had previously. As a participant in Katowice observed, *"the workshops led to a better understanding of the transformation process, increased interest, and a desire to learn more when these topics come up again. The information I received sparked my interest. Before, when I heard 'transformation', I'd tune out. Now, especially at the local level, I want to know what is happening and how it's being implemented. These workshops triggered that interest."* (interviewee 9, Katowice). In Norrbotten, participants also described gaining new insights into sustainability, though discussions often centred on, for that region and participant group, familiar economic narratives of growth, jobs, and infrastructure. Overall, thematic learning was evident across regions, as workshops introduced new perspectives and prompted curiosity. A key contribution of the RFLLs was broadening participants' understanding of sustainability transitions beyond narrow industrial or economic framings. In Lusatia, one youth participant explained: *"Before the workshops, I didn't really use the word 'sustainability transition.' For me, it's more like: how do we live well with what we have? In the youth club, we do upcycling, we share stuff, we cook together. That's our version of sustainability. The workshops helped me see that this is part of a bigger picture."* [interviewee 4, Lusatia]. Another added that the testimonies show how the workshops connected abstract concepts to everyday practices, helping participants expand their mental models of what transition can mean. Participant observation notes from Lusatia RFLLs 1–2 also recorded this widening of scope, from a focus on structural change and energy to broader issues of social wellbeing and community life. Observation notes from Stara Zagora (participant observation RFLL WS 1&2, Stara Zagora), also addressed this, stating that many participants emphasized their personal connections to the region in relation to the sustainability transition – beyond the discussions on structural or sectoral

aspects. The questionnaire data from Workshops 1, 2 and 3 reinforce these qualitative findings. In the three included regions (Stara Zagora, Katowice, Norrbotten), the majority of participants agreed or completely agreed that they had learned something new about sustainability transitions and climate change (see figure 17). These results suggest that the workshops were effective in generating new knowledge, though the intensity of learning varied somewhat across regions and between individuals. This was also the case in the Lusatia case region, when respondents were asked the same question after the fourth RFLL workshop. When asked in workshop 2 (data from Stara Zagora, Katowice and Norrbotten) whether the workshop helped them understand what a more sustainable future means for themselves and their communities (figure 18), most "respondents agreed" or "completely agreed". However, in Katowice and Norrbotten, responses were more neutral or reflected a notable portion of respondents disagreeing. In the interviews, most respondents said that the workshops contributed to an enhanced positivity towards the sustainability transition for their community and region. However, there were also diverging responses from Norrbotten, with an interviewee stating that their participation in the workshop did not change their view much on the **topic.** The bar in Figure 17 representing Lusatia reflects only the questionnaire results from Workshop 4, whereas the other three case regions present a weighted result across all four RFLL workshops.
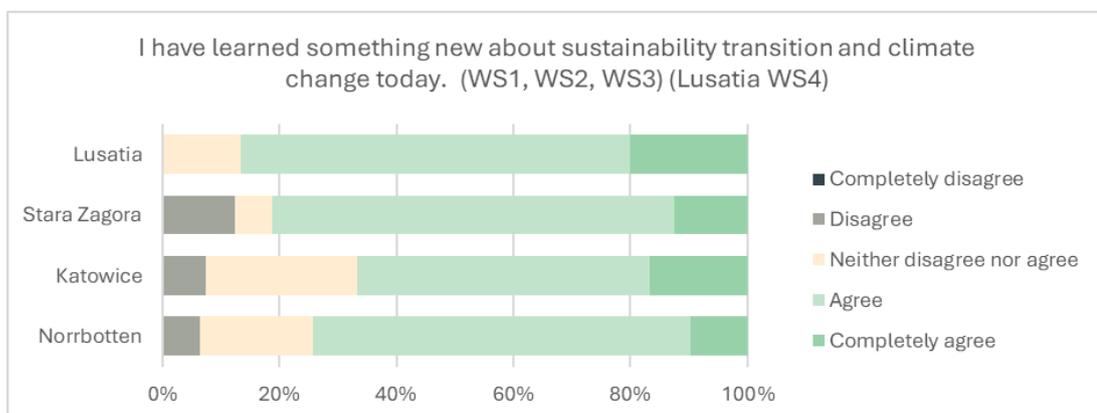
Figure 17: "I have learned something new about sustainability transition and climate change today" (WS 1, 2, 3, Lusatia only WS4)
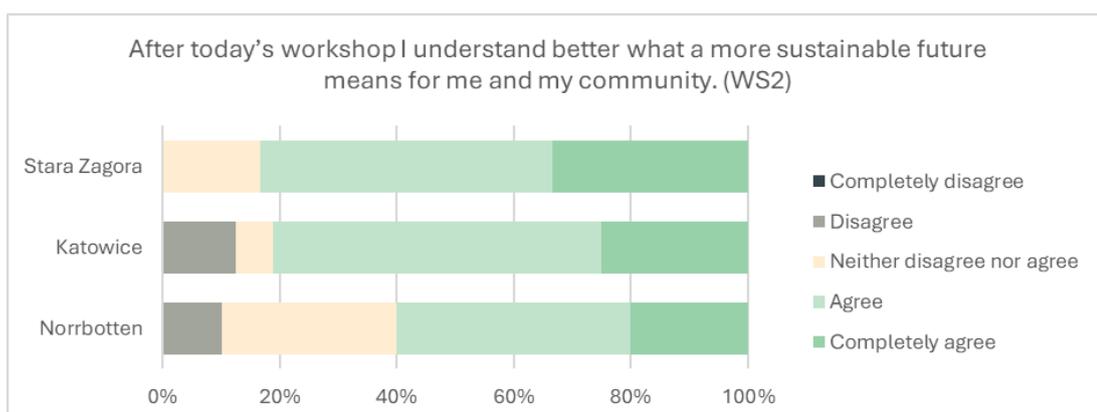
Figure 18: "After today's workshop I understand better what a more sustainable future means for me and my community" (WS 2)

- **RFLLs Enhanced Inter-Community Learning:** the interviewees broadly found that the workshops played an important role in fostering community learning and bridging divides between different groups, particularly across social contexts. In Katowice, the RFLLs

brought together communities that rarely interacted, creating space for dialogue between different types of participant groups with connections to the mining industry (interviewee 9, Katowice). Similar reflections were found in Lusatia, where youth interviewees indicated that the RFLL workshops facilitated a deeper understanding of diverse community perspectives. The youth interviewees also emphasized an understanding that not everyone sees the sustainability transition in the same way. One interviewee explained that they learned about problems they hadn't considered before, such as how rural areas struggle more with internet access and that there is a broad scope in how different people experience and prioritise aspects of the transition (interviewee 5, Lusatia). Another Lusatian participant elaborated: *"Hearing other perspectives, like from older residents or newcomers, helped me understand that not everyone sees things the same way. [...] The workshops helped by creating a space where we could talk openly, without pressure to agree on everything."* (Interviewee 4, Lusatia). At the same time, other interviewees described their own broadening understanding of sustainability as going beyond environmental and economic issues to include cultural and social aspects. As one participant put it: *"Before the workshop, I perceived sustainability mainly as environmental care and economic development, but now I know it also includes social and cultural sustainability."* (interviewee 8, Stara Zagora).

- **RFLLs Enhanced Inter-Generational Learning:** Across the interviews in the cases of Katowice, Stara Zagora and Lusatia, intergenerational learning was a distinctive learning feature from the RFLLs. Older and younger participants were mixed in these three case regions, and they elaborated on that this type of learning was evident and important. In Katowice, the RFLLs created opportunities for dialogue between generations, helping to challenge assumptions and understand that there is more in common between groups than before thought. An older interviewee in Katowice for example highlighted the value of hearing directly from younger participants: *"The RFLLs brought together the older community with groups that we don't usually meet or don't want to listen to, like youth. Often, youth feel older people won't understand, and vice versa. These meetings showed that we actually agree on many things."* (interviewee 9, Katowice). In Stara Zagora, participant observations noted generational differences in perspectives on technology and participatory processes: *"Differences emerged along generational lines and personal perspectives on technology and community involvement."* (participant observation RFLL WS 3, Stara Zagora). Another participant reflected on the experience of working with different age groups: *"The people I was grouped with [in the first session] were older and had more to say. This time, we were mostly with younger people, some still students, and I felt the direction was more diluted than informative. But I hope it was more useful for them."* (interviewee 7, Stara Zagora). In Lusatia, youth participants also noted that the RFLLs helped them understand perspectives from older residents and newcomers. In Norrbotten, the age distribution was slightly higher, which meant that the intergenerational experience was not possible in the conversations in the workshops.

- **Learning fostered critical reflection:** One of the Interviewees in Katowice noted that they had learned the importance of exploring and understanding all perspectives before forming your own position on a topic. Beyond policy knowledge itself, the Katowice workshops encouraged participants to reflect on the importance of engaging with multiple perspectives before forming their own positions. Interviewee 9 emphasised this shift in approach, stating, *"We shouldn't rely solely on what our neighbours say or on the first bit of information we read online or in the media. It is important to seek out different*

sources. That's definitely something I took away." This broader approach to information highlights how the RFLL process fostered critical reflection, helping participants see policymaking as a negotiation between diverse voices and interests rather than a fixed agenda. Similarly in Stara Zagora, observation notes indicated that the RFLL format enabled compromise and group consensus-seeking – in which participant weighed in, balanced and acknowledged other perspectives, even those potentially diverging from their own (Participant observation RFLL WS 3, Stara Zagora).

3.3.2 LECs' knowledge about sustainability transition and climate change policies

- **Participation enhanced learning on sustainability transition policies:** In several regions, policy learning was tied to concrete examples and direct contact with decision-makers. In Norrbotten, participants emphasised that their understanding of policies grew when officials presented specific sustainability transitions projects, such as a green steel initiative in Boden municipalities. However, several participants also noted that they already felt knowledgeable about the politics and ongoing processes in their local area or region. This was partly due to previous experiences or taking their time before the workshops to read up on potential policy material. However, it was stated that the RFLL workshops in Norrbotten did provide deeper knowledge. In Lusatia, policy learning was most visible among youth participants, many of whom began the process unfamiliar with terms like "sustainability transition" (participant observation RFLL WS 1&2, Lusatia). In Stara Zagora, one participant focused on gaining knowledge though comparative perspectives with other sustainability transition policies across other case regions: *"I also received many good and valuable examples of best practices from other regions in Europe, which helped me better imagine what can be achieved in our context."* (interviewee 6, Stara Zagora). In the questionnaire on whether they had learned something new about sustainability transition policy (figure 19), the majority of respondents from the four regions, Lusatia, Stara Zagora, Katowice, and Norrbotten, agree or completely agree that they learned something new about sustainability transition policymaking. Lusatia and Stara Zagora show the strongest positive response, with a large share in complete agreement. Norrbotten and Katowice display a similar pattern, though with slightly fewer strong agreements as well as several participants disagreeing. That some participants from Norrbotten disagreed could refer to that several participants expressed in interviews an already existing familiarity about the sustainability policy landscape for their region or municipalities. The bar on the chart in figure 19 illustrating Lusatia only covers questionnaire results from workshop 4, while the other three case regions illustrate a weighted result from both the first and final RFLL workshops.
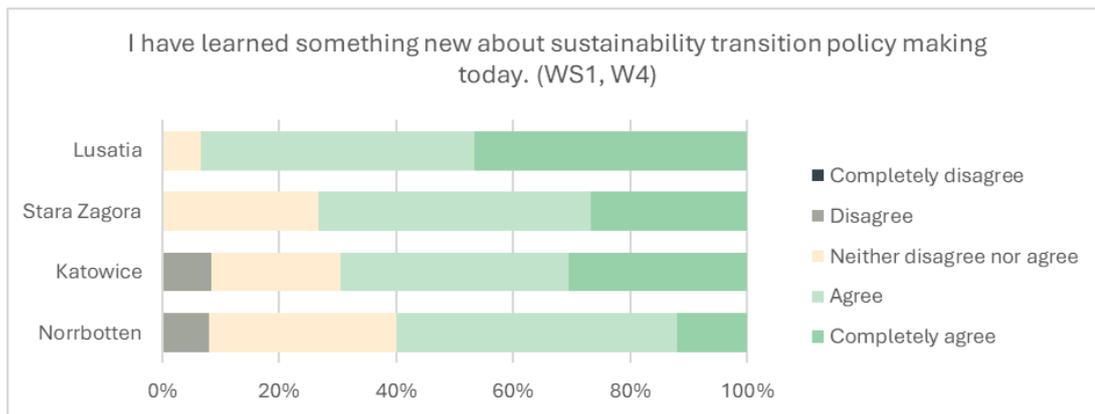
Figure 19: "I have learned something new about sustainability transition policy making today" (WS 1,4, Lusatia only WS 4)

- **Enhanced awareness of governance and policymaking processes:** In Katowice, policy learning included a stronger awareness of the policymaking structures and landscape, including the role of key policy actors. As one participant explained, *"I found out that local authorities, the region, and even the Polish Mining Group are preparing and looking for solutions to ensure positive outcomes or at least a manageable process"* (Interviewee 9, Katowice). This was reinforced by another participant who highlighted new insights into the structure and influence of mining unions: *"I learned about how mining unions are structured and how powerful they are, but also about how they function day to day."* (interviewee 10, Katowice). Observation notes from the first workshops recorded that participants struggled to connect perceived local changes to broader institutional and policymaking processes. Over time, however, this gap narrowed as participants became more familiar with the policy landscape and the connections between projects, governance structures, and regional development. As one participant put it, *"What I learned is that there are many projects happening in the region, but people don't know about them. Communication is a big issue. I also learned that policymaking isn't just about laws—it's about relationships, timing, and persistence."* (interviewee 5, Lusatia). The workshops introduced youth to participation channels such as youth councils and public hearings, helping them see that expertise was not a prerequisite for involvement. While communication gaps remained, the RFLLs broadened awareness of policies, geography, and the relational nature of governance. Furthermore, a participant in Norrbotten also elaborated on learning about the role of regional governance in the sustainability transition, stating: *"When the county administrative board was there and how they think and how they work, what their mission is, that was interesting"* (interviewee 3), Norrbotten).

3.3.3 LECs' knowledge about / skills for participation in policymaking and policy co-design

- **Enhanced awareness of participatory processes and the role of citizens in policy:** Across the case regions, participants gained new awareness of participatory processes. The RFLL workshops also contributed to learning among participants how citizens can and should play an active role in shaping sustainability transitions. In Lusatia, youth participants acknowledged gaining more awareness on participatory processes and their role in them. Particularly as the workshops provided a platform for showing how different

types of knowledges can blend in participatory processes: *"I learned that participation doesn't mean you have to be an expert. It means showing up, asking questions, and sharing your experience"* (interviewee 5, Lusatia). Youth participants also learned about the existence and design of formal participation channels. One Lusatian participant explained, *"I did not know that there are formal ways to give input before decisions are made. Now I know there are working groups, online platforms, and things like this workshop where you can actually meet the people deciding stuff."* (Interviewee 5, Lusatia). In Stara Zagora, participants described how the sessions helped them understand the importance of civic engagement and the value of their individual voices within collective decision-making. As one participant reflected, *"Yes, I learned something new—especially on the topic of the just transition and the role of civic participation in it."* (interviewee 8, Stara Zagora). These aspects reinforced the perception that ordinary residents hold a legitimate role in transition processes. In Katowice, participants reflected on the complexity of consultations and the challenges of organising them effectively. As one explained, *"I learned that there are different ways of working and engaging people. It strengthened my awareness that consultations are difficult to run well and that was interesting to see"* (interviewee 10, Katowice). This knowledge broadened their understanding of how policymaking functions and created a stronger sense of agency, even if navigating these channels remained challenging. However, a participant in Norrbotten, stated that: *"I cannot say that in these workshops I improved my skills to be part of participatory processes. I think that takes more time. But the knowledge I gained about sustainability absolutely helped me contribute more."* (Interviewee 2, Norrbotten).

- **Increased knowledge on citizen engagement tools:** survey quote etc. in Norrbotten, participants learned about digital tools and concepts relevant to policy-making and participatory processes. This was highlighted by an interviewee stating that: *"I think it's interesting that you can use tools like quick surveys. They should be used as a basis for political decisions, send them out and let people participate"* (interviewee 1, Norrbotten). In Norrbotten, participants valued exposure to co-design methods and tools such as surveys, but also noted that learning to use them effectively requires more time and practice. These insights are supported by questionnaire data from Workshop 1,2 and 3, which showed that a clear majority of participants across regions reported learning something new about sustainability transitions and climate change (figure 19). This indicates that the participatory format itself contributed to enhanced awareness, even if translating awareness into lasting participatory skills proved more challenging.

6. Affective communication

Chapter 6 presents the DUST Monitoring and Assessment Framework criteria related to 'Affective communication' and provides an overview of the key empirical results from data collection from interviews, participant observations and questionnaires, structured according to the related criteria dimensions. The results of the data collection related to the dimensions of the Affective communication criteria are in summary:

- RFLL facilitators were important for clarifying terms and concepts to level the playfield between participants as well as policymakers.
- Communication was most effective when policy topics were linked to regional and local contexts or illustrated with concrete examples.
- Participants emphasized the need for accessible language grounded in regional realities when discussing sustainability transitions.
- Participants sometimes struggled to understand sustainability transition concepts and jargon, and found it difficult to express their own views.
- Terminological complexity and ambiguity risk creating barriers between policymakers and citizens.

Figure 20: Summary of findings – chapter 6

Theoretical overview and assessment criteria: Affective communication

The affective communication of sustainability transition policies is essential for enhancing citizen awareness, knowledge, and understanding of the opportunities and challenges presented by the shift to carbon neutral societies and economies (Moodie 2025). Citizen engagement in transition policy processes, based on clear and comprehensible language communication, is vital for building support and acceptance for sustainability transition policy actions and impacts (Stark et al 2023); however, the semantic and terminological complexity and ambiguity surrounding sustainability transitions risks creating communicative barriers that could lead to a further breakdown in trust between policymakers and citizens (Sanderson et al, 2024).

Policymakers cannot automatically assume that all citizens know and understand what sustainability transitions are and involve, so the concept and policies need to be defined simply and communicated in a language that is easily understandable to citizens (Shaker & Berisha 2025). For example, Shaker and Persico (2024) have shown that the term sustainability transitions is barely used in policy and social media discourse, with citizens predominantly using terms such as 'climate change', 'global warming', 'climate neutrality', 'decarbonisation', and 'sustainability'. Furthermore, sustainability transitions also need to be communicated to citizens using language that reflects the territorial and community context, so the concept and policies are easily recognisable and relatable to all citizens and communities, particularly least engaged groups (Panarello & Gatto, 2023). Participation tools and social media can play a significant role in affectively communicating sustainability transitions to citizens (Falkenberg et al, 2022).

Affective communication focuses on the expression of feelings surrounding content and relates to expressions of value and belief (Gudykunst & TingToomey, 1988). It also relates to the domain of learning that concerns engagement, attitude, and/or emotion. The affective domain is different yet inextricably intertwined with the cognitive domain that centres on understanding, comprehension, or application (Lesen et al., 2016). Affective communication facilitates tools and lenses to understand the construction of identity and value systems. It is, therefore, necessary to consider the complex contexts in which different communities construct narratives

to better understand how to engage with them. For example, existing narratives use affective communication and language tools to shape people's perceptions, which in turn has an influence on their values and perhaps informs how their identities evolve. To best involve LEC in sustainability transitions, it is salient for us to understand the local context – what ways of knowing exist; what, why and how value is expressed; and how feeling is perceived. These findings can then be translated into tailor-made affective communication strategies and languages adapted to each least-engaged community (Balz et al, 2023).

The DUST project hypothesized that communication in the RFLLs is both affective and inclusive. The project examined the affective communication dimension from different perspectives, including the extent to which the RFLLs used 1) inclusive spoken language; and 2) spoken language tailored to contextual and community specificities.

Table 9: Affective Communication - RFLL key assessment criteria

RFLL Dimension	Assessment Criteria	Description
Affective Communication	**Inclusive use of spoken language**	Avoidance of abstract or technical jargon with consideration of participants language skills and a respectful use of language throughout the process.
	Spoken language tailored to communities	Language and content tailored to local context and respectful of communities values, emotions, identities, unwritten rules/norms, and shared memories.

3.4 Findings: RFLL participant assessment on affective communication

3.4.1 Inclusive use of spoken language

- **Participant language and communication barriers:** In the RFLL workshops across the cases, the use of technical terms and abstract concepts created barriers for less experienced participants. This was observed in Katowice, where some participants felt they lacked the communicative tools to effectively participate and express concerns clearly. One interviewee explained: *"We lacked the skills to express ourselves as we're not often asked for our opinions outside of school essays. We didn't have the vocabulary or the language. It was the first experience of being asked for our thoughts and we struggled." (interviewee 10, Katowice)*. Interviewee 9 confirmed this perspective, pointing to personal difficulties in clearly expressing their own thoughts during the RFLLs: *"What hindered me personally was summarising my thoughts into a short phrase or slogan."*. Among youth participants, language was identified as a barrier to effectively participate. Participant observations from Lusatia noted that there were differences in confidence using policy-oriented language: *"not all participants felt equally confident using this language"* (Participant observation WS 1 & 2, Lusatia). Observation notes from Lusatia further supported these notions, highlighting the need for *"simpler and more direct"* communication from policymakers as a key takeaway from the early workshops (Participant observation RFLL 1 & 2, Lusatia). This indicates a need for more grounded and context-sensitive framing work, clarifying how lived experiences can be expressed and included in different ways.

- **Proactive facilitation is key for providing conceptual clarity:** Facilitators in the RFLL workshops tried to bridge this by doing this by introducing concepts early and keeping

group work grounded. During collaborative work in Stara Zagora, the participants were enabled to ask for clarifications in the formulations of tasks, *"participants engaged deeply with seed statements, discussing the need for clarity and context in formulation."* (participant observation WS 3, Stara Zagora). Similar observations were provided from the Lusatia case region with an effort to provide participants with an introduction to terminology at the outset of the workshops (such as like "structural change" and "energy transition"). One interviewee complemented this by noting that the workshops' collaborative format and faciliation helped participants become more familiar with concepts over time:*"I learned how to express my ideas clearly, how to listen to others, and how to ask for clarification when I don't understand something. That's important, especially when talking to adults or officials who use complicated language. I also learned that it's okay to say 'I don't get this—can you explain?' That's part of participation too."* (Interviewee 4, Lusatia). A participant in Stara Zagora noted that the dialogues provided clarity and new ideas for the future. Interviewee 7 noted that the transition no longer felt like *"an abstract concept,"* but an *"achievable goal."* (Interviewee 7, Stara Zagora).

- **Everyday language fostered inclusion and relevance:** While several participants felt that there were communication or conceptual knowledge barriers to overcome, the participatory elements adapted to in everyday language were appreciated. Norrbotten participants consistently valued that the workshops enabled communication in an inclusive way, where language was accessible. Another interviewee noted that being in the same room and using ordinary, everyday terms helped lower barriers to interaction with decision-makers. For example, in Norrbotten, it was observed observed that the language used by policymakers and civil servants generated a collective understanding, largely because these representatives are "used to speaking to and with citizens" (participant observation RFLL WS 4, Norrbotten). In Lusatia, youth participants particularly addressed the importance of using everyday language for inclusiveness in the workshops. One interviewee stated in this regard: *"The workshops gave me space to speak without being judged. I learned how to express my ideas clearly, how to listen to others, and how to ask for clarification when I don't understand something. That's important, especially when talking to adults or officials who use complicated language"*. (interviewee 5, Lusatia). The use of clear, spoken language thus played an important role in making the process feel participatory, strengthening trust, and reducing distance between actors.

3.4.2 Spoken language tailored to communities

- **Language tailored to RFLL participants' regional and local context:** Policymakers and facilitators made deliberate efforts to use an accessible language rooted in the local and regional context and realities. It was exemplified in participant observation notes that *"language used was accessible and regionally grounded" (*Participant observation WS 4, Stara Zagora). Furthermore that *"civil servants and facilitators effectively linked local concerns with broader policy frameworks"* (Participant observation WS 4, Stara Zagora). In Norrbotten, it was also noted in the participant observations that *"the politicians and civil servants are used to speaking to and with citizens. There is a strong understanding of each other and a common understanding of the challenges that Norrbotten faces"* (Participant observation WS 4, Norrbotten). Norrbotten participants also stressed the importance of communication being framed in ways that made sense in their own

community context. One representative underlined that when issues such as green steel were explained in practical terms, it reduced uncertainty and created a stronger sense of relevance: information framed in relation to everyday concerns like jobs, housing, or services resonated more strongly than abstract policy language. Another participant explained that their trust in the process grew when policymakers used clear, regionally grounded examples, as it made them feel that *"the message gets through"* [Norrbotten Interviewee 3]. Tailoring spoken language to the community context thus made policy discussions feel less distant and more actionable, highlighting the role of affective communication in bridging technical policy discourse with local realities. In Lusatia, observations also illustrated that spoken language was adapted to familiar examples such as youth clubs, public spaces and school outreach (Participant observation WS 1 & 2, Lusatia). Furthermore, in Lusatia, place-based terminology, like delimiting and describing what constitutes the Lusatia as a "region" was observed among several participants as at times unclear. According to the participant observation notes from the first and second workshop, participants had openly stated they did not know what Lusatia referred to or where it began and ended (participant observation WS 1 & 2, Lusatia). This was helped overcome by specifying and helping to discuss specific locations and places. These observations indicate an effort to adapt the language to lived experiences familiar to the participants.

7. Discussion and reflections

Chapter 7 presents discussion and reflections of results and theoretical concepts of the RFLL Monitoring and Assessment Framework applied. 7.1 provides a reflection on the comparative elements between results from the different case regions. 7.2 paper explores the theoretical implications of the empirical findings in relation to the core concepts at the heart of the RFLL criteria assessed in this report. Both sub-sections are structured according to the assessment criteria dimensions applied across the report, namely Social Capital; Futures Literacy, resilience, and adaptive capacity; Citizen Learning, Citizen Empowerment and Affective Communication.

7.1. Comparative insights across case regions

This sub-section presents a comparative perspective of Regional Futures Literacy Labs (RFLLs) across the case regions Norrbotten, Lusatia, Stara Zagora, and Katowice. There are some regional variations in the citizen experiences and attitudes, driven largely by pre-existing governance cultures, the structure of communities participating in the RFLL workshops and potential differences in RFLL process and facilitation, as well as potentially differing sustainability and place-based policies addressed across the RFLLs in the four regions.

Social Capital

Across all case regions, participants initially expressed mild skepticism and detachment from policymakers, which i got less prominent over time the RFLL workshops were carried out. The nature of this skepticism varied between regions. In the Lusatian case, youth interviewees perceived policymakers as distant and primarily concerned with expert-driven decision-making, often described as hidden behind bureaucracy. Participants in Katowice addressed poor communication, with some respondents from the mining community expressing a feeling "no one cares". In Stara Zagora, attitudes towards state workers were deemed not always positive among the interviewees. The regional differences regarding social capital were evident primarily in the pre-existing relationships between participating citizens and policymakers before the RFLL and the resulting changes in attitude after the RFLLs. In Norrbotten where the rural network participants, reported that decision-makers, particularly local officials, were already familiar figures for them, noting an existing open dialogue and a tighter knit within the local community before the RFLLs began, compared to the other regions. However, in turn the interviewees in Norrbotten also indicated a skepticism towards the national policymaking arena.

The RFLL workshops and format made policymakers seem more accessible and relatable across all regions according to interviewees and participant observations. This was particularly noted in Stara Zagora and Katowice, where initial negative views of public actors were mitigated. Respondents from Stara Zagora indicated the strongest tendency to completely agree that the workshop had positively changed their attitude toward policymakers when asked in in the questionnaire. Norrbotten's perceptions of change of attitude were more mixed; for some, the workshops reinforced existing skepticism while others found reassurance. Regarding inclusivity and dialogue, the non-hierarchical format was generally highlighted as positive across the regions. However, differences emerged in the execution. In early workshops in Stara Zagora, it was observed and addressed in interviews that municipal actors sometimes took up more space, leading to a perceived imbalance. In Norrbotten, while the process was found to be open, some participants felt disadvantaged by lower digital literacy compared to more technically skilled participants.

Regarding the commitment of political systems and the perceived likelihood of workshop outcomes translating into policy commitments, lingering skepticism persisted across all regions. Doubt was often linked to structural implementation barriers when it comes to comparing RFLL outcomes with ongoing or potential future participatory policy processes. For example, in Stara Zagora, skepticism focused on whether results would enter the "real policy world," often attributed to structural governance barriers. The Lusatia youth interviewees voiced concerns about the slow pace and bureaucratic idleness of local politics, seen as potentially hampering future participation and implementation of participatory processes outcomes. In Norrbotten, skepticism about policy efficacy was linked to the absence of key municipal representatives and doubts about local political buy-in. Interviewees in Katowice were on the other hand more optimistic about the potential of policy commitments in a broader context.

Futures Literacy, resilience, and adaptive capacity

While participating in the RFLL workshops was generally seen to foster a more future-oriented mindset among the interviewees in the case regions, the time horizons and personal relevance differed. In terms of preferred timeline for imagining and thinking about the future and enabling a just sustainability transition, some differences could be observed across cases. In Katowice, interviewees reflected that citizens' future thinking tend to focus on the near future, suggesting that the RFLLs' long-term horizon might be too abstract. In contrast, in the discussions in the Norrbotten, the RFLL participants were more focused on the long-term future, e.g. outcomes of ongoing large scale green investments and scenarios on what comes post job creation from such investments.

Throughout the cases, the format with open dialogue, small groups and structured facilitation in the RFLLs was seen as important by participants in stimulating joint futures thinking and generating forward-looking ideas. To what extent visualisations helped spark futures thinking was reflected in different reactions across the case regions. In Norrbotten, visualisations were sometimes seen as containing inaccuracies reinforced skepticism by reflecting a perceived top-down political agenda from national level, making certain regional or local futures representations feel unfamiliar. In Stara Zagora on the other hand, interviewees reported that several elements of the visualisations evoked optimism for a rejuvenated future.

Across all four case regions, the RFLLs contributed in varying degrees to more positive perceptions of participatory approaches in planning sustainability transitions. However, participants' personal contexts influenced their futures thinking leading to slightly diverging perspectives across the case regions. This was reflected in differences in their backgrounds, territorial conditions, relationships to and embeddedness with the sustainability transition sectors in focus in their specific regions, as well as which LEC community interviewees belong to. In the case of Katowice, interviewees representing retired miners stated a shift of perspective from fearing unemployment as a result of the sustainability transition policies towards instead supporting the transition due to environmental concerns when retirement had come. In Lusatia, youth participants grounded their understanding of the broader "sustainability transition" in practical, every day and personal experiences, such as youth activities, housing and mobility.

Citizen learning

All case regions resulted in various types of citizen learning about sustainability transitions and participation. In Lusatia, the workshops significantly broadened the meaning of sustainability beyond industrial restructuring for the youth participants interviewed, towards including and connecting everyday practices like housing, leisure, and community activities to the transition. In Norrbotten, discussions on the other hand frequently centered around economic narratives (growth, jobs, and infrastructure), with some social dimensions being less prominent in the interview answers compared to the other regions.

Learning also took place across the RFLLs among participants about different LEC community perspectives. The intergenerational dynamics were particularly noted in Stara Zagora and Lusatia. Learning across generations and hearing potentially different needs and positions was deemed particularly valuable. In Katowice, perhaps this notion was particularly expressed among older participants, where the mining communities created bridges and recognized shared concerns across generational borders. In Stara Zagora, intergenerational differences highlighted that while older participants felt younger voices were less pronounced, younger citizens benefited from exposure to diverse perspectives. Thus, inter-community learning played a significant role, particularly in bridging generational divides in the former mining regions.

The RFLLs contributed to different forms of learning across the four case regions. Thematic learning was evident in how participants described gaining new insights into sustainability transitions and a stronger interest in following related debates after the RFLLs. In Lusatia, workshops broadened the meaning of sustainability beyond understanding it in terms industrial restructuring, to include everyday practices such as housing, leisure, and community activities. Katowice underscored community learning, as participants valued opportunities to engage with groups they rarely encountered, which helped overcome assumptions and recognise shared concerns. Lusatian youth participants especially described growing confidence in articulating their views, seeing their own everyday experiences as valid contributions to the broader sustainability transition debate in their region. In Norrbotten, interviewees indicated that they already felt knowledgeable about local politics for the sustainability transition, but the RFLLs provided deeper insights, though discussions often centered on familiar economic narratives such as growth and jobs. Thus, the RFLLs across the four case study regions contributed with knowledge and understanding on the sustainability transitions, but the nature of this learning and the starting points varied.

Citizen empowerment

In terms of the assessment criteria for citizen empowerment, the RFLLs were widely perceived across all regions as valuable platforms for expression of citizen interests and reflections, particularly for groups where such opportunities were felt to be limited in the broader governance context, such as indicated among interviewees from Katowice and Stara Zagora. While participants across the cases deemed the RFLL workshops as valuable for making their voices heard, a consistent finding across the regions, was that the LEC community interviewees expressed low to modest expectations concerning the influence of the RFLL workshops on broader policymaking. This low expectation was primarily coming from perceived structural barriers to the take up of such workshops as the RFLLs results such as limited municipal engagement (Norrbotten) and a general skepticism about whether political systems would commit to follow-up actions (e.g. Lusatia).

Regarding the possibilities of RFLLs shifting power dynamics between policymakers and citizen participant, there were mixed results. Temporarily, the RFLL process was found by interviewees to help creating a level playing field, where policymakers seemed accessible and humanized, allowing citizens to engage in complex discussions equally. Across all case regions, it was however deemed that the effects of shifted power relations were concentrated to the actual RFFLs workshops.   This was particularly addressed in Norrbotten and Lusatia.

Motivational factors for participating in the RFLLs also differed across the LEC communities in the case regions. In Norrbotten, interviewees emphasised that engagement was motivated by their position in rural networks and associations and opportunities to raise interests related to that. This was also coupled with the already existing proximity and easy access to local policymakers. In Lusatia, shared concerns among youth (like funding of the youth club or local transport availability) served as primary "door-openers", while in Katowice, an interviewee for example reflected on motivation to participate as part of a broader change in opportunities to participate in such events. This was particularly linked to the nation's EU membership enabling civic engagement. These examples indicate that there were varying nature of motivational factors for participating – with the LEC youth groups being more grounded in priorities for social activities or everyday practices.

Finally, expectations for policy efficacy were generally low or modest across all LECs in the case regions. Interviewees from Norrbotten representing rural communities doubted the RFLLs' broader influence of the policy discussions due to limited municipal engagement and questions regarding political will. In Katowice on the other hand, skepticism was high due to a perception that frequent participatory events often do not lead to meaningful results. Participants from Stara Zagora focused on structural barriers to policy efficacy. This was for example related to the multi-level governance system, where many relevant issues were thought by the interviewees to be handled at the national level, limiting regional influence. In Lusatia, the youth interviewees placed more emphasis on the conditional factors behind confidence, with participants emphasizing that policy efficacy would depend on continued dialogue and follow-up to avoid the process being merely symbolic.

Affective communication

Communication barriers related to technical jargon were addressed among interviewees across the case regions. For example, in Katowice, participants, particularly youth, felt in the early workshops they lacked the necessary communicative tools and vocabulary to express their thoughts effectively. Similarly, Lusatia youth noted challenges with having confidence using policy-oriented language and expressed a need for simpler communication from officials.

Facilitation played a critical role in bridging these gaps. In Stara Zagora, proactive facilitation ensured participants could ask for clarifications, leading one interviewee to state that the transition no longer felt like an "abstract concept". In Lusatia, the collaborative format, for example working with small groups that mixed citizens with policy-officials helped participants become familiar with policy concepts over time and getting space to express needs in their own language, while also normalizing the act of asking for clarification.

Regional or local tailoring of language used in the RFLL workshops was valued across the LEC participants in the different regions. In Norrbotten, previous experiences among interviewees with talking to policymakers were an important starting point for participants. For example, policymakers were described as being "used to speaking to and with citizens," resulting in accessible, everyday language that lowered barriers. Participants in Norrbotten however

stressed the importance of framing issues like green steel in practical terms (jobs, housing) to increase regional and local relevance and reduce uncertainty about certain topics. In Lusatia, the language was according to facilitators of the RFLLs adapted to familiar, place-based examples like youth clubs and public spaces. However, in Lusatia, the youth participants sometimes expressed initial confusion over sectoral or spatial terms, necessitating careful discussion of specific locations or explanations to ground the terminology. Facilitators in Stara Zagora also emphasised their efforts to ensure language was accessible and regionally grounded, linking local concerns effectively with broader policy frameworks.

7.2. Integrating theoretical and empirical perspectives

Social Capital

Open and inclusive dialogue within the RFLLs fostered different types of social capital across the case regions. Firstly, the RFLLs established links between participants in the same community group (i.e. bonding social capital). In the Norrbotten and Lusatia RFLLs, the RFLL format enhanced bonding social capital within the rural community (Norrbotten RFLL) and youth community (Lusatia RFLL), as participants were able to identify shared sustainability transition positions and common priorities. For example, in Lusatia, discovering shared challenges across youth initiatives helped establish new informal networks, with some participants beginning to collaborate on events and projects after the RFLLs.

Secondly, the RFLLs created links between different community groups (i.e. bridging social capital). The RFLL format created a platform for cultivating bridging social capital between different communities through the exchange of knowledge and ideas on sustainability transitions. In the Katowice Region, both the older and younger members of the mining community highlighted that an exchange of perspectives enhanced their knowledge and understanding of different community perspectives. For some, this had a transformative effect that influenced their own thinking towards sustainability transitions. While different communities approach the topic from their own context, they were able to find common ground around the development of shared policy positions and a common desire for positive sustainability transition change that brings new opportunities and growth to the region.

Thirdly, the RFLLs also built connections between citizens and those in positions of power (i.e. linking social capital). The RFLL format fostered linking social capital by bringing together citizens and policymakers in an open discussion on sustainability transition policies. Across the RFLL case regions, participants noted that this interaction and dialogue with policymakers made them seem more accessible and relatable. Many participants had a negative perception of policymakers at the outset of the process but noted that their initial perspectives changed as they began to understand what policymakers were doing and trying to achieve in relation to regional sustainability transitions. Participation in the RFLLs positively changed citizens' perceptions of policymakers, particularly policymakers at the regional and local levels, as participants recognized that they are working hard to make constructive changes for their region or municipality. Across Europe, levels of trust in regional and local policymakers are higher than for EU and national level policymakers. Sub-national level actors can, therefore, play an important role in multi-level sustainability transition processes to ensure that policies address regional issues and meet citizen needs. Increased interaction and dialogue between citizens and policymakers across all governance levels can be a useful tool for changing citizen perceptions

and strengthening connections. This is a significant finding for EU and national level policymakers at a time when levels of citizen trust in them are very low.

Strengthening different types of social capital (i.e. bonding, bridging, and linking social capital) can help to facilitate closer cooperation and drive collective action based on strong network connections, friendships, high levels of trust, and shared policy positions. In Norrbotten, the workshops were seen as reinforcing participants' roles in local associations and networks, providing a new platform for advocacy. This was partly attributed to open and inclusive dialogue and the absence of rigid hierarchies, which fostered trust and allowed networks to expand and deepen. In Norrbotten, a culture of collaboration based on increased social capital was viewed as important for strengthening regional and local network connections.

Futures literacy, resilience, and adaptive capacity

The concepts of resilience and adaptive capacity are strongly interconnected; where resilience refers to the ability of individuals and communities to recover from disruptive shocks, adaptive capacity denotes the ability of individuals and communities to anticipate and adjust to transformative change. Further research is needed on the relationship between the two concepts and to what extent adaptive capacity is an independent concept or an enabler or driver of resilience. In other words, a certain degree of adaptive capacity is required if individuals and communities are going to be resilient and recover from shocks. By the same degree, futures literacy can also be viewed as an enabler for enhancing both resilience and adaptive capacity. Indeed, future literacy is a tool designed to increase the ability of citizens to anticipate and imagine alternative futures, which can enhance their capacity to prepare, adapt, and recover from transformative changes. In this regard, futures literacy processes can contribute towards improving citizen's adaptivelead capacity and resilience.

Across the case regions, RFLL participants were positive about the futures literacy element of the labs, noting that discussing and visualising alternative futures using maps and other illustrations helped to: 1) cultivate a more future orientated mindset, and 2) inform decision-making in the present. Some participants noted that the capacity to think about the future was influenced by their personal context, with older participants more inclined to think about the immediate future over the long-term future. Indeed, several participants found the process of thinking about the long-term future too abstract, preferring to focus on key issues affecting them in the present or immediate future. This suggests that the futures literacy methods can focus discussions on the immediate future (i.e. 1-5 years in the future) rather than long term future (i.e. 10-20 years) and still ascertain the impact of these processes on short-term adaptive capacity and resilience. Practical policymaking and planning timelines were also regarded as important to give citizens clarity on future policy developments and provide time to consider and prepare for different potential outcomes of policy change.

Learning is an essential enabler of adaptive capacity and resilience. RFLL participants noted that learning about sustainability transitions and alternative future scenarios provided them with new knowledge and ideas that could inform their decision-making in the present. This indicates that increasing citizens' futures literacy can act to provide an element of short-term adaptive capacity and resilience; however, a longer-term assessment of the impact of the RFLLs on adaptive capacity and resilience is not possible to measure within the context of a short-term project. More research is needed on the short-term and long-term indicators of resilience and adaptive capacity at the individual and community level. Also, careful consideration is required on measurement indicators that can identify the causal relationship between futures literacy processes and building adaptive capacity and resilience.

Self-organization and regional network building was also regarded as an important element of adaptive capacity and resilience. RFLL participants in the Norrbotten region underlined the importance of local networks, particularly for women entrepreneurs, as a foundation for resilience in the face of industrial and demographic change. In Norrbotten, resilience was linked less to individual empowerment and more to social capital and the capacity of local associations and networks to cooperate across groups in response to the challenges and opportunities posed by sustainability transitions. Social capital, therefore, is closely connected to the concepts of adaptive capacity and resilience, with strong cooperation and collective action aa key driver for citizens and communities to adapt and recover from transformative change.

Citizen Empowerment

Citizen empowerment refers to the capacity of individuals and communities to enhance their agency and autonomy in policymaking processes. Across the case regions, RFLL participants confirmed that the RFLL process provided them with an important platform for voicing their views and providing access to policymakers. Participants in Katowice and Stara Zagora noted they are rarely consulted on policy issues so the RFLLs presented a unique opportunity to express themselves. Existing national, regional, and local governance structures were viewed as significantly impacting citizen agency and autonomy. The existing culture of network collaboration in Norrbotten and Lusatia was regarded as an important driver of citizen empowerment in policy processes. However, participants noted that long-term and sustainable citizen participation platforms are required, otherwise chances to enhance citizen empowerment and agency are often restricted to research projects or a small number of time limited citizen consultations organized by public authorities.

Citizen engagement processes have the potential to reduce power asymmetries between participants. RFLL participants were generally positive that the non-hierarchical structure of RFLLs created a level playing field between citizens and policymakers. However, participants in the Norrbotten RFLL noted that LEC members with greater knowledge and expertise on the topic of sustainability transition could exert dominance over discussions; whereas Stara Zagora participants pointed out that those with experience of citizen participation were also more comfortable contributing to discussions. There was recognition that while open and inclusive dialogue enhanced equality between citizens and policymakers, ultimately policymakers still have the power to make decisions. This indicates that a distinction can be made between citizen empowerment in policy formulation and empowerment in policy decision-making; the results suggest that citizen engagement activities empower citizens in the former but not the latter.

Indeed, citizen engagement processes can empower participants to participate in open dialogue and build shared policy positions, but it can also happen that they have limited efficacy and influence over the direction of policy. It is important to note that the RFLL process was designed only to help communities develop policy positions and made no claims to impacting on policymaking, however,the criticism of citizen engagement lacking policy efficacy was reflected in the views of RFLL participants who expressed hope that RFLL policy recommendations would inform policymaking processes but were pessimistic and doubtful that this would happen in practice. Participants in Stara Zagora pointed to structural barriers characterized by centralized governance structures in Bulgaria, which limited the potential of local level actors and citizens to influence policymaking. However, even participants in Norrbotten and Lusatia, regions within decentralized governance systems, expressed skepticism on the potential impact of the RFLLs on policy. This finding raises three important issues; firstly, that policymakers engage citizens for the purpose of addressing their concerns and integrating their ideas into policymaking, otherwise

citizen engagement becomes a window dressing exercise; secondly, ensuring that policymakers involved in policy co-design with citizen integrate recommendations into wider policy circles and discussions; and thirdly, outlining ways to effectively evaluate and communicate the impact of citizen engagement on policymaking over time; for example, policymakers can indicate in policy documents and strategies where citizen contributions have informed policy decisions.

Citizen Learning

The RFLL process fostered different types of citizen learning, with participants acquiring new knowledge and information through their participation and discussion. These findings confirm that citizen engagement can play an important role in stimulating citizen learning. Different types of cognitive learning were highlighted as participants gained new knowledge and understanding on a range of different topics. Firstly, the RFLLs cultivated LEC awareness, knowledge, and understanding of sustainability transitions. Secondly, dialogue with policymakers improved their knowledge and understanding of sustainable transition policy goals and objectives; 3) interactions with other RFLL participants exposed them to different individual and community perspectives on sustainability transitions, thereby advancing their knowledge and understanding of alternative positions on the topic; and 4) through participation in a policy co-design process they gained new knowledge and understanding of policymaking and the role of citizens in policy formulation. The interconnection between cognitive learning and participant capacity building is less clear, with mixed responses on the extent to which new knowledge and information enhanced participants abilities to engage in future sustainability policy dialogue and processes.

The findings are more ambiguous on the extent to which this new information and knowledge fostered normative learning on sustainability transitions amongst RFLL participants. Normative learning is a nuanced concept whereby interactions and dialogue between citizens can stimulate a change in mindset and cultivate a stronger sense of community. Some RFLL participants noted their thinking on sustainability transitions was influenced or altered through cognitive learning stimulated by listening to the different perspectives presented by other participants. For example, the RFLLs in Katowice brought together older and younger members of the mining community who both noted that the way they looked at and considered sustainability transitions was altered upon hearing the views of others. Other participants noted that the RFLL process helped LEC members identify shared perspectives around sustainability transition challenges and opportunities. This indicates a degree of normative learning supported by RFLL participants building a common community position on sustainability transitions reflected in co-designed policy recommendations. This perspective was especially evident in the Norrbotten case where participants noted that the RFLLs created a stronger sense of community which strengthened rural networks. Alternatively, other LEC members noted that the RFLL participation had little impact or change on their sustainability transition positions. These participants had high levels of knowledge on the topic and strongly held views on policies and policymaking at the outset of the RFLLs. This suggests that the capacity for normative learning is influenced by preexisting knowledge levels and the strength of current perspective.

These findings indicate that further research is needed on the different types of cognitive learning fostered through citizen engagement and the extent to which cognitive learning enhance citizen skills and capacities to contribute to ongoing and future policy debates and processes. Further exploration is also needed on the relationship between cognitive learning and normative learning. Inter-community cognitive learning appeared to be an important driver of normative learning as participants changed their mindset upon listening to and understanding the policy positions and

perspectives of others. Finally, the relationship between learning and other RFLL criteria needs further examination, as the findings highlight learning as a cross-cutting criteria that acts as an important enabler and driver for increasing social capital, adaptive capacity, resilience, and empowerment.

Affective Communication

The semantic and terminological complexity and ambiguity surrounding sustainability transition policies has the potential to create communication barriers between policymakers and citizens. Communication barriers surrounding RFLL concepts and terminology were reported by participants. Participants identified some small terminological barriers relating to both sustainability transition policies and core concepts associated with the RFLL process; for example, the notions of "probable futures" and "preferred futures" were regarded as abstract by participants in Stara Zagora region, whereas participants in the Lusatia RFLL found language relating to place-based policymaking difficult to understand. The use of incomprehensible language and abstract terms creates a barrier to citizen learning and enhanced understanding. These findings highlight the importance of policymakers communicating policy using a language that is easily understandable for citizens. Similarly, researchers need to ensure that the language and semantics associated with citizen engagement tools is comprehensible to participants. On this later point, RFLL participants did express appreciation for the efforts of RFLL facilitators to make language more accessible by explaining key terms at the start of the labs or providing conceptual clarifications when needed.

The findings also highlight communication barriers on the side of RFLL participants. In Katowice, RFLL participants pointed to personal difficulties communicating their opinions and perspectives affectively due to their own limited vocabulary and language skills. Such participant communication barriers can only be overcome through affective facilitation within the labs. Here, RFLL facilitators play an important role in helping to interpret participant perspectives accurately and objectively without interference from their own subjective biases. This can be achieved by repeating the point back to the participant and giving them an opportunity to validate the interpretation or respond again in case of misrepresentation.

Affective communication also relates to understanding regional and local identities and values by ensuring that language used in citizen engagement activities is adapted to different contexts and specificities. Tailoring language to the local context is vital for attempting to bridge technical policy or academic discourse with local realities. Across the RFLL case regions, participants thought that the language used in the labs was regionally grounded. Participants in the Norrbotten and Lusatia RFLLs noted that this was achieved by using regional and local policy examples, framing information in relation to everyday citizen challenges and concerns, or adapting language to lived experiences familiar to participants. Practical examples were deemed more comprehensible to participants than using conceptual terminology associated with place-based policies or territorial assets. This confirms the importance of limiting the potential for communication barriers and language misunderstandings by avoiding academic and policy jargon in citizen participatory settings.

8. Conclusion

The citizen assessment of RFLLs outlined in this report highlights the positive benefits of proactively engaging citizens in collaborative policymaking processes. The RFLL experiments have shown that citizens from LECs have both the capacity and willingness to contribute local knowledge and ideas to policy co-design processes. Furthermore, the RFLLs indicate that citizen engagement, based on non-hierarchical, open, and inclusive dialogue, can produce significant impacts in relation to fostering citizen social capital, learning, empowerment, and resilience. Moving forward, these findings have significant implications for the different stakeholders involved in Just Sustainability Transition policymaking processes, including societal actors, policymakers, and researchers.

Proactive citizen engagement brings important benefits at the societal level. A key outcome of the RFLLs was that participants emphasized that involvement improved their awareness, learning, and understanding of sustainability transition topics, policies, and policymaking processes. Enhanced citizen knowledge and understanding gained through participation in the RFLLs is a crucial foundational block for building regional social capital, empowerment, and resilience. Citizen learning, therefore, becomes an important driver of societal capacity building, enabling citizens to participate in policymaking processes and adapt to new policy challenges and opportunities. Open discussion and dialogue in the RFLLs also cultivated social capital both within and between different LECs, which has the potential to strengthen regional network connections. High levels of social capital can improve collaboration both within and between communities, which can potentially strengthen the position of societal groups in the process of lobbying and persuading EU, national, regional, and local policymakers.

The societal benefits of citizen engagement are wide ranging but also short-term in nature due to the ad hoc nature of citizen consultation processes. Here, societal groups and NGOs play an essential role in maintaining and maximizing these societal benefits by facilitating long-term and sustainable citizen engagement processes. This can be achieved if societal groups and NGOs: 1) build and strengthen connections with policymakers at the regional and local level to ensure high levels of participation in citizen consultations early in policy formulation processes; 2) work with researchers in local universities to increase their capacities and skills to build and facilitate citizen engagement processes; 3) regularly facilitate citizen dialogue around existing policies and newly emerging policies; 4) consistently reevaluate citizen policy positions in light of new policy and regional contextual developments.

For policymakers, the potential benefits of citizen engagement outweigh the costs, therefore, policymakers must facilitate regular collaboration and dialogue with citizens. The RFLLs have shown that citizens can successfully engage in policy co-design processes, which can improve the quality of policies by ensuring that they address regional issues and citizen needs, while also strengthening citizen support and acceptance of policies. More importantly, the RFLL findings indicate that open discussion and policy co-design processes can build the connection between policymakers and citizens, especially in regions where there are lower levels of citizen trust in policymakers. Policymakers became more accessible and relatable to citizens through face-to-face meetings and dialogue within the RFLLs. These discussions improved citizen awareness and understanding of what policymakers were trying to do and achieve in their regions. This was reflected as a key outcome of the RFLLs, namely that participants felt strengthened in their own positions and gained useful knowledge, but they also had low expectations for concrete policy change.

For sustainability transition policies and plans to succeed, they must be inclusive, territorially sensitive and mobilize LEC communities. Strengthened relationships between policymakers and citizens are also key to tackle mismatches in expectations, priorities and lack of trust between actors involved. Levels of citizen trust in EU and national level policymakers are especially low, so they can benefit from creating platforms for citizen dialogue on issues of regional and local importance. In contrast, levels of citizen trust are currently higher in regional and local policymakers, so they can utilize citizen engagement processes to strengthen their position in multi-level governance policy negotiations by building a critical mass of citizen support behind regional and local policy priorities. Policymakers can maximize these potential benefits of citizen engagement by: 1) building platforms for citizen dialogue focusing on underrepresented and least engaged communities; 2) ensuring that citizen consultation occurs at the policy formulation stage so policies better address citizen concerns and needs; 3) working with researchers at local universities to increase their own knowledge, skills, and capacities in relation to different citizen engagement tools.

The RFLL process can play a vital role in supporting regional and local authorities, NGOs, and societal groups in the design, implementation, and evaluation of citizen engagement tools. Policymakers, academia as well as other interest organisations that involve citizens in participatory processes can learn from the views of RFLL participants outlined in this report in relation to keeping the structure and methodology of citizen engagement tools simple and uncomplicated, using language and communication comprehensible, and the importance of linking policy discussions to regional context and specificities. The results of citizen engagement processes are rarely evaluated from a citizen perspective, which makes the RFLL monitoring and assessment criteria a unique element of the RFLL experiments. The RFLL monitoring and assessment criteria provides a benchmark for future citizen engagement experiments assessing citizen learning.

Researchers can support effective citizen engagement activities by 1) enhancing the knowledge and capacities of policymakers, NGOs, and societal groups to use different citizen engagement tools; 2) identifying the expected impacts of participation on citizens and developing measurable evaluation indicators for assessing these impacts; 3) conducting focus groups and interviews with citizens to evaluate the impacts of participation; 4) reporting and communicating the results of the citizen assessment to improve future engagement processes. These actions should be embedded in close collaboration between policymakers, researchers, civil society, and citizen groups to ensure inclusive, evidence-based policymaking that builds trust and integrates diverse forms of knowledge.

The results outlined in this report only provide a snapshot of participant perspectives on the impact of the RFLLs on citizens and it would be interesting to conduct long-term reassessments to see how these learnings have influenced participant perspectives and actions over time. Moving forward, further research is also needed to explore the interrelationship between the different expected impacts of citizen engagement tools; for example, enhanced social capital and learning are key variables for empowering citizens and enhancing adaptive capacity and resilience. Exploring these interlinkages from a citizen perspective would shed further light on the cause and effect of citizen participation processes.

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