REPORT ON STAKEHOLDER WORKSHOPS AND KEY RECOMMENDATIONS FOR POLICY D.1.4.1/D1.4.2

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PART 1 – SUMMARY OVERVIEW

INTRODUCTION

This report captures the learnings from HYBES Activity 1.3 'Consultative Stakeholder Workshops' involving the delivery of local stakeholder engagement workshops.

It provides more detail on the in-practice insights from partner regions experience of the initial phase of work to deliver stakeholder workshops. It captures the existing arrangements of the regions - creating a baseline current state view for realising research, learning and innovation in an open innovation (OI) ecosystem and with reference to the 3-layer local Living Lab Model outlined in the HYBES Report *'Living Labs Model as a Tool to Facilitate Behavioural Change for Decarbonisation'* (D1.3.1).

In so doing, it records and reflects on the activities and learning of this phase of work, oriented around the task to deliver stakeholder workshops as a start-up action for refining a HYBES Living Lab Model (HLLM). This reflective learning serves as part of the validation process and iterative development of the HLLM.

Further, it considers the evolution of activities towards next steps for the HLLM and integration of activities connected to other project deliverables. A particular focus is placed on the emerging opportunities for inter-regional learning and identification of application and functions to advance wider project ambitions, deliverables and policy recommendations.

DESCRIPTION OF ACTIVITIES

Over the last eight months, each regional partner progressed work on initiating stakeholder engagement in their local contexts. This has been formative work for understanding and creating learning for refining the HLLM. The activity has seen partners prioritise local areas of focus and progress work to align and position the HLLM within the local context. It has resulted in a more thorough understanding of the respective existing arrangements in their regions.

The work began with stakeholder mapping and local groundwork, giving consideration to how the HLLM activities could complement and create added value and impact in the local context.

Each region delivered at least one stakeholder engagement workshop in line with the deliverable, however in practice there were multiple points of engagement with stakeholders as the practical considerations of mobilising engagement across the quadruple helix was explored and progressed. Over this period local partners advanced the activities in consultation with task lead (UCC) through one to one meetings, and two project team workshops.

At project level, partners reported out from their activities through written reports (included in Appendices), verbal updates to task lead (UCC) and presentations at a dedicated in-person sessions during the project team meeting in Umeå in February 2024. This reporting out from local activities informs and contributed to the development of this report.

During the in-person sessions in Umeå, partners presented and reflected on the delivery of their own local activities and workshopped opportunities for mutual learning on the HLLM based on their experience of implementing initial stakeholder engagement activities in their region. Additionally, partners discussed the HLLM with respect to its interaction with other project deliverables including co-creation cafes, cultural festivals and events as platforms for awareness and the development of the mutual learning framework for HYBES.

DEVELOPING GUIDING PRINCIPLES

This phase of work involved initial actions to investigate and refine the HLLM. It was determined that there was a need to work flexibly and experimentally, as partners began to situate the work in their respective regions. The Core Principles outlined in the HLLM report anchored the efforts, to guide a common approach across regions, whilst allowing each partner to work flexibly within their own local contexts.

The six core principles that were set out to in the original HLLM model underpinned the direction of travel whilst allowing for local specificity and application. They were established to support the full duration of the HYBES project. They are subject to iterative development as part of the continuous learning journey to refine the HLLM. Their continued application in the development and delivery of the HLMM will remain a core axis for validating and refining the model, towards final project outputs and deliverables, including towards developing Guiding Principles as a component for the later deliverable for a 'Guide to deliver the Living Labs model as a tool to facilitate behavioural change for decarbonisation'.

Below, we outline how the first activities of this phase of work have been formative for mobilising work aligned with these and informing the in practice application of these as potential guiding principles for a future toolkit.

Embedding place-based approach to develop local knowledge and open innovation management.

Through this phase each region has identified a geographic focal point for initiating the HLLM. Partners were given flexibility to choose to focus on neighbourhood, district or wider regional area as suitable to their local contexts. This allowed partners to align their efforts with other local strategic development opportunities; to practically focus their start-up actions and efforts (investigation of current conditions, stakeholder mapping etc) and position the work to optimise local relevance. In practice this often required and involved dialogue with multiple stakeholders to determine the most applicable and relevant geographic focus to begin activities.

It becomes evident that the choice of 'place-based' application is a strategically important decision in terms of situating the HBLL within existing policy, projects or planning developments in the region. Over these this period, project partners have significantly progressed dialogue to kick-start and mobilise an impactful trajectory for the HLLM to be embedded in their regions.

In all instances, the choice of geographic location means that that the engagements undertaken during this phase of work have already actively demonstrated added value in contributing to the wider decarbonisation efforts and work underway. This is considered a key success and critical first phase work in mobilising early support and ownership with priority stakeholders locally.

Across the regions there is an interesting mix, range and scale of place-based approaches – at demonstrator site, neighbourhood, new district and region level. It is considered that this variation will lend itself to rich mutual learning for replicability or applicability of interventions at different levels and in diverse situational contexts, i.e. what works well where and why.

Demonstrating enhanced citizen engagement and collaborative participatory practices through locally determined measures of change.

Whilst this principle becomes more relevant in the next phase of work to plan and develop local interventions, this first phase builds the critical foundational work for understanding the 'current state' in relation to citizen engagement and collaborative participatory practices already underway.

The mapping of existing arrangements considers the partners past project experience and their area of focus for refining the HLLM. It provides a baseline current state view of the local eco-systems within which the partners are operating. From here, it becomes possible to identify relevant and locally specific interventions that can add value and enhance citizen engagement, participatory practices and local collaboration structures.

Additionally, this first phase of work provides a first view of diverse stakeholder perspectives on the local strengths, opportunities and aspirations. This is important first step dialogue towards evolving potential interventions that authentically respond to local needs and opportunities, that are jointly identified and determined with local stakeholders.

Employing a partnership approach with quadruple helix stakeholders for steering and driving local-led change that generates local value for all stakeholders.

Recognising that a critical feature of the HLLM is to engage across the quadruple helix (QH), each partner region sought to progress activities in ways that could best support activating meaningful engagement across the QH in the context of longer term HLLM opportunity. The work undertaken reflects local considerations for this and bring to light risks, barriers or challenges that are critical for supporting engagement across the QH for HLLM success.

At this stage, we note that the first iteration of the HLLM (D1.3.1) proposed that the next phase of work would see each region establish a QH steering group and that this group would undertake a Theory of Change logic model to progress work to determine local interventions. In this context Theory of Change is considered as an advanced good practice approach for macro level living lab activity - building QH partnerships that enable co-ownership for driving and developing change measures.
Recognising the real-world applied learning from the first phase of work, we recognise that this may not be the most suitable course of action for partners to advance their local efforts at this stage. This reflects the experience that:

(a) there is a priority need for first advancing early capacity building across silos and/or with potential stakeholder actors that might be suitable steering group members in the longer term,
(b) the Theory of Change approach requires a substantive degree of training/capacity building with steering group members, which may requires a deeper investment of resources or buy-in from local actors than is realistic at this early stage.
(c) in some cases, there are existing fora for QH collaboration in the region (and in some instances using living lab approaches) and therefore the HYBES project should advance as part of the local eco-system rather than establishing new structures that could detract from, or negatively impact on existing local conditions.

A simpler logframe matrix is proposed as a more fit for purpose tool as a results framework, retaining the ambitions for alignment with the OECD Impact by Design. Theory of Change will continue to be considered as best practice model that partners can consider progressing towards as the HLMM evolves, reviewing is suitability and applicability in their diverse contexts.

Cultivating an assets-based approach to community engagement and development and a challenge-based approach to innovation.

At the outset a common agenda was proposed for regions to plan a workshop that would engage with quadruple helix stakeholders concurrently in a single event. As local planning progressed, and situational contexts became clearer, it was understood more flexibility was required in terms of how partners initiated, framed and structured the format of their local engagements.
As a start-up action, partner regions were invited to work flexibly with planning and delivering the local content of engagement discussions, focussing on any aspect under the broader umbrella thematic focus and common challenge theme: 'Engaging Communities in Decarbonisation: Building capacity for citizen and community engagement for decarbonisation'.
This was with a view that it provided local autonomy to determine the most appropriate way to initiate activities in their local context and through applied action learning, evolve to identify specific opportunities to enhance and build capacity through their region and in line with the HYBES project ambitions.

To support this, each partner sought to integrate core ingredients of the common agenda into this phase of work, namely:

(i) to gather multi-stakeholder perspectives with consideration to QH
(ii) to map existing arrangements and
(iii) to identify local strengths, opportunity and aspirations.

In this way. each region delivered engagement activities that resulted in insights contributing to two key objectives for this phase of engagements, namely:

a. to locally map assets to better understand existing arrangements in the context of their place based approach and
b. to harness insights around stakeholders perspectives on local strengths, opportunities, aspirations to inform that might be focussed on going forward.

This led to local divergence in approaches, but has ultimately created a deep contextualised approach to situating the work and presents significant opportunity for refining a HLLM that recognises the complexity of application in diverse real-world settings.
It has positioned for HYBES HLLM activities to build on and with existing local strengths and assets, and oriented towards a common overarching challenge theme, with related specific local challenges emerging around which interventions can be identified.

Creating distinctive pilot actions and knowledge development for:

a) building capacity for co-creation,
b) energy efficiency modelling, analysis, management, and monitoring,
c) the development of new and alternative fossil fuel replacement technologies.

Alongside the work of HBLL to activate stakeholder engagement, each partner region is progressing their work programmes under other project deliverables and demonstrators, developing knowledge and learning for (a) and (b) above. In many cases this work also involves engagement with stakeholders.

In the first instance the HLLM stakeholder engagement workshops did not seek to specifically be connected with these project activities, though this was optional for partners. Rather the HLLM workshops sought to take a wider lens on the existing arrangements for engaging communities in the decarbonisation transition, to examine the potential for identifying local pilot actions focussed on knowledge development for building capacity for co-creation approaches for citizen and community engagement for decarbonisation.
These activities developed essential baseline knowledge for building capacity by recognising existing collaboration and engagement structures in the region. Additionally each region has identified a high level direction of travel and areas of for progressing to the next phase, namely to identify some pilot action/interventions for building capacity for co-creation. Pilot actions and knowledge development for (b) and (c) are considered in the next guiding principle.

Creating mutual learning and sharing knowledge and insights for generating inter-regional value and impact.

During project team meetings in Umea, partners discussed and proposed next steps for developing mutual learning considering the proposed 'Living Lab Framework for a Knowledge Based Eco-System in HYBES' outlined in D1.3.1 and considered in Section 4 of this report. This specifically focusses on inter-regional and cross deliverable knowledge development to support innovation or capitalisation arising from pilot activities delivered across the diverse aspects of the HYBES project.

Session discussions workshopped initial opportunities for mutual learning and inter-regional exchange for some activities under WP1 and WP2. In next steps, further dedicated sessions will similarly explore opportunities for mutual learning across other project deliverables. A first draft Partner Mutual Learning Matrix has been established (see section 4 of this report) to provide a scaffold for evolving the opportunities for mutual learning between regions. It is envisaged that this will evolve iteratively and support inter-regional knowledge development and feed into project deliverables and outputs, including the capitalisation plan and the development of guidance documents or policy recommendations.

Through this the HLLM aims to articulate the hybrid value and complementarity of co-joining activities and interventions for capacity building with citizens and communities with other project activities focussed on the energy efficiency and renewable solutions. This next phase of work therefore will support and enable integrated thinking for the HLLM at inter-regional level and locally at a macro level, where living labs are

understood to be acting to broker knowledge transfer between local organizations and leveraging existing networks and assets to create a locally relevant change model.

During this phase of work partners have identified needs and opportunities for mutual learning, and have already begun work to identify examples of best practice which can contribute to knowledge transfer, capacity building and the development of knowledge-based resources such as tools, toolkits, models for replicating good practice.

REFLECTIVE PRACTICE LEARNINGS

The purpose and focus of reporting back from regions is not solely on workshop outputs and insights, but importantly also on the reflective practice of partners experience in initiating the HBLL and mobilising this phase of work. This reflective learning on situating the living labs and engaging stakeholders to work together to identify local assets and understand potential key local challenges creates valuable practical knowledge for a start-up phase of applying the HLLM - establishing solid foundations upon and around which open innovation efforts can be meaningfully oriented within diverse local contexts.
Importantly the reflective practice contributes to a wider body of research, policy and practice for the professionalisation of public participation practitioners and societal engagement methods that responds to the European Green Deal (2020) and Renewable Energy Directive (2018/2011/EU) recognition of the integral need for citizens to participate in the energy transition.

In practice, mobilising living labs requires deep capacity building, working within a local eco-system to nurture the key elements of a living lab, to support local actors knowledge exchange and collaboration, and to devise meaningful interventions that foster co-creation and open innovation among key actors in the quadruple helix. The work to refine the HYBES living lab model in the partner regions is supported by recurrent collective reflection and continuous mutual learning with the HYBES project as regional partners situate their work within the multi-actor contexts of their local places.

This first phase of work to initiate stakeholder engagement workshops is a significant and formative body of work for the HYBES project. Working through the practical first steps of identifying a focal point, mapping stakeholders and preparing for engagement, surfaced the type of considered work, practices, and associated issues and challenges, involved in applying living labs as a model for 'open innovation eco-systems based on a systematic co-creation approach that integrate research and innovation process in real life communities and settings' (D1.3.1 Working definition of HYBES Living Lab Model).

We include this section therefore to provide a high level synthesis view as reflective practice of key learnings experienced during this phase of work contributing to refining the HLLM and contributing to the longer term deliverable to ultimately develop a 'Guide to deliver the Living Labs model as a tool to facilitate behavioural change for decarbonisation'. These are discussed below under the three headings:

1. For living labs approach to ensure meaningful engagement and relevance, a significant pre-engagement period is required for project information sharing, mobilising buy-in and strategic positioning and alignment in local context;

2. No one size fits all when considering start-up actions to initiate living lab model across the quadruple helix. More critical is the situational work for stakeholder engagement to authentically identify how to add value to existing local efforts.

3. Start-up actions are initiators - that kickstart a longer durée for evolving the focus and refining the locally relevant ambition and application of the living lab model (supported by next phase of work to refine logic model for determining local measures of change and identifying and monitoring interventions over the duration of HYBES).

4. Evolving living labs will benefit from project partners development of a structured approach for mutual learning to inform policy recommendations.

For living labs approach to ensure meaningful engagement and relevance, a significant pre-engagement period is required for project information sharing, mobilising buy-in and strategic positioning and alignment in local context

As regions began to practically plan stakeholder workshops, it became evident that the project would have to be cognizant of existing work underway in their region around particularly pertinent local policies and development plans. In many cases additional one to one meetings and discussions had to take place internally and with key actors in the region to introduce them to HYBES and the living labs opportunity, to inform plans or build support with critical decision makers/programme owners. Internal workshops were identified as being required to ensure long term success.

Similarly, the refinement of initial focus required a thorough understanding of recent or current engagement, some gathered pre-workshop and some gathering through workshops. Detailed consideration had to be given to the local approaches to avoid duplication or working at cross purposes with existing fora and programmes of engagement already underway in the region.

The experience locally was that the planned time-line for delivering workshops was strongly influenced by this nuanced understanding of the local context and wider processes, and stakeholder workshops were deliberately strategically aligned to add value and positively contribute to existing efforts. Whilst this led to later delivery of workshops in some regions, or divergence from the initial approach planned, it has ultimately been a key success of this phase of work that partners have successfully anchored HYBES living labs in local strategic planning and policy contexts, positioning them for optimal longer-term engagement and impact.

- Bodø workshop and living lab activities were positioned to be embedded in formal municipal process for planning and development of a new city district. The city district is being planned as a zero emission neighborhood, involving (among others) solutions for energy, mobility, nature and constructions. This phase of work enabled co-creation activity as part of wider planning study underway and being delivered by an independent external consultant.
- Cork workshop and living lab activities kick-started new cross-silo working within the municipality and co-creation workshops secured buy in and clarity of focus for HYBES living lab to support enhanced approaches to community engagement, aligned to strategic ambitions of new climate action policy, new roles and the early dialogue around a dedicated decarbonisation zone in the region.
- Umeå workshop and living lab activities are embedded in a designated decarbonisation zone and a selected district chosen to test a bottom-up perspective on how decarbonisation is to be achieved. Demonstrating a new collaboration between municipality, university and housing body, the activities mobilised a collective ambition and mutual support for bottom-up district transformation and became a catalyst for ongoing joint meetings, marking a significant step towards unified community efforts.
- Orkustofnun, Iceland embedded its focus on the region-wite potential for solar energy as a key gap and opportunity space for the region. It identified a key focus for interventions in Akureyri, such that this supports the HLLM positively contributing to existing efforts and optimises potential impact on wider policy development.
- Faroe Islands HLLM activities are focussed on the long-term ambition for island-wide engagement around decarbonisation through innovation of sustainable energy systems, centred on alternative sustainable energy systems (heat pumps) in real-life community settings. This first phase focusses on a major localised test-bed project, the 'Lorvík Project' in Torshovan which includes schools and which aims to serve as a key demonstrator with potential for replicability and applicability throughout the islands.

No one size fits all when considering start-up actions to initiate living lab model across the quadruple helix. More critical is the situational work for stakeholder engagement to authentically identify how to add value to existing local efforts.

Whilst the initial proposal envisaged a stakeholder workshop which would convene a wide range of external stakeholders across the quadruple helix, it became evident that this was not an appropriate first action or approach

for some partner regions. Based on the stakeholder mapping and strategic positioning, all regions undertook stakeholder workshops that targeted representation from each of the quadruple helix; adapting the approach as considered most suited to their current context. From the variation in approach, it is evident that:

- Situational context, including breadth and scope of purpose inform the interaction design for workshop engagements. Through these first workshops activities, partner regions approaches are experimentally divergent as they orient and position the focus of their local living lab model for longer term success.
- Early engagement may require in-depth internal collaboration in the first instance, to connect across municipal or university departments, before engaging with external stakeholders;
- Targeting specific sectors separately may be important/suitable where engagement is aimed at supporting in-depth explorations linked to statutory planning and development of scale to ensure diverse stakeholder needs and interests can be substantively explored;
- The existing strength of networks and collaborations of initiating partners can inform how easy or hard it is to secure engagement across the quadruple helix. For example, where one partner had existing strong community engagement and weaker business engagement, the opposite was true for another partner. This generally reflected the existing strengths of relationships between the project initiators and the target group, and where the type of organization initiating the process (e.g. municipality, energy agency) is a factor informing their relationships in the existing eco-system.
- Partnerships and collaborations as co-owners/initiators for events can be an important success factor for establishing trust and open dialogue. For example, housing association collaborations can bring trusted relationships and networks, or independent consultancy and facilitation can ensure municipal actors can participate as peers.
- Duplication of effort, stakeholder fatigue or not working in alignment with existing fora or interfaces for engagement is consistently identified as the most critical risk.

Start-up actions are initiators - that kickstart a longer durée for evolving the focus and refining the locally relevant ambition and application of the living lab model (supported by next phase of work to refine logic model for determining local measures of change and identifying and monitoring interventions over the duration of HYBES).

During this development phase, partner regions refined the focus for application of a living lab approach in their local context, particularly identifying key opportunity space. Further work however is needed to (a) develop and define the local formulation for applying the living lab model approach and (b) to express the relationship between this with the wider HYBES deliverables. From the variation in approach during this first phase, we observe lessons for evolving from start-up actions at this juncture:

- Where start-up actions have been positioned as part of broader execution of development planning processes; living labs can evolve towards getting more concrete and narrowing down scope and purpose with clearer direction towards decarbonization.
- Where start-up activities have been positioned to mobilize bottom up neighbourhood collaboration, living labs can evolve towards integrating bottom up efforts with top-down support and alignment with broader strategy.
- Where start-up activities have been positioned to better cohere, advance or add visibility and value to the existing range of actors and efforts, living labs can evolve towards building wider engagement across the quadruple helix.
- It will be timely for local living labs to develop strategic partnerships, through the proposed next steps for determining a set of local interventions. This can particularly support and strengthen opportunity where start-up activities have identified challenges or gaps in engagement with particular groups across the quadruple helix,

- It will be timely for local living labs to evolve towards clarifying what change they hope to affect and developing an action focused plan to identify key activities or local interventions which could be undertaken during the lifetime of the HYBES project and informing the refining of HLLM.

- Evolving living labs should can generally take a more concerted focus on inclusion and reaching marginalized groups and seldom heard voices in the future..

Evolving living labs will benefit from project partners development of a structured approach for mutual learning to inform policy recommendations.

In the most recent partners meeting, and based on shared learning and exchange on the local stakeholder workshop, partners began to identify areas for mutual learning arising across living labs topics including best practice transfer, social inclusion, skills and knowledge transfer, researcher mobility, access to funding, and industry/academia engagements and impacts on policy development. Initial progress was made in mapping these and the group decided a dedicated session for completing this would be useful and towards developing a structured approach for operationalising joint learning, activities and outputs.

- It will be timely for local living labs to benefit from this joint development of a structured approach at consortium level for inter-regional mutual learning. This will support partners ongoing work and combined project efforts (to test, pilot, demonstrate and innovate as embedded in work packages) and to be expressed in terms of collective value and the project ambitions to realise:

    - jointly created knowledge-based tools and activities,
    - promotion of improved energy efficient solutions,
    - promotion of decarbonisation opportunities,
    - capacity building for engaging citizens as positive actors in achieving carbon neutral goals.

- First phase start-up activities require deep situational work and have limited opportunity to realise concrete policy recommendations. However, these formative activities to embed and position activities in local policy context is critical to evolve meaningful policy recommendations that can emerge from applying living lab model and approaches.

- At local level, the development of a mutual learning framework can support local actors to identify more specific policy contexts relevant to their real-world situated HLLM and subsequently identify where and how the knowledge based research, learning and innovation activities can be translated to policy recommendations.

BENCHMARKING – BASELINE

In refining the HLLM, we are interested in testing and understanding 'Living Labs Model as a Tool to Facilitate Behavioural Change for Decarbonisation' (D1.3.1 Report). As outlined in this report the HYBES Living Lab model acts to enable research, learning and innovation in an open innovation (OI) ecosystem and with reference to the 3-layer model introduced by Dr Dimitri Shuurman in 2015.

In this report on stakeholder workshops, we use the three layered model as an 'ideal state' benchmark tool and point of common reference for the regions in relation to acting to broker, enable and embed quadruple helix engagement and enhancing community/citizen engagement and participation in decarbonisation transitions.

Drawing from the first stakeholder workshops, we provide a short commentary of the 'current state' view of the existing arrangements in each region. This provides a first baseline upon which the evolving HLLM activities can refer when planning interventions to enhance, add value and build capacity in the context of a local eco-system. The by region baselines are included in Part 2 of this report. From these the HLLM model will evolve activities in their local contexts and as a project collective to inform the longer term project deliverables and ambitions.

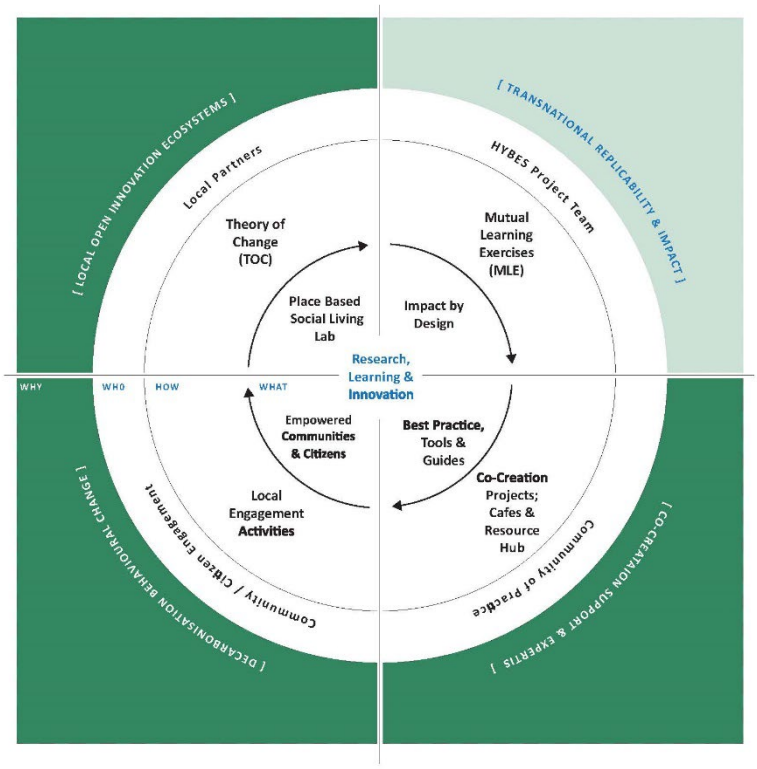
Ideal State perspective of the HLLM	Current State commentary informed by:
At a macro level living labs act to broker knowledge transfer between local organizations and leveraging existing networks and assets to create a locally relevant change model.	Local work and workshop discussions around Reviewing Existing Arrangements and understanding the local context and framework conditions. Considers QH actors co-ownership of change agenda/decision making and relationship to local planning/policy contexts..
At a meso level Living Labs act to enable multi-method and multi-stakeholder engagement and real-life experimentation.	Local work and workshops for mapping assets and SOAR (Strengths, Weaknesses, Opportunities, Results). Considers methods for QH actors engagement in exploring topics and defining potential spaces for experimentation in real-life setting.
At a micro level act to embed local activities and interventions that integrate good practice co-creation and contribute to citizen and community engagement in solutions to support decarbonisation transition	Emerging thinking for next steps and specific ideas for interventions that can enhance citizen and community engagement through participatory practices, co-creation. Considers ideas for types of interventions.

LIVING LAB FRAMEWORK - KNOWLEDGE BASED ECO-SYSTEM

The HLLM Framework proposed in the first report identified four areas through which the HYBES project can work to build capacity and nurture a knowledge based eco-system through its activities. In this section we provide a brief summary to outline how the HLLM model will be progress and evolve aligned to this Framework to create knowledge-based toolkit to promote decarbonisation solutions and opportunities and build capacity for citizens as positive actors in achieving carbon neutral goals.

Sphere	Stakeholders	Toolkit	Building capacity for
Local Open Innovation Eco-System	Local Partners	Results Framework (Theory of Change / LogFrame)	Place Based Living Labs
Decarbonisation Behaviour Change	Local community stakeholders	Local engagement activities – inspiring example of good practice catalogue	Empowering and promoting energy citizens and communities
Co-creation support and expertise	Engagement Practitioners Community of Practice	Co-creation café's	Best practice tools and professionalization of practice
Transnational replicability and impact	Project partners	Mutual Learning Exercises	Impact, capitalization, legacy

Living Lab Framework - Building Capacity for a Knowledge Based Ecosystem



Toolkit - Results Frameworks

During the next phase of work partners will advance local discussions and seek to articulate how at local level, they can build on the current state and identify key actions that can enhance and build capacity in their local application of the HLLM as a place based living lab considering how it acts at macro, meso and micro levels.

As noted in the guiding principles, it is proposed to move away from Theory of Change as they key tool for the project. Instead it is proposed that partners use a logframe matrix as a practical high level results framework tool, identifying three key local actions (one per level), enabling partners to identify, deliver, monitor and evaluate priority interventions as a focus over the duration of HYBES. This will be workshopped with partners at the next on site meet in September in the Faroe Islands.

Through this next phase then, we will progress the plan to validate and iterate a results framework and devise a logic model template for planning, implementing, and monitoring interventions. From this we will aim to generate critical learning on the in-practice feasibility and applicability of results frameworks in local contexts, for early stage activities and in diverse local conditions. This will inform the refinement of the HYBES living lab model and the project ambition to develop a practical guide for delivering the model as a tool to facilitate behavioural change for decarbonisation.

As the project progresses we will continue to recognise Theory of Change as a best practice method, and explore strengths of Logic Frameworks and Theory of Change as key tools for the HLLM. Importantly this will also take into account the settings of instigating actors seeking to initiate and apply the HLLM, and consider where they are located within the wider eco-system (e.g. local authority, energy agency, research etc.) as this is an important contextual factor for engaging actors across the quadruple helix, brokering partnerships, and building capacity for professionalisation of public engagement practitioners.

Interventions to enhance QH collaborations, partnerships. *At a macro level living labs act to broker knowledge transfer between local organizations and leveraging existing networks and assets to create a locally relevant change model*			
	Summary Narrative	Indicator	Means of verification
Overall Impact / Goal			
Specific Outcome			
Outputs			
Activities			
Interventions at programmes / projects level in region or community. *At a meso level Living Labs act to enable multi-method and multi-stakeholder engagement and real-life experimentation.*			
	Summary Narrative	Indicator	Means of verification
Overall Impact / Goal			
Specific Outcome			
Outputs			
Activities			
Interventions that directly engage individuals, citizens and neighbourhoods. *At a micro level act to embed local activities and interventions for co-creation, citizen and community engagement in decarbonisation transition.*			
	Summary Narrative	Indicator	Means of verification
Overall Impact / Goal			
Specific Outcome			
Outputs			
Activities			

Toolkit – Local Engagement Activities Catalogue and Co-Creation Cafes

Project partners have already begun to identify existing examples of good practice around local engagement activities and will continue to develop activities and capture learnings as they evolve the HLLM activities. Over the next phase of work, inspiring examples of good practice will be collected into a thematic catalogue. These will align with the mutual learning process and areas of focus, and be developed in tandem with the delivery of three Co-Creation Café's. The catalogue will be suitable for wider dissemination and knowledge sharing for empowering and promoting energy citizens and communities

Co-Creation Café's will run as three online workshops, open to engagement practitioners in the partners regions and drawing from the wider collaboration, partnership and co-operation being established at local level. Their content will focus on professionalization of practice for engagement practitioner; supporting praxis based know how for co-creation and engagement. Their content will be aligned to the evolving HLLMs across partner regions. These sessions will share pertinent best practice and support co-learning for the community of practice actively engaged in the HYBES local activities. The Best practice showcase presentations will be recorded and made available on the HYBES website as resource tools for practitioners.

What:	Online 1 hour Co-Creation Praxis Workshops
For Who:	Key stakeholders involved in local actions (Target 30 participants)
Dates:	To Be Agreed (2025)
Content:	• Showcase of Best Practice in Action • Workshop Co-Learning for Co-Creation Skills/Tools/Methods
Example Topic	Transport and Green Spaces for Neighbourhoods • Example showcase: Positive Energy District / Sustainable Energy Community • Workshop sharing and co-learning on practical tools, methods, examples of engagement (local engagement with focus on cycling, buses, community gardens - mobile apps, funding approaches, schools engagement, creativity etc.)

Toolkit - Trans-national Mutual Learning Matrix

Whilst the Catalogue and Co-Creation Café's are focussed on tools and praxis for engagement, more broadly there is a need for project partners to reflect on the mutual learning arising from the unique value of HYBES as a multi-regional project. This sphere is focussed on the overall project, its impact and legacy and realising opportunities for capitalization for a sustained legacy.

Using a Mutual-Learning Matrix the next phase of work will identify opportunities for mutual learning arising from the work packages and aligned to the HLLM topics identified. This will be done through dedicated working sessions with partners. This Matrix will be further evolved with and through project work to advance the Capitalisation Plan as a legacy deliverable for the project.

Included below is a first draft of the Mutual Learning Matrix for WP1 gathered during this first phase and as a first iteration of a structured tool to support this work. This will be workshopped and advanced at the partners meeting in Faroe Islands in September 2024.

LIVING LAB TOPICS	WP1 – Ideas for Tran-National Mutual Learning
Best Practice	
	Community in Urban planning & development strategies - e.g. participatory planning practice, sustainable infrastructure. **Context guidance:** Feedback on HLMM activities and reviewing/learning what is scalable, adaptable across diverse contexts/regions. i.e. not just one size fits all best practice **Best Practice for Energy Living Labs** and realising change/impact
Social inclusion	
	Sites of Engagement: Community gardens and green neighbourhood spaces as environments for learning, dialogue and inclusion with marginalised groups **Funding mechanisms:** Grant models targeted for Social Inclusion e.g. Ireland Warmer Homes Initiative **Reaching Seldom Heard / Ensuring Voice:** Models for participatory practice, community engagement including for insitutionalising/mainstreaming, particularly for meeting seldom heard voices / marginalised groups. **Social Enterprise:** Social incubators and other models for social innovation
Skills and knowledge transfer	
	Housing Providers: Between housing associations and companies on building standards and practices, co-operative models, energy stewardship and conservation. **Labour Force and Skills:** Between education providers, built environment sector actors on upskilling / reskilling / jobs and labour to realise ambitions. NB Not all 'green skills' but also traditional trades and skills e.g. carpenters **Public engagement practitioners - Co-Creation Skills** praxis and know how: methods and models for engagement: what works well, where, when, why. e.g. citizen assemblies; Ideas challenges (hackathon, Umecom, Kamecom **Public engagement practitioners - Community Capaity Building** praxis and know how: How to navigate stakeholder fatigue, reach seldom heard. Building and empowering communities. Umea persona development tool example. **Public engagement practitioners - Brokering engagement** praxis and know how: Brokering, engaging and connecting with supports for susinesses especially small and micro enterprise (possible sector focus, e.g. Tourism Sector)
Access to funding	
	How are actions funded?
Industry/academia engagements	
	Energy: Postive energy districts, local energy production, efficient consumption, energy efficiency improvement and promoting renewable resources.

	Capitalise on key Funding Programmes e.g. Horizon Europe Opportunities and Examples – AA_AGORA & BioSensei **multi-disciplinary** evidence and data for public policy (engineering, cultural, social)
Influence and impacts on policy development	
	Sustainability frameworks for community driven actions and involvement in decision-making and planning. **Demonstrably embedding HLMM in key local polic**y - e.g. Climate Action Plan (Cork) **Models and practice** for engaging communities in policy development
Co-operation and collaboration	
	Pooling resources and expertise for neighbourhood/district co-operation and cost effective solutions. **EU Projects and points of leverage,** dissemination etc. e.g. BGN, Energy Islands, European Universities
Cultural festivals, creativity and craft	
	Examples of funding models or innovative partnerships for artists, festivals, creativity and craft as platforms for citizen awareness, engagement Decarbonisation in cultural programming / events management – e.g. food businesses

TOWARDS POLICY RECOMMENDATIONS

A key topic for the HLLM and Mutual Learning Matrix tool is influence and impact of policy. As noted in the reflective practice learnings section of this report, first phase start-up activities required deep situational work and in practice have limited opportunity to realise concrete policy recommendations. However, we also note that as the Baseline Reports indicate, all the local applications of the HLLM have been deeply embedded in local statutory and policy contexts. In many cases, the work done to date has already played a role in contributing to shaping emerging policy or early planning for implementing new policy. Additionally, the project team have mapped the extensive policy context of the collective work.

With this in mind the mutual learning aims to support the evolution of distinctive, discrete and concrete policy recommendations arising from the project. Through the work to develop capitalisation opportunities, the HLLM will seek to identify specific policy that HYBES can influence and impact. This may relate to regional level policy though may also consider contributions that can be made within a European policy context.

It is proposed that a final Position Paper on Policy Recommendations is produced in tandem with the final deliverables for Capitalisation Plan and 'Guide to deliver the Living Labs model as a tool to facilitate behavioural change for decarbonisation'.

PART 2 – REGION BASELINES

AT A MACRO LEVEL living labs act to: - broker knowledge transfer between local organizations - and leverage existing networks and assets - to create a locally relevant change model.	Renewable energy dominance currently supports low electricity prices in Iceland, however the implementation of solar energy has been identified as a knowledge gap and opportunity space. It is an area where there is a need for further knowledge exploration in contrast to the well advanced experience in other renewable energy solutions. Orkustofnun identified the potential for implementation of solar energy as a strategically important focal point for the HLLM that aligns with their local context and wider decarbonisation ambitions. The focus on the region-wite potential for solar energy during this phase identified interventions for the town of Akureyri. This supports the HLLM positively contributing to existing efforts and optimises potential impact on wider policy development. The early focus was on analyzing the feasibility of implementing solar energy projects in the area, considering hurdles and opportunities. In this context, the mobilisation of early local support and ownership with priority stakeholders from public and private sectors was identified as key practical requirement and focus for start-up actions. This step was considered crucial, given the limited knowledge of solar energy projects in Iceland. This first phase therefore supported critical brokering of knowledge transfer between organisations in public and private sectors with relevant expertise and decision making power, to assess feasibility before considering engagement with wider stakeholders. Early work included inputs from visiting Danish experts in solar energy projects, conducting several micro workshops in the East, North, and Reykjavík. The Danish experts compared typical solar energy projects to the operational environment of the Icelandic electricity system. As a National Energy Authority, Orkustofnun (leading actor) has many existing initiatives and demonstrably strong existing capacity to broker knowledge and leverage existing networks and assets that support decarbonisation efforts. This strength is also evident by a key success of this phase - that commitment and co-ownership for joint actions in Akureyri was secured. This was underpinned by local stakeholders determining a guiding principle to focus on delivering solid outcomes, a series of pilot projects have been identified involving private sector utility company, schools (and students), and the energy agency. This macro-level co-ownership and partnership approach does not involve a civil society organisation, however does include a citizen focus for co-creation work with second level education as an intermediary to engage students as young citizens. In this way early work to apply the HLMM approach has established strong foundations and is well positioned to support innovation and policy recommendations around the emergence of solar energy as a key opportunity space for the region.
AT A MESO LEVEL Living Labs act to: - enable multi-method - multi-stakeholder engagement	Several micro-workshops were facilitated by Danish experts on solar energy, supporting international best practice and knowledge exchange. The workshop was complemented by a living lab workshop and preparatory meeting with key stakeholders to build support for the initiative. Early work particularly considers local application within specific real-life settings and contexts (rural) and industries (tourism), engaging high seasonal energy demands in Akueyri, with the pilot actions identified that can enhance local efforts for transition. Some practical considerations of mobilising engagement across the quadruple helix emerged from initial stakeholder mapping. It was decided that in relation to the real-world context of initiating dialogue for the solar opportunity, targeting specific sectors

- and real-life experimentation.	separately would be more beneficial in the first instance for supporting in-depth explorations linked to project feasibility. Orkustofnun, Iceland's National Energy company, and Rafeyri ehf, the region's largest electrical contractor were invited to participate in the workshop while relevant municipal actors brought their expertise and insights for engaging with citizens, communities and publics. Internal actors in Orkustofnun were idenitifed as key stakeholders, specifically in relation to policy development, with the capacity to engage directly with the regulatory landscape for connecting solar energy to the electricity system, and stakeholders in Rafeyri ehf as possessing the necessary physical capacity, skills and knowledge to deliver the practical ambitions of the project. During the stakeholder engagement, key challenges were identified as environmental constraints (sunlight availability), local knowledge gaps on solar energy and existing high labour costs. Stakeholder mapping and existing good practice in the region evidence that Orkustofnun have strong capacity for multi-method and multi-stakeholder engagement in real-world contexts working across public, private and higher education sector. There are existing strong engagement initiatives with publics, schools, local businesses and a number of innovative best practice cases and examples of working with and within specific communities and collaborate with education, local businesses, residents and for example schools. There are limited collaborations between Orkustofnun and civil society organisation or arts and cultural organisations. Links with the secondary school offers strong potential for optimising the joint learning and integration with parallel HYBES work exploring 'Decarbonisation as an influencer for educational curriculum change' and 'Energy monitoring and behavioural change for educators and educational facilities (Activity 2.4).
AT A MICRO LEVEL living labs act to: - support and facilitate activities to integrate good practice co-creation - and contribute to citizen and community engagement - in solutions to support decarbonisation transition.	Specific sites of intervention were identified as several micro projects that engage across the QH, supporting and facilitating local activities. These projects have potential to add value and enhance citizen engagement, participatory practices and encourage local collaboration structures that act to further align and position the HLLM within Akureyri's local context. These micro projects will act to kick-start and mobilise impactful real-world applied co-learning, advancing local decarbonisation efforts through integration of co-creation, capacity building, enhancing citizen and community engagement. These projects include a small solar power plant next to the utility company in Akureyri (Norðurorka) to gain knowledge between solar energy production and the grid, a small power plant built by students at the secondary school, allowing students to monitor and build up knowledge in this field, and an open pilot support scheme for solar installation, set up and promoted by Orkustofnun.

BODØ – BASELINE

AT A MACRO LEVEL living labs act to: - broker knowledge transfer between local organizations - and leverage existing networks and assets - to create a locally relevant change model.	Bodø's HLLM is aligned with the strategic development of a new zero emission district as a major urban transformation initiative and supports the integration of bottom-up efforts with top-down support. A key consideration for Bodø in applying the HLLM and acting at macro-level is the recognition of strong existing fora, activities and living lab initiatives in the region. A key success of this first phase work is the deeply contextualised approach that leverages existing networks and assets to embed stakeholder workshop activities in a formal body of urban change and development work that is consulting locally on the new city district development. This situates the HLLM particularly well for impactfully contributing to local change effort and opportunity to contribute to local policy contexts. Significant local discussions and buy-in with macro-level decision makers to situate the HLLM in this urban development process has optimised the opportunity for the HLLM to add value to the broader open innovation eco-system in Bodø. During this phase of work there was high-level workshop participation, reaching to a large number of stakeholders and extensive consideration of the specific perspectives of all QH cohorts. Separate workshops for each cohort allowed for deep engagement and open and diverse dialogue. This broad and wide approach to discussions was crucial, given the scope and context of the new city district planning process. Bodø municipality has strong existing capacity to broker knowledge transfer between local organisations. Through supporting an existing planning process, the HLLM activities demonstrably added value to and enhanced existing arrangements, supporting wide engagement across the quadruple helix, enhancing collaborative participatory practices and contributing to work to ensure new city district needs and opportunities are jointly determined with local stakeholders. The output from the wider process (led by independent consultancy) will be a key tool to broker knowledge transfer between local organisations and to build support and co-ownership for potential future interventions and evolution of the HLLM approach in Bodø. Future work will refine how the HLLM can evolve now to advance a more specific change model, to embed and sustain a more specific focus on open innovation and co-creation for the decarbonisation transition within the context of this significant urban transformation project.
AT A MESO LEVEL Living Labs act to: - enable multi-method - multi-stakeholder engagement - and real-life experimentation.	Three sessions for multi-stakeholder engagement with specific QH actors were held and included: a session for internal municipal discussions, a session for academia and the private sector, and a final session open to the wider civil sector. Diverse stakeholder perspectives across the QH were captured and identified multiple strengths, opportunities, and gaps/challenges. During this first stage, it was crucial the HLLM approach aligned early engagement to the broader city district consultation and recognised the complex real-world context of this work. Workshop content enabled multi=stakeholder voices to explore the topic of this new district with zero emission ambitions, with a co-creation approach to identifying and understanding potential key local assets and challenges that align with broader strategic ambitions. These workshops in Bodø have already played a direct role in contributing to local planning and policy development, forming part of a wider independent consultancy commissioned by the municipality. The Public Sector was identified as a key facilitator for necessary changes relating to energy infrastructure (e.g.. mobility infrastructure) to realise the zero emission ambitions in the new district. A dedicated session meant they were able

	to engage as participants to the process, whilst workshops also jointly determined needs and opportunities with local stakeholders in the private and civil sector. Feedback from the workshops support future opportunities to deepen understandings of decarbonisation ambitions and advance capacity building with local stakeholder efforts through open dialogue and mutual support. There is opportunity for engagement platforms that can influence decision making in the new district, along with opportunity for enhanced citizen engagement and actions, evolving interventions for adding value and enhanced citizen engagement through participatory practices and local collaboration structures. A significant opportunity to enhance research and development ambitions within the academic sector was identified, emphasizing this as a key space of open innovation, with potential to create new future solutions across a vast landscape of research topics. The prioritising of multiple perspectives of diverse stakeholder needs and interests supports broad capacity building for enhancing positive societal impact through co-creation in the new city district. It builds engagement across the quadruple helix and contributes to unifying community interest and creating optimal conditions for longer-term engagement and impact. A strength of this first phase is the high-level participation and engagement, providing useful insights from diverse stakeholders and a deepened overall understanding of stakeholder interactions and roles. This strong engagement provides solid foundations for applying and testing how the HLLM can contribute to enabling and enhancing multi-stakeholder and multi-method engagement through real-life experimentation supporting multi-directional exchange of knowledge and resources between all QH actors. In addition to the stakeholder workshops Bodø partners have, in parallel, progressed thinking and activity in relation to the use of 'Cultural Events and Festivals as platforms for developing decarbonisation awareness' (Activity 1.6), particularly highlighting potential for engagement with craft and design. This work will inform the potential for multi-method engagement in the HLLM.
AT A MICRO LEVEL living labs act to: - support and facilitate activities to integrate good practice co-creation - and contribute to citizen and community engagement - in solutions to support decarbonisation transition.	Bodø's strategic focus is situated around social inclusion, unified community efforts and mobilising collective ambitions to foster co-creation and support local actors' knowledge exchange and collaboration to support a decarbonisation transition. During these first workshops, some specific potential sites of intervention were identified. These sites reflect the multiple stakeholder perspectives and value the active involvement of different interest groups - people who have specific needs such as the elderly, students, people with disabilities and young people. Green spaces and street-level interventions were identified as sites which foster enhanced citizen and community engagement through local knowledge exchange; whilst a shared sentiment for collaboration around prioritising social inclusion, a unification of community efforts and collective ambitions also emerged, identifying that this could be further mobilised through future activities such as, for example, urban farming. Shared functions were also identified as opportunity speaces, such as flexible heat and power systems, green infrastructure and mobility solutions, and potential implementation of sustainable energy systems (solar panels on local buildings) were identified as opportunity areas that can further facilitate social cohesion opportunities and capacity building for decarbonisation. Bodø partners have identified that next steps for the HLLM will aim to narrow down scope and focus to facilitate more specific dialogue on decarbonization and towards evolving specific interventions. This will underpin the direction of travel for the HLLM activities, co-determined with stakeholders and in the real life setting of the new city district.

CORK - BASELINE

AT A MACRO LEVEL living labs act to: - broker knowledge transfer between local organizations - and leverage existing networks and assets - to create a locally relevant change model.	The Cork County macro-level context strategically supports the future opportunity to leverage local policy, learning, research and innovation within the wider living lab eco-system and inform the longer-term development of the statutory identification of Macroom as Decarbonisation Zone (DZ) within a national policy context. In first stage engagement activities, Cork partners undertook two local workshops and additional consultations with key actors through meetings and other online correspondence. As a first phase activity it has supported the brokering of knowledge transfer between key organisations across the QH. Initial stakeholder mapping identified key local issues and considerations. In particular, internal municipal actors raised concerns relating to risks of a silo effect and a high risk of stakeholder fatigue evident through recent and existing engagement mechanisms and efforts. Following a deep process of one to one meetings and engagements, a first workshop therefore engaged 12 municipal owners, with active decision making roles, responsibility for stakeholder engagement, i.e. between the municipality and wider societal actors across the quadruple helix sector. This was a critical first step ensuring the multiple existing points of interface between diverse municipal divisions and their respective policy, programmes and existing engagement activities could be mapped and recognized in the first instance. This was timely in the wider policy context and this important workshop demonstrably contributed to the emerging environment and current imperative for cohering activities, connections and collaborations both internally & externally. A second workshop convened project team members representative of the QH to extend the discussions and bring in perspectives of community, local employment and academic contexts. Participants identified that more coherent strategic engagement at institutional level could significant enhance the region to better harness strong green credentials, disciplinary expertise, passion and will. The priority consideration for the HLLM approach in Cork is to contribute meaningfully as a key knowledge broker in the existing eco-system, to avoid duplication, and add value by better leveraging existing strengths and assets. The application of the HLLM aims to channel local strengths and identify high potential initiatives for Macroom DZ as a high impact test-bed and leading demonstrator.
AT A MESO LEVEL Living Labs act to: - enable multi-method - multi-stakeholder engagement - and real-life experimentation.	Workshops responded to a priority task to thoroughly examine existing arrangements within and beyond the local authority in terms of the interfaces, programmes and projects that were already engaging deeply with communities, business and education. This first phase HLLM activities identified that the abundance of local activities and opportunities would benefit from deeper cohesion and evidenced the complexity of the real-world context, Importantly it identified that enhanced knowledge transfer across the range of actors, supports and activities would be beneficial. Local strengths and opportunities are particularly oriented to the Climate Action Programme and HLLM alignment with the wider evolution of its new policy and programmes is considered critical to success. Existing assets include a wealth of good partnerships and networks that reach key target sectors and groups. These include schools and higher education, community groups, festivals, business, and existing initiatives and supports available to communities. Gaps identified related to the need for more coherency and visibility of different activities, the risk of a silo effect within the municipality and between local government and other public sector actors, and a concern over duplication and stakeholder fatigue, in

	particular from community feedback which indicates perceived barriers and challenges in navigating disconnected supports. Key regional level strengths, opportunities, and gaps/challenges were identified including a strong political will for the decarbonisation agenda, wider assets, that can contribute to supporting the initiative, for example across buildings, transportation, social inclusion sectors and wider (policy) frameworks. Existing drivers and efforts around twin transition was identified, with a need consider the diverse communication with communities across different interfaces and on different but inter-related issues. Strong collaborations between the public and academic sector were identified, however difficulty in initiating and sustaining partnerships can be a challenge. The opportunity to better leverage these opportunities to engage at national and EU Policy level emerged, particularly considering funding opportunities and harnessing research and researchers as key actors. Alongside the regional view, participants identified that meso-level approaches at community/neighbourhood level are valued to ensure local priorities, challenges and needs are addressed, with emphasis on social equity and inclusion, especially with often seldom heard groups. It was identified that there is an opportunity for better exchange between the local / grassroots communities and neighbourhoods to learn from each other. An upcoming report on community needs, is a key asset which provide a critical evidence base for moving forward and underscores the need to avoid duplication of effort as HYBES activities move forward. With respect to business sectors, a key issue is the time constraints for SME's/small businesses as a barrier to successfully engaging this important target group of actors. Some existing programmes and activities demonstrate successful methods for engaging with these stakeholders in a meaningful way. Additionally a focus on jobs for socio-economic sustainability in the region and the need to develop the skills for decarbonization solutions highlighted the need to implement effective skills pathways towards sustainable building. It was considered that to date there is a missed opportunity to better leverage existing assets through learning and knowledge sharing activities between and across the range of multi-method and multi-stakeholder engagement mechanisms already in place. The HLMM can work to support interventions for enhanced learning, exchange and visibility with and between meso-level activities.
AT A MICRO LEVEL living labs act to: - support and facilitate activities to integrate good practice co-creation - and contribute to citizen and community engagement - in solutions to support decarbonisation transition.	A clear challenge/barrier for citizens and communities' centers around navigating and accessing existing supports; either for effectively leveraging them for positive impact at local or individual level; or from an institutional or sectoral perspective, for mobilizing critical mass, awareness or behavior change with publics. It was also recognized that there is a broad range of ways that publics, citizens, communities are and can be participating in the energy transition and at diverse levels, at individual, community or wider societal level, e.g. from user behaviour (e.g. turning off systems). broader community or public awareness and engagement through arts or education, or initiatives for (social/green) innovation/entrepreneur supports to driving new solutions. Participant discussions were reflective of wider societal concerns, with decarbonization efforts also contributing positively to these issues. Social inclusion and communication were identified as important considerations for HLMM public/community facing activities. Some possible interventions emerged, for example the HLMM could support interventions that would make existing supports more visible and accessible to diverse actors and enhance citizen and community engagement with these existing programmes.

AT A MACRO LEVEL living labs act to: - broker knowledge transfer between local organizations - and leverage existing networks and assets	The Faroe Island partner held a stakeholder workshop in Lorvík on December 18th, 2023. It was attended by 12 participants representing the quadruple helix with the exception of academia. These were Municipality (the owner), consultants designing the heating system (industry), representatives from the buildings involved (citizens), provider of the heating control system (industry), SEV as power provider (industry), Faroese Environment Agency (public sector) as facilitator and ÍVF VV (industry) as presentation programmer. Follow-up workshops held on January 16th and March 11th, 2024 (3-4 participants) between Faroese Environment Agency and ÍVF VV on the progress of control of the heating system and presentation on a web page. In terms of macro level work and strategic positioning, Faroe Islands is engaging in a strategic island wide decarbonisation initiative. This strategy will effectively exploit excess wind energy, identified as a significant applicable and relevant geographical focal point. In initiating and applying the HYBES Living Lab Model (HLLM), Faroe Islands is focusing on a major project that plays a key role in this regional decarbonisation ambitions. The island-wide engagement around decarbonisation through innovation of sustainable energy systems is currently centred on a major localised project, the 'Lorvík Project'. This project is testing alternative sustainable energy systems (heat pumps) in real-life community settings, including schools with opportunity of replicability and applicability throughout the islands. The opportunity identified for the HLLM is to add value and act to positively contribute to existing efforts, supporting the delivery of local activities that complement this project. In particular it is considered that the HLLM can facilitating the development of a deeper understanding of the respective existing arrangements and practical considerations of mobilising engagement across the quadruple helix to advance wider dissemination, replicability and applicability of the Lorvik test bed. Their first focus was to initiate actions to broker knowledge transfer between local organizations such as Tórshavn municipality, other local authorities, building users, national environment agencies and private entities. This was additionally supported by transnational learning exchange of skills and knowledge by Danish experts. The Lorvik Project demonstrates that favourable geographic conditions allow for a surplus of energy to be captured. It is a significant project that can contribute to realising island-wide economic benefits, inform new energy frameworks for future QH actors, and create opportunities to drive ongoing innovation. Engagement on this project has not yet been fully extended to include all actors of the Quadruple Helix, however as the project progresses there is ambition for wider dissemination and broad engagement opportunities across the QH supported by the HLLM.
AT A MESO LEVEL Living Labs act to: - enable multi-method	During the initial development phases of the project, several meetings engaging with multiple QH stakeholders were held involving the Faroese Environment Agency and multiple stakeholders across the Quadruple Helix (owners, consultants, technology providers). It has been identified that there is strong capacity to leverage the exchange of local and international expertise, through the co-creation of a transnational flow of knowledge and resources to realise decarbonisations goals as exemplified through the project's inception as part of the participatory NPA project Emergreen (2014-2018). In relation to innovation ambitions, opportunities for further replicability and applicability across the islands were identified, including a similar application of this system to an area

- multi-stakeholder engagement - and real-life experimentation.	in the south of the islands. A fishing vessel used in the island fisheries was also identified as showing strong capacity for innovative developments going forward to produce tangible demonstrators and concrete results in real-life settings to support a decarbonisation transition. Strong existing private and public engagement initiatives were identified with a number of best practice examples emerging particularly in working with specific communities (citizens) and schools. There is not however traditionally partnerships with civil society organisations or arts and cultural organisations. An ambition of the HLLM within this wider project is to effectively and widely disseminate to the quadruple helix actors, citizens and communities the specific economic and environmental value that open innovation can potentially add to the current socio-economic context of the Faroe Islands, resulting in citizen engagement and empowerment through innovative decarbonisation processes. As a first focus, the HLLM will support public dissemination of real-life tangible results in relation to decarbonisation, with support from a dedicated and open platform to communicate feedback results of these applications along with data collected from the Lorvík project, adding vital visibility and illustrating the impact and value of innovation projects towards decarbonisation goals.
AT A MICRO LEVEL living labs act to: - support and facilitate activities to integrate good practice co-creation - and contribute to citizen and community engagement - in solutions to support decarbonisation transition....	The initiation and application of the HYBES Living Lab Model (HLLM) positions the work to optimise local relevance, and acts to kick-start and mobilise an impactful trajectory for citizen and community engagement around the demonstrator sites and projects. As satisfactory control of the heating system and adequate platforms of dissemination (project specific website) are established in Lorvik, the project aims to mobilise wider engagements through the HLLM making existing knowledge open and accessible, capitalise on the development of knowledge gained through the project and living lab expertise, and to leverage the success of this project for further decarbonisation activities. The focus on a specific site of intervention was identified to actively demonstrate added value and build wider engagement across the quadruple helix through dissemination activities. The aim is to enhance citizen and community engagement and integrate good practice co-creation to optimise long-term engagement and impact supported through the HLLM, This builds on existing assets and expertise in mobilising such initiatives already identified. A public 'Energy Days' event planned for September 2024.

AT A MACRO LEVEL living labs act to: - broker knowledge transfer between local organizations - and leverage existing networks and assets	Umeå Municipality, Umeå University, and Bostaden partnered to facilitate a three hour stakeholder workshop on 7th February, 2024 at Vinterträdgården, Ålidhem, Umeå Peparatory work to strategically align and position the HLLM within the local context led to the localised area of focus on the neighbourhood of Ålidhem, a designated decarbonisation zone (DZ), as part of Umeå's extensive climate plan. Ålidhem was identified as a significant geographic focal point and key opportunity space within the region suitable for creating a more cohesive and effective sustainability framework through growing interest to integrate bottom-up perspectives with top-down planning, with potential to impact policy development and align local initiatives with broader strategic planning. Ålidhem as a localised area of focus allows for the development of a deeper understanding of existing arrangements and to identify specific opportunities that act to enhance and build stakeholder capacity. By engaging with all actors across the QH, decarbonisation ambitions can be co-created, ensuring that diverse stakeholder needs and interests can be substantively explored. The HLLM is acting to, in the first instance, leverage existing networks and assets to optimise local effectiveness of initiatives. This includes embedding research, exemplary models, and thorough analysis within city planning, municipality housing companies, utility companies, and housing associations acting to enhance local initiatives and collective vision. This first phase actions supported the brokering of knowledge transfer between organisations, enhanced engagement across QH actors and a key success includes the realisation of new collaborative efforts between local housing associations and municipally owned housing. This illustrates and demonstrates strong opportunity to build on existing capacity and enhance efforts by pooling resources and expertise to explore potential joint investment opportunities relating to assets and initiatives. Umeå have also identified that building knowledge and skills transfer is also key opportunity, contributing to more sustainable building standards and practices.
AT A MESO LEVEL Living Labs act to: - enable multi-method - multi-stakeholder engagement - and real-life experimentation.	Through multi-method and multi-stakeholder engagement, the workshops yielded high-level engagement across the QH and strengthened collaboration across multiple partnerships of Umeå including the municipality, Bostaden (local housing), and Umeå Energi (energy company). A deeper understanding of the respective existing arrangements identified key considerations including the need for early collaboration with all sectors for inclusive planning, the successful integration of grassroots organisations, inclusion of local businesses, and the implementation of economically equitable and accessible initiatives, ensuring wider engagement and inclusion of all QH stakeholder needs and interests and strategical alignment of efforts with development opportunities. This comprehensive strategy points towards a vision of a vibrant, sustainable, and cohesive community engagement engaged in real-life experimentation. Specific strengths identified were well educated citizens, good existing sustainable travel practices and infrastructure and good proximity to services. The affordability of sustainable initiatives among community, civil society and citizens was identified, along with the need for social cohesion through participation and shared responsibility favouring a holisitic approach that is both engaging and inclusive supported by real-life experimentation. The HLLM can act to demonstrate the economic and social value created through specific tangible examples of evidence-based change of private sector decarbonisation

	strategies. Discussions also included the expectation of the public sector (Umeå Municipality and entities like Bostaden and Umeå Energi) to balance wide aspirations of decarbonisation especially around infrastructure, with practicality of budget. Academia can act to bridge the gap between theory and practice creating collaborative opportunities through the advancement of sustainable practices coupled with the application of practical community-based solutions. The workshop was complemented by additional meetings with the university and further collaboration with the Network for Sustainable Construction in the North and property managers from housing associations HSB and Riksbyggen. Invitations extended to the neighbourhood council and both local housing cooperatives aim to build deeper engagements across all QH actors. A key challenge identified is difficulty in engaging with the often hard-to-reach private sector, specifically retailers in Ålidhemcentrum, identifying the need for examples of tangible economic benefits which support local business within the sustainable transition.
AT A MICRO LEVEL living labs act to: - support and facilitate activities to integrate good practice co-creation - and contribute to citizen and community engagement - in solutions to support decarbonisation transition....	Ambitions to collectively craft a strategic vision for Ålidhem's decarbonisation transition underpins citizen and community engagement at its core. A commitment to engaging and empowering each member of the community through collective action and enhanced participatory culture was emboldened through reflective discussions facilitated through the living lab workshop. Key opportunity sites of intervention were identified to align and pool available knowledge, resources with housing associations supporting and facilitating local activities to integrate good practice co-creation. This includes the mobilisation of existing groups and spaces identified as the reservoir of untapped skills and talents was recognised in the diversity of stakeholders from youth to the elderly, and scholars to students. Increased engagement with active associations such as festivals and grassroots initiatives led to a strong emphasis on cultural festivals, creativity and craft, and the active engagement of physical spaces such as schools, libraries, and cultural venues, were elevated from static spaces to active participants in Ålidhem's journey to unify community efforts towards a decarbonisation transition. Another key area of intervention Is the opportunity for enhanced use of underutilised spaces and services. It was identified that unused spaces can be transformed into vibrant community gardens with potential to transform into platforms for learning, empowerment, and community building. Such spaces could contribute to citizen and community engagement, bridging gaps between different segments of society, including often marginalized or vulnerable groups. It was also identified that enhanced shared transportation services can act to support Ålidhem's collective ambitions of sustainable growth and inclusion, highlighting an opportunity to reimagine these underutilised services, making sustainable transport services widely available. These potential HLLM activities in Ålidhem can evidently contribute meaningfully to ambitions for a sustainable transition, reflecting the potential for collective transformation, and demonstrating the value of integrating bottom-up efforts with top-down support.

PART 3 – APPENDICES: LOCAL REPORTS

APPENDIX I – LOCAL REPORT BODØ

SUMMARY OVERVIEW

Place-based approach	Bodø is planning a new city district where the airport is currently located. The city district is being planned as a zero emission neighborhood, involving (among others) solutions for energy, mobility, nature and constructions. It should be an attractive place to live, be and work. The architecture and consultancy companies Henning Larsen and Rambøll have been engaged to do a study on what the city district should be like with these goals. Workshop 13 March 2024 the companies did a presentation of the work so far, with goal to involve and include important stakeholders in the project and get feedback and input on thoughts and directions.
Local context considerations informing approach to stakeholder engagement	The study as well as the plans for the new city district is of great interest to a lot of different stakeholders. Many of the stakeholders have very different interests in the area, and it was decided to divide the living lab in three separate sessions, to ensure that the different stakeholders got the suitable fora for their area of interest: one session for municipal city planners only, one session for private sector (property developers, industries, private organizations, energy and utility companies, and such), academia and public sector; and one evening session for the public, where everyone was invited to get insight and give feedback. This way we were able to get highly relevant and good discussions and feedback in all sessions. The first session was informed by invitation to all identified relevant employees internally in the municipality, with short description about the event. Second session was informed by identifying key stakeholders in the city, where invite was sent directly to them. To make it more dynamic it was decided to limit the number of participants and not open to everyone, The evening session was published as a public event on Facebook a few weeks before the event.
Engagements undertaken	An important part of the living lab was to have the companies undertaking the study do the presentations, not controlled by the municipality – this because the municipality itself is a very important stakeholder we wanted to engage as well, and because it was their work which was presented. Bodø Municipality and Nordland Research Institute therefore worked as facilitators for them before the living labs, discussing topics, participants, and practicalities.
Workshop date(s) and venue	Date: 13. March 2024 Venue: Bodø City Hall. First two sessions in large meeting room, public session in reception area. Session 1: 9.00-11.00 | Session 2: 14.00-15.00 | Session 3: 18. 00-20.00
Participants	Session 1: Ca. 50 participants | Session 2: Ca 30 participant | Session 3: Ca 45 participants

STAKEHOLDER MAPPING

The topic of the living lab was broad, and with high interest among many stakeholders. It early became clear that it would be challenging to get the right participants to participate and to get a good opportunity to discuss their topic of interest with one event.

Within the municipality the topic was of great interest to a large number of roles, many of them with detail interest in the execution and the way forward. They would need time for a detailed presentation and much time for feedback and discussion. The discussion would run more freely without external participants, and it was decided to have one session for the municipality internally.

In the business society contain many important stakeholders with high interest in the topic. From experience we know that they have busy schedules and need compact meetings. We often get good discussions, but it often occurs as feedback with important points of interest and suggestions from the different actors, rather than a flowing interaction. It was decided to have one efficient living lab together with the private actors and academia to meet these needs.

Both these stakeholders are firstly available during daytime.

The public is mainly available after workhours, and have a broad interest in the topic, with a large variety of perspectives. It was decided to design the session as a short introduction, a round of public discussion and workshop stations to give feedback.

STAKEHOLDER NEEDS, VALUES, EXPECTATIONS

Public Sector The topic of the living lab is related to development of the city district. The public sector has an important role in facilitating for the change needed for the ambitions of zero emission neighborhood and have the responsibility for much related to energy infrastructure, mobility infrastructure and such.	**Private Sector** The private sector will be running business in the new city district, and are interested in knowing about what the city district will be like for people and businesses, and to have a platform to give their feedback and influence on their own interests in the topics of relevance.
Academia Many of the solutions needed for the future sustainable city do not yet exist. Research and development are important to reach the ambitions. Many of the topics are interesting objects for research.	**Community, Civil Society, Citizen** The community, civil society and citizens will be the future inhabitants of the city. The goal is to make an attractive place to live and be for them, and they are the ones who knows their preferences the best. Their input is important in the development process. At the same time the sustainable city of the future requires some changes from today, and they are interested in learning what this means for them and to be able to give input.

WORKSHOP OUTCOMES

The three sessions played out quite differently, as expected, and we believe the format enabled a more efficient arena than arranging one common living lab for all participants. As the work discussed was only partly finished, the discussions were a bit more over arching than expected, but did however give some interesting feedback and insights.

The first two sessions had narrower stakeholder groups, while the last session was open for all stakeholders, giving a good opportunity to see the different living lab dynamics.

The first session with municipality gave long and lively discussions about a large variety of topics. The stakeholders had good overall insight in the city plans and in the coming process of planning it. Much of the discussion had less focus on the zero emission part of the topic than expected, but more on practical planning and facilitation purposes. Some examples of relevant topics discussed were however:

Inclusion of solar panels on the buildings in the area – what will the effect be? What goals should we aim for? And what can the municipality do to make it happen? These are good questions that will be followed up after the session.

Urban farming and green areas: The new city district is quite large and will have room for green areas. Good use of the areas can be to produce food and make attractive outdoor areas that can both have a practical function, capture carbon, as well as being a good area for building good communities. The cost and logistics of establishing such areas and planting trees also became an interesting discussion. None were directly answered, but need to be followed up.

The possibility of giving buildings multiple functions and work better together was also discussed. Industry areas are often used by one actor without thinking about neighbors and surroundings. More holistic thinking can enable sharing of functions and areas, such as flexible heat and power systems, green infrastructure and mobility solutions.

The second session with private, public and academic sector was shorter. The participants were engaged and active, but the discussion was less dynamic and more based on input from the different actors on their topic of interest. Many good inputs were given, for instance:

To create the zero emission district we will always have to include energy in the planning and thinking, in terms of infrastructure and access. Energy planning will be an important part of urban planning in the future and there is a need to think innovatively.

There is a large potential to use our electricity more efficiently with better implementation of thermal energy. Also this is infrastructure-intesive, and one important input is to plan for the infrastructure to be easy to change, for example by placing it in green areas with low consequence for changes.

Waste solutions was also discussed – how can we plan for sufficient areas for good waste solutions and circularity.

The third session was arranged in a more open and dynamic room, with participants from municipality, private property managers, politicians, advisors, academia and media. The session was divided in three parts: presentation, QnA and discussion room/workshop. To get good discussions from all parts the workshop, people were free to walk around and discuss freely in groups. A large map was put on the wall to facilitate for more concrete discussions, and some general questions were added on one wall to make participants think about and give feedback on the development of the city. The setting worked well in terms of getting good discussions, but it was challenging to get notes from all the discussions. Some of the relevant topics that were discussed were:

Discussions about how green areas can have more roles and facilitate for a better society. Suggestions were to involve different interest groups with special needs, such as elderly, students, physically disabled people, young people and such to give their insights on how the areas can be interesting for them to use, as well as planting fruit trees, berry bushes and edible plants instead of traditional plants.

Planning of buildings and neighborhoods to get as good sun and light conditions, as well as getting wind protection. All the factors have important impact on need for heat and lightning in the buildings, as well as the living quality. There exist different processes for such planning, and the study will look further into how this can be done in the new city district.

Strengths	Opportunities
• The living lab attracted a high number and diversity of participants. • The division in different stakeholders as well as one for everyone worked out well and gave good discussions. • The living lab showed high level of engagement among the stakeholders. • The living lab gave useful insights in the view of the different stakeholders and how the different roles interact	• By getting more concrete and narrowing down the topic, we believe the feedback and input could get more concrete and relevant to show the way forward. • The public session showed great engagement, but it was challenging to take out many of the discussions and the role of the participant. This could be made more efficient to catch the good feedback.
Aspirations	**Results**
• For later living labs we could get even better results with more concrete and relevant feedback on different cases. To do this we can aim to narrow down the presentation into more concrete topics and ask for more specific feedback (the level of this living lab was however fitting for the case) • A good goal would be to have time to dig far down into each discussion and get high quality and practical feedback. This does however require good knowledge of the participants. Finding good ways to do this is a good and challenging goals, where separated interest group with deep knowledge and diverse perspectives are important.	• The living lab turned out successfully with high participation, good engagement and good feedback. • Many of the results will be used further in the study and municipality, and can be considered for topic of future living labs. The study companies have followed up with some of the participants with relevant feedback.

GOING FORWARD

The way forward for the living lab will be evolving towards getting more concrete and narrowing down the topic, as well as being more clear on the direction towards decarbonization.

The diversion into different session worked well to engage high number of participants and getting lively and good discussions. Improving this further will be a good aim on the way forward. At the same time it will be interesting to improve the public session to get wider participation, good, relevant and qualified feedback as well as getting the discussions and ideas down on paper.

APPENDIX II – LOCAL REPORT UMEÅ

SUMMARY OVERVIEW

Place-based approach	As part of HYBES, a stakeholders' workshop was held in Umeå on 7th February, 2024 from 14:00-17:00 at Bostaden Winter Garden in Ålidhem. It was a collaborative effort by Umeå Municipality, Umeå University, and Bostaden. Ålidhem is the selected district of Umeå were a bottom-up perspective on how decarbonisation is to be achieved together with residents, academia, municipality, public and private companies. The agenda focused on climate action in Ålidhem, exploring reductions in carbon footprint and sustainable energy solutions. It aimed to engage residents, businesses, and associations in discussing challenges and opportunities. The workshop involved presentations and group discussions to gather participants' insights to advance Ålidhem's climate goals.
Local context considerations informing approach to stakeholder engagement	In line with our designated decarbonization zone and considering Umeå's extensive climate plan, which includes several strategies for achieving climate goals, we adopted a bottom-up approach. Instead of looking at the entire region or municipality, we aimed to break it down more specifically to district level area and listen to how local partners perceived the area's challenges. This approach allowed us to focus on tailored solutions and understand the unique needs and opportunities for climate action at a more localized level, enhancing the effectiveness of our initiatives. Despite numerous attempts, we've received no response from Ålidhemcentrum property owners and the shop owners there. Additionally, we've held several meetings with the university and extended invitations to the neighborhood council and both housing cooperatives in the area, aiming to engage residents more deeply. Furthermore, we've collaborated with the Network for Sustainable Construction in the North, involving property managers from housing associations HSB and Riksbyggen, to foster community involvement and promote sustainability in residential areas. This summary highlights our comprehensive approach to strategic development and community engagement in Umeå.
Engagements undertaken	• 16/11 Inhouse- municipal meeting first planning • 17/11 Inhouse- municipal meeting stakeholder mapping • 22/11 Joint municipal and University planning • 23/11 Inviting politicians • 27/11 Inhouse- municipal meeting • 4/12 Meeting municipal owned landlord with university • 11/12 Meeting in-house extended group municipal. Contacts with church, shopping mall owner, business owners and private housing associations, care takers and politicians done. • 11/1 Meeting with the municipal chairman of the sustainable committee Umeå. • 11/1 planning meeting municipal and University of Umeå. • 16/1 web meeting businesses, shopping mall owner, church. • 16/1 Planning meeting University and municipal • 17/1 Phone meeting Housing associations boards • 23/1 Planning meeting University and municipal • 5/2 Last planning meeting before workshop.
Workshop date(s) and venue	7/2 Vinterträdgården, Ålidhem, Umeå
Participants	17; however 2 of the participants from Kemisten housing association missed to sign the list.

STAKEHOLDER MAPPING

The stakeholder mapping process for the sustainability initiative in Ålidhem revealed several important insights and challenges, as well as identifying both strengths and gaps in efforts to engage all sectors of the so-called "quadruple helix" (academia, private sector, public sector, and society/citizens/civil society).

A significant advancement is the successful engagement with Umeå Municipality, Bostaden, and Umeå Energi, underscoring a strong dialogue and planning towards climate-neutral goals. Collaborations with the university, local councils, and housing cooperatives, including HSB and Riksbyggen, highlight a dedication to community collaboration. However, attempts to engage retailers in Ålidhemcentrum have not yet borne fruit, pointing to a gap in connection to the private sector.

Challenges such as underutilized carpools and bike-sharing systems, and economic accessibility of sustainability initiatives for all community members, especially the economically disadvantaged, highlight the need for increased usage and financial stability of these services. These challenges also underscore the importance of ensuring that sustainability initiatives are affordable for the entire community.

Regarding infrastructure needs, improved bicycle parking and flexible zoning plans are necessary, along with improved public transport options, like better bus services and on-demand buses. Social sustainability, through multilingual education on communal living and environmental practices, is another key aspect, including waste management and reuse initiatives.

The strength of the process was the local engagement and the recognition of the need for early collaboration with all sectors for inclusive planning. Despite the progress, there are sectors, especially the private sector, that have been harder to reach. Moving forward, Ålidhem's approach must integrate needs and potential at the grassroots level, ensure the inclusion of local businesses, and economic accessibility for the initiatives. This comprehensive strategy points towards a vision of a vibrant, sustainable, and cohesive community while highlighting the need for deeper considerations to better engage hard-to-reach sectors and guarantee the inclusion of all four sectors in the future.

STAKEHOLDER NEEDS, VALUES, EXPECTATIONS

Public Sector	**Private Sector**
Learnings: The public sector, represented by Umeå Municipality and entities like Bostaden and Umeå Energi, has shown a strong commitment to achieving climate-neutral goals. Their main concerns include the integration of sustainable transportation and infrastructure improvements. *Insights:* There's a clear expectation for collaborative projects that enhance the community's sustainability without sacrificing economic feasibility, indicating the importance of balancing environmental ambitions with practical budget considerations.	*Learnings:* Engagement with the private sector, particularly retailers in Ålidhemcentrum, has been challenging. This sector's needs revolve around clear economic benefits and support in transitioning towards sustainability. *Insights:* The private sector values initiatives that offer tangible business advantages, suggesting that sustainability efforts need to be framed not only as ethical choices but also as economically beneficial strategies.
Academia	**Community, Civil Society, Citizen**
Learnings: Academia, through Umeå University, has been a strong advocate for research and	*Learnings*: This sector emphasizes the importance of social sustainability, accessibility of initiatives, and

education in sustainability. Their main concern is the application of academic research to practical, community-based solutions. *Insights:* There's an expectation for ongoing dialogue and collaboration that bridges theoretical research with real-world applications, emphasizing the role of academia in informing and advancing sustainable practices.	community engagement. Concerns include ensuring that sustainability initiatives are affordable and inclusive. *Insights:* There's a clear value placed on building a cohesive community through participation and shared responsibility. Expectations revolve around creating initiatives that are not only environmentally sustainable but also socially engaging and inclusive, reflecting a desire for a holistic approach to sustainability.

After the mapping process together with University College Cork we realized that we needed another approach and thus choose to focus on the district of Ålidhem, where our ambition was to engage all stakeholders in the area. Due to its being a well-known district it was easy to identify the stakeholders. The problem was to engage all stakeholders.

WORKSHOP OUTCOMES

Existing Good Practice

Example of what works well	Why it works well?	Demonstrates good practice for....
Car pooling in Ålidhem.	Bostaden has introduced a cost-effective carpool system in Ålidhem that aims to provide residents with affordable, shared transportation options. This initiative fosters community connectivity, reduces individual carbon footprints, and promotes sustainable urban mobility by encouraging the efficient use of vehicles, thereby contributing to a greener neighborhood and enhanced accessibility for their residents.	Carpooling in Ålidhem demonstrates good practice for multiple stakeholders, including: • Residents: Offering a sustainable, cost-effective transportation alternative that fosters community bonding. • Local Government:Showcasing commitment to reducing traffic congestion, pollution, and promoting sustainable urban mobility solutions. • Environmental Advocates: Highlighting a practical step towards reducing carbon emissions and environmental impact. • Urban Planners: Providing a model for integrating shared mobility into comprehensive transportation strategies.
Well-educated & engaged residents.	Having well-educated residents in Ålidhem, Umeå, can bring numerous benefits to the community and the broader municipality, including:	Well-educated residents in Ålidhem serve as a good practice model for various groups: • Local Schools and Educational Institutions: They benefit from engaged parents and community members who

	• Economic Growth:Higher education levels often lead to higher earning potential, which can enhance local economic development through increased spending and investment. • Innovation and Entrepreneurship:Educated individuals are more likely to engage in entrepreneurial activities, bringing innovation, creating jobs, and fostering a dynamic local economy. • Community Engagement: Well-educated residents are often more involved in community activities, including volunteering, participating in local governance, and leading initiatives for community betterment. • Environmental Stewardship:Educated communities tend to be more environmentally conscious, supporting sustainability initiatives that can make Ålidhem a greener and more livable area. • Enhanced Quality of Life: Education enriches personal lives, leading to a community that values culture, arts, and lifelong learning, thereby improving the overall quality of life. • Social Cohesion:Education promotes understanding and tolerance among diverse groups, fostering a more cohesive and inclusive community. • Better Educational Outcomes for Children: Educated parents are more likely to engage in their children's education, leading to better educational outcomes and opportunities for future generations.	support educational excellence and lifelong learning initiatives. • Local Businesses and Employers: A well-educated populace provides a skilled workforce, driving innovation and economic growth. ▪ Municipal Government and Policy Makers:Educated citizens are more likely to participate in civic activities, providing informed feedback and contributing to effective governance. ▪ Healthcare Providers:With a better understanding of health and wellness, educated residents contribute to lower healthcare costs and healthier communities. ▪ Environmental Organizations: Educated communities are more aware of environmental issues, actively participating in sustainability practices. ▪ Cultural and Community Centers: A well-educated population supports and enriches cultural activities and community programs. ▪ The Residents Themselves: Education enhances quality of life, offering personal and professional growth opportunities. • Future Generations: The value placed on education by the current residents sets a positive precedent for the community's youth, promoting a cycle of learning and improvement.
Good cycle paths to and from Ålidhem	Good cycle paths connecting Ålidhem with the rest of Umeå offer numerous benefits, touching on aspects of health,	• Increased Property Values: Cities with robust cycling infrastructure are often more attractive to potential residents

around the city of Umeå.	environment, and community life. Here are some key advantages: • Healthier Lifestyle:Cycling is an excellent form of exercise, promoting cardiovascular health, reducing obesity rates, and enhancing mental well-being by lowering stress levels. • Economic Savings:Cycling is cost-effective compared to owning and maintaining a car. Residents can save on fuel, parking, and vehicle maintenance costs. • Enhanced Accessibility: Good cycling infrastructure improves access to different parts of the city, making it easier for people to reach work, schools, shops, and recreational areas.	and businesses, potentially boosting property values in areas like Ålidhem. • Environmental Conservation: Bicycles are zero-emission vehicles, making cycling a green mode of transportation that helps reduce air pollution and greenhouse gas emissions. • Reduced Traffic Congestion: By providing a viable alternative to car travel, cycle paths can decrease the number of vehicles on the road, reducing traffic congestion and improving travel times for all road users. • Safer Roads: Well-designed cycle paths can reduce accidents by creating a safe space for cyclists, separate from pedestrian walkways and motor vehicle lanes. • Sustainable Urban Development: Investing in cycle paths aligns with broader goals of sustainable urban planning, reducing dependence on fossil fuels and promoting a more livable, resilient cityscape.

Existing Arrangements

In Ålidhem, a neighborhood poised on the brink of transformation, the Hybes Umeå workshops became the crucible for a shared vision of sustainable urban living. The workshop was divided into two sessions and were more than just meetings; they were a collective journey into the heart of the community, seeking to unearth its potential and pave the way towards a climate-neutral future.

The First Chapter: Unveiling Needs and Fostering Unity

The initial workshop session served as a forum for articulation and reflection, where stakeholders from diverse backgrounds convened to voice the multifaceted needs of Ålidhem. The air was thick with anticipation as participants delved into discussions that spanned the gamut from concrete infrastructure needs to the more ethereal aspects of community spirit and cooperation. Suggestions and insights flowed freely, each bringing to light different aspects of the community's aspiration for a sustainable and inclusive future.

A concern that emerged centered on the underutilization of shared transportation services. The community recognized that for Ålidhem to truly embrace sustainability, it was imperative to not only enhance these services but to reimagine them in a way that addressed economic viability and universal accessibility. This highlighted a keen awareness of the need to ensure that environmental initiatives were within reach of every community member, underscoring a commitment to leaving no one behind.

The Second Chapter: Harnessing Resources and Laying Foundations

As the narrative progressed to the second workshop session, the focus shifted to the wealth of resources at Ålidhem's disposal. Discussion highlighted the neighborhood's strategic advantages, such as its proximity to shopping centers and the untapped potential of spaces like basements and green areas. These resources were not just seen as assets but as foundational elements for sustainable development.

This session underscored the significance of viewing every available space and resource as an opportunity for green innovation and community development. It was a collective realization by the participants on Ålidhem's potential to transform from a mere residential area into a beacon of sustainability and communal harmony.

Weaving a Collective Future

Throughout the workshops, a narrative of collective ambition and mutual support took shape, transcending the discussions from merely identifying needs and resources to crafting a strategic vision for Ålidhem's sustainable transformation. The community's diversity—spanning youth to the elderly, scholars to students—was recognized as a reservoir of untapped skills and talents, awaiting mobilization towards common goals.

The heart of Ålidhem was identified in its citizen associations and community groups, pivotal in turning the public spaces and underutilized infrastructure into vibrant centers of activity and engagement. These entities, from festivals to grassroots initiatives, were poised to infuse life into Ålidhem's sustainability endeavors, highlighting the indispensable role of community engagement in the sustainability narrative.

Institutions and partnerships emerged as vital scaffolds for this collective vision. Schools, libraries, and cultural venues were envisioned not just as physical spaces but as active participants in Ålidhem's journey towards sustainability. The workshops emphasized the importance of robust partnerships, networks, and platforms as vital for engaging the community and catalyzing sustainable living practices.

The Hybes Umeå workshops in Ålidhem showed the benefits of community engagement, that provided suggestions on how a neighborhood like Ålidhem could transform its sustainability dreams into a vibrant, inclusive reality through collaboration and mutual support.

SOAR - Citizen Engagement and Capacity Building for Decarbonisation (Ålidhem)

Strengths	**Opportunities**
• Well-educated citizens • Good cycle paths • Many travel sustainably • Close to the hospital and the universities • Close to Ålidhem center with shopping Restaurants	• Heated cellars • Lots of roofs for solar panels, greenspaces and parking lots. • Better district heating with, for example, thermal energy storage. • There is a wide variety of experts in the field who can be utilized in projects.
Aspirations	**Results**
• Review local plan and building standards • More cooperation with property owners • A shared car and bike pool • More sustainable and energy efficient housing • Increase flexibility with thermal storage Increasing reuse in the neighbourhood with reuse rooms • Creating community through for example events for togetherness. Create communal areas such as gyms and other facilities.	• All homes should reduce electricity use (for example, through individual metering and billing). • More bus services to the city centre. • Review bus services to Umedalen (the opposite area of Umeå)

Best Practice Transfer	Leveraging lessons from Hybes and international best practices in urban planning, Ålidhem can enhance community engagement and capacity building. The key outcome would involve adopting innovative, sustainable urban development strategies that prioritize inclusivity and environmental stewardship. By facilitating intercultural exchanges among citizens, Ålidhem can foster a deeper understanding and appreciation of diverse perspectives, enriching the community's social fabric. By implementing best practices such as green spaces, community involvement in planning, and sustainable infrastructure development, Ålidhem can be transformed into a model of urban living that promotes well-being, cultural diversity, and ecological balance, inspiration to communities like the Swedish million programme (Miljonprogrammet) that was built in the 60´s and the 70´s to provide housing.
Social Inclusion	To boost citizen engagement and foster social inclusion, focusing on gardening boxes offers a unique pathway, especially for engaging marginalized or vulnerable groups. This initiative may be able to contribute in the transformation of unused spaces into vibrant community gardens, serving as inclusive venues where individuals from diverse backgrounds come together, share knowledge, and build connections. By targeting specific groups, such as the elderly, youth, or those facing social exclusion, gardening projects promote mental well-being, environmental awareness, and a sense of belonging. These green spaces become platforms for learning, empowerment, and community building, bridging gaps between different segments of society and cultivating a more cohesive, inclusive community fabric.
Skills and knowledge transfer	Housing associations and municipality housing companies could enhance their collaboration by sharing knowledge on building projects with a focus on energy efficiency. This partnership can lead to the adoption of innovative practices and technologies that significantly reduce energy consumption and lower carbon footprints. By pooling their experiences and resources, it may be possible to implement more sustainable building standards and practices. This cooperative effort not only benefits the environment but also can lead to cost savings for residents through more efficient energy use. The initiative represents a proactive step towards building greener, more sustainable communities, reflecting a commitment to environmental stewardship and energy conservation.
Research & Academic Collaborations	Supporting city planning, municipality housing companies, utility companies, and housing associations with research, exemplary models, and thorough analysis is pivotal for achieving local decarbonization and developing positive energy districts. By providing insights into effective strategies for reducing carbon footprints and implementing sustainable energy solutions, these stakeholders can pioneer the transition towards greener, more resilient communities. The focus includes local energy production, efficient consumption, energy efficiency improvement and promoting renewable resources.
Impact/influencing policy	Political leaders have taken a keen interest in integrating bottom-up perspectives with top-down planning, especially in the context of local sustainability efforts. Recognizing the value of local engagement, there's a growing desire to blend these grassroots initiatives with broader, strategic planning. This approach could create a more cohesive and effective sustainability framework, ensuring that local insights and community-driven actions are central to the decision-making process. By harmonizing these two

	aspects it is possible to foster a more inclusive, responsive, and adaptable sustainability strategy that benefits from both local passion and overarching policy guidance, enhancing the overall impact on environmental and community well-being.
Co-operation and collaboration	Local housing associations alongside the municipally owned housing companies have embarked on a collaborative journey, focusing on neighborhood development and exploring opportunities for joint purchases and gardening initiatives. An agreement has been reached to facilitate ongoing joint meetings, marking a significant step towards unified community efforts. This collaboration aims at enhancing the living conditions and environmental sustainability of their shared spaces. Through pooling resources and expertise, they anticipate achieving more cost-effective solutions and fostering a stronger sense of community. The introduction of gardening boxes is a testament to their commitment to green living and communal well-being, promising a more cohesive and vibrant neighborhood.
Cultural festivals, creativity and craft	Umeå is gearing up to host a series of pop-up festivals dedicated to citizen engagement and transformative actions. These events emerged from a workshop where participants unanimously favored Ålidhem as the venue. The aim is to spur community involvement in shaping societal transitions. By having the festival in Ålidhem, organizers hope to tap into the area's vibrant energy and potential for collective innovation. This festival represents a step towards fostering a more participatory culture, encouraging residents to contribute their ideas and efforts towards positive change. It's a unique opportunity for the community to come together, discuss, and actively participate in their future.

APPENDIX III – LOCAL REPORT CORK

SUMMARY OVERVIEW

Place-based approach	Every local authority (municipality) in Ireland has been asked by the government to select a pilot decarbonisation zone (DZ) in order to test the scale and scope of decarbonising our economy and society. Cork County Council have identified the town of Macroom as the future DZ for the region. Though this DZ is in early conceptual development phase, it was the starting point of thinking for a 'place-based' approach for the HYBES living lab. **In practice, through this first phase of work it became evident that a county/region level was the most appropriate geographic scale for the place-based approach for living lab in the Cork context.** This responds to the identified need/gap to better cohere existing decarbonization activities underway, harnesses the opportunity and strengths that lie beyond Macroom town and supports critical mass of local actors for an effective open innovation eco-system. The County-level context strategically supports the future opportunity to leverage local policy, learning, research and innovation within the wider living lab eco-system and inform the longer term development of Macroom DZ. It will support essential collaboration of County levels, enabling them to channel local strengths and apply high potential initiatives for Macroom DZ, informing the longer term development of a high impact test-bed and leading demonstrator.
Local context considerations informing approach to stakeholder engagement	The local project team working on the HYBES living lab currently reflect the Quadruple Helix, with team members from academia, municipality, community representation and nosiness/enterprise. In this first phase, the project team participated in three team workshops. As the team began to map stakeholders, local assets and consider planning for a workshop with local stakeholders, it quickly became apparent that there was a critical and significant need for operational alignment and consolidation within and across internal municipal silos before wider stakeholders could be effectively engaged with. A significant number of existing programmes, policies, initiatives are already engaging local actors, many managed or supported the municipality. The project team identified that fragmented or duplicative engagement with wider QH stakeholder was not only a concern, but a serious risk that could undermine the overall project success. A first series of initial internal discussions with these vital internal collaborators established that the single priority first action and most urgent need was to connect across the internal departments that represent and engage regularly with QH actors (across enterprise, community, other gov/public sector and academia) to better understand the existing arrangements in the region and establish solid foundations for the project. It was therefore decided that the first workshop would engage the internal-municipal owners/decision makers across these functions who are representative of and have deep understanding of existing arrangements in terms of engagement with QH actors. This ensures HYBES living lab initiative can be deeply embedded, strategically aligned and build local ownership and support. It also ensures the work is relevant and adding meaningful value and impact within the local and transnational context of HYBES. Some highlights:

	Key local issues and considerations: Organisational Concerns (Silo Effect) Policy Guidance (Delays in personnel & Funding) Timing (Climate Action Plan just published) Stakeholder Fatigue (including consultation on Action Plan **Local strengths or gaps for connecting across QH actors:** - Abundance of activities & opportunities but fragmented - Strength that new Climate Unit in place, but need for alignment - Climate Action Plan finalized, need for more coordinated action going forward - New connections and collaborations both internally & externally - Increased Citizen interest supported by Climate Action Programme **Alignment with existing networks and fora:** - Visit Cork – Sustainable Tourism - Public Participation Network- Opportunity for community Support) - Local Enterprise Offices - Business Support – energy audit & Grant) - Community Mapping Initiative for Decarbonisation
Engagements undertaken	3 x QH project team workshops + meetings/emails 12 x Municipal owners of QH engagement: Phone calls/Pre-meetings, and one face to face workshop.
Workshop date(s) and venue	Municipal owners of QH engagement: County Hall Campus, 17th Jan 2024 – Mapping Stakeholders and Existing Arrangements QH Project Team Workshop: CCAE, 4th March 2024
Participants	12 participants from: • Climate action Team (Community & Public Sector), • Community Engagement Team, (Community & Public Sector), • Local Enterprise Office (Business), • Recycle/Reuse Team, (Community & Public Sector), • Public Participation Network (Community • Economic Development, Tourism and Enterprise (Business, Community & Public Sector) 8 participants from: • Northside Community Enterprises • Cork Centre for Architectural Education • University College Cork • Cork County Council

STAKEHOLDER MAPPING

Issues & Considerations

Initial stakeholder mapping by the QH project team identified multiple key stakeholders within the municipality and a need for a thorough understanding of existing arrangements within and across the local authority in terms of the interfaces, programmes and projects that were already engaging deeply with communities, business and education.

Whilst a number of significant existing citizen / community supports, partnerships and collaborations were evident, to date there had been no mechanism or forum to create visibility across this wider eco-system. Additionally the significant body of work underway within the local authority with respect to the new Climate Action Plan and related actions, funding and new roles was identified a major policy instrument to bring greater cohesiveness and strategic impact. It was deemed essential that HYBES living lab activities strategically align with this and other existing regional assets to ensure long term success.

It was identified that reaching to a wider external audience prior to undertaking a more through scoping of existing arrangements across the local authority would pose significant risks to long term success. Local efforts for the first workshop, were therefore oriented around the priority to convene a workshop between municipal owners and decision makers across the local government divisions that already had established remits, programmes and networks engaging with the quadruple helix stakeholders in the county around activities contributing to decarbonization.

The ambition was to undertake deep stakeholder mapping, review existing arrangements, build ownership and support for HYBES living land and to collectively explore the opportunity for a living lab approach to build capacity for citizen/community engagement for decarbonisation in the region.

This was supplemented by a dedicated QH project team workshop, which then expanded this with their expertise and knowledge of their respective sectors: enterprise, community and higher education.

Strengths and Gaps

- There are strengths in the depth and reach of existing activities.
- There is existing good practice and models to learn from including: formats for engagement (citizen science, workshops, clinics), types of supports (funding, consultancy, tools and toolkits); knowledge, learning and data (surveys, reports, research).
- There ae established partnerships, networks and reach into key target sectors and groups including schools and higher education, community groups, festivals, business.
- There are also thematic and or geographically focused stakeholder networks. These tend to be action focused and topic specific.
- There are other initiatives and supports available to communities from other public sector agencies (including SEAI Sustainable Energy Communities).
- There are gaps in terms of joined up thinking and visibility of different activities.
- Silo effect within municipality and between local government and other public sector actors.
- Sense of duplication and stakeholder fatigue.
- Missing opportunity to leverage the learning and knowledge between different activities.
- Community frustration at navigating disconnected supports.
- No single ‘one stop shop’ and lack of knowledge of the full range of supports, activities available to communities from a variety of actors.
- Quadruple Helix - In this phase, stakeholder workshops brought together key actors within the municipality and project team who have deep expertise and knowledge of the existing arrangements within the region across each of the quadruple helix sectors. This baseline understanding of the existing

arrangements, will ensure that the next steps to expand the dialogue to engage more voices from the region will be robust, relevant and add value to existing efforts.

A snapshot of some key existing arrangements that the HYBES Living Lab should take into consideration:

- *Community Climate Action Programme (CCAP)* – Current Community grant. Runs for 18 months with a budget of 16 million nationally and 1.2 million for Cork County. This grant will provide funding to community groups for new windows, doors, heating systems, and solar panels. Running Information Days/Clinics. Phase two of the first grant will open at the end of 2025.

- *Circular Economy Grant Scheme.* Just in planning stages now but target would be communities, schools, festivals looking to implement circular actions.

- *Green Hubs.* Target hospitality/tourism and focus on waste. Partnership with City Council. Commercial Waste Toolkit. Partnership with MTU – scope to be defined.

- *Community Groups Decarbonisation Survey* – Understand needs of community groups, particularly outside of financial supports. 'Influencing communities' – behaviour change focus supported by service design. Development of Community Groups Database and Online GIS Map. Will deliver report on the needs identified by community groups and suggested actions in relation to delivery community interventions/supports – providing an evidence-based approach for any initiatives.

- *Local Enterprise Offices* – (1) Focus on SME/Micro and transition to digital systems. Recommends LEAN review looks at time and energy waste. (2) Green for Micro – help small business go 'greener' - prepare for future re: local carbon / resource efficient economy.

- *Enterprise Ireland* – Sustainability kickstarter workshops – practical skills to incorporate sustainability and ESG in business plans/strategy – including energy audit and advice re measure, monitor, report on ESG.

- *EU Projects – Horizon and Interreg (Municipal)* (1) Coastal zone management and Climate adaptation through nature based solutions and citizen science (2) Clean Environment and Zero pollution (soil and water). Biosensors and user-friendly diagnostic tools for environmental services to be deployed outside laboratory settings for the first time. (3) Clean Energy for EU Islands. Transition to "100% RES island by 2030" - a vision of an island where all energy locally produced and consumed originates from renewable energy sources. To achieve such ambitious goals, switching to renewables must be combined with measures to produce, transport and use energy in an efficient manner. (4) Corporate digital responsibility - improve implementation of regional development policies supporting the uptake of Corporate Digital Responsibility in SMEs and promote interregional learning and capacity building on the types of support schemes that can help.

- *Other Projects (beyond municipality)* Including but not limited to: (1) Bauhaus Goes North (2) New European Bauhaus (3) SEAI Sustainable Energy Communities, in particular Sligo as good practice, and other key grants for communities/public including Warmer Homes, Electric Vehicle Home Charger Grant (4) Dept Transport Pathfinder Programme of projects under the National Sustainable Mobility Policy National; including National Transport Authority Smarter Travel Mark; East Cork Sustainability Corridor; Smart and Sustainable Mobility Training Workshops (5) 34 Paul Street BEC (6) Carbon Club Energy Monitoring (7) Social Enterprises including Cycle Sense (8) Research Centres, Engaged Research supports and best practice models e.g. Dingle 2030 (9) Learning from other Energy living labs in Ireland e.g. Energy Living Lab Association. (9) Health Services Executives Energy initiatives, including lining with Local Energy Teams, local community health services and centres (10) Irish Green Building Council initiatives and publications - CO_2 Performance Ladder pilot; National Upskilling Roadmap' for the Built Environment to 2030+ (Build Up Skills Ireland) and launched Build Up Skills App; Smarter4EU Financing Green Homes; Building a Zero Carbon Ireland Roadmap (11) Creative Ireland – Creative Climate Action Fund (12) SECAD and ESB Windfarm Community Funds (13) An Taisce Green Schools (14) GAA Green Clubs Programme and Toolkit.

Public Sector	**Private Sector**
Strong political will Decarbonisation agenda - energy solutions for buildings, transportation, mobility, and infrastructure sits in wider (policy) frameworks and efforts around twin transition, climate action: needs situating. Established partnerships and collaborations – but more to be done Engagement with communities needs to be considerate of wider working with community across different interfaces and on different issues. With respect to energy solutions in local authority housing – maintenance issues from user behaviour (e.g. turning off systems) is a key issues/barrier/cost.	Energy Focus benefits/value to stakeholders: cost savings, higher/added value on products and services, improved access to customers, corporate image; increased resilience to climate change impacts. Needs: Time is the biggest constraint for engaging SMEs in programmes. From February 2024, the EU will be pushing businesses with 250-500 employees to be greener, and large businesses are looking at smaller suppliers to see if they are green in their approach to business. Procurement / supply chains. Green building – skills pipelines and pathways is critical
Academia	**Community, Civil Society, Citizen**
Value to researchers: Increasing emphasis on engaged higher education in national/EU policy and funding for citizen science / engaged research. Researchers can have difficulty accessing/navigating public sector for building sustained / impactful research partnerships. Strategic Partnerships at Institutional level Centre for City Futures/Civic and Community Engagement supports more joined up actions/research. Strong green credentials and disciplinary expertise – passion and willingness, could be better harnessed.	Engagement fatigue is an issue/challenge. Current work on community needs survey, report due in coming months. Place-based: crucial to involve stakeholders to make sure that local priorities, challenges and needs are addressed. Difficulty accessing/navigating information on range of supports available. Community benefits –needs to address social issues, not just technical solutions. Community should also benefit equitably in green economy (jobs, community ownership, social enterprise etc.) Engagement with youth/schools for long term impact. Social Inclusion to ensure accessible and engages seldom heard groups. 59 Existing Sustainable Energy Communities.

WORKSHOP OUTCOMES

Existing Good Practice

Example of what works well	Why it works well?	Demonstrates good practice for....
Cork Climate Action Plan Programme - Funding and Clinics	Funding support community organisations for bottom up actions Competitive local applications from small, medium and large scale actions (up to €100K) Demonstrate the delivery of national climate action at local level Info days/clinics run in each municipal district	Capacity building for community led actions [National Government driven and County Council Managed]
Sustainable Clonakilty (1 of 59 SECs in the region)	National model for locally coordinated action, supported by range of grants and expert advice, national network Each SEC completes local Community Energy Masterplan Energy upgrades to public and private buildings Clonakilty national award for 1st community bicycle scheme in a rural environment in Ireland Success linked to awareness raising programme in partnership with local school (and their engagement with An Taisce Green Schools/Green Flag programme)	Capacity building for community led actions [National Energy Agency SEAI] NCE Local Partners
Creative Communities and Creative Climate Action Fund	Supports creative, cultural and artistic projects that build awareness around climate change and empowers citizens to make meaningful behavioural changes. Fund II roll out pairs creative minds with experts in climate science, sustainability and biodiversity. One project Ireland's 1st New European Bauhaus Award	Creative community engagement and behaviour change. Engagement via cultural events/activities. Inter-disciplinary approaches. [National Government Support via Creative Ireland]

Existing Arrangements

This first phase of work to initiate the development of a HYBES Living Lab in Cork through engaging quadruple helix stakeholders around 'Engaging Communities in Decarbonisation: Building capacity for citizen/community engagement for decarbonisation' was a valuable piece of work for the region, resulting in key learnings and action that has already progressed and contributed value-add to the local context.

The thorough consideration and mapping of stakeholders and existing arrangements brought to light some fundamental strengths and gaps that the HYBES project can now directly contribute to addressing.

The work to connect different stakeholders in this way for the first time was timely in the context of wider policy and programmes, and these first activities have built strong foundations for the pre-requisite leadership support and internal collaboration needed to evolve co-owned and co-created solutions in the region that are relevant, impactful and have best opportunity to contribute to wider replicable good practice models in the NPA region.

Individuals, Skills and Talent

People are a key asset for the region. There are strong existing networks and fora to reach and engage with people across the quadruple helix and with different specific cohorts including marginalized groups, youth, older people, artists, students, or particular sectoral expertise.

Considered approaches to engagement are needed, to harness and collaborate with the existing infrastructures and avoid duplication of effort or stakeholder fatigue, to support coordination for better impact and to ensure efforts and activities are visible and accessible.

Additionally, whilst we have a number of key strengths in Cork in terms of individuals, skills and talent, there are also evident skills gaps and a significant opportunity to respond to this.

Building on existing momentum, particularly relevant stakeholders to focus on will be community groups and organizations; festivals; SMEs and micro-enterprise; hospitality and tourism sector; learning partnerships (schools and higher education) and leveraging opportunities for dissemination and exchange with European project partners.

Institutions

This phase also identified significant institutional assets as potential partners and collaborators. This includes two Universities and a national policy context for societally engaged higher education. The Irish Universities Association (IUA), promotes and supports societal engagement as a core function of Irish higher education. Our universities are committed to addressing societal challenges, with and for society, involving societal partners across research, innovation, teaching and learning to maximise societal impact. UCC is a recognized leader in this space.

Libraries and cultural institutions were identified as key places for engaging communities and key existing community programmes being delivered through schools and Ireland main sports association (GAA) were identified.

Types of Activities:

Cork already has proven experience in mobilizing decarbonization activities with our quadruple helix stakeholders that can be built upon or learned from. These include funding and grant management; surveys / data collection and development of databases and GIS mapping; thematic sector-focussed multi-stakeholder partnerships; training, consultancy, audits and mentorship activities. These have been applied in diverse cases and instances and there is an opportunity for more local learning exchange between existing models and practices in the region as well as mutual learning between HYBES partner regions. These include: Community Funding Model; Commercial Waste Toolkit; Community Database + Map; Evidence-informed approach – community needs report; Service Design approaches; behavioural change initiatives and citizen science / Research partnerships.

Decarbonization Themes and Topics

Whilst HYBES is focused on hybrid energy solutions for buildings, transportation, mobility, and infrastructure, in the context of wider policy (in particular our main policy document Climate Action Plan), place-making and community engagement there is significant interaction and alignment needed with the wider sphere of dialogue on environment, climate action, sustainable futures and the twin transition.

In addition to our work on retrogrades, energy management and monitoring in buildings, the body of work to capture existing arrangements identified a number of programmes or initiatives where there is strong existing engagement, dialogue and momentum with communities to be built on and/or cognizant of including: circular economy; plastic free; waste management; cycling; oceans and water; nature based solutions; zero pollution – water and soil; clean/renewable energy; Corporate Digital (Responsibility (socially, economically, and environmentally responsible use of data and digital technologies); biodiversity and food. Communicating effectively between and across activities is critical for impact and communicating with publics and communities.

Knowledge and Partnerships (info + learning + data + evidence)

As we developed a more thorough understanding of the existing arrangements a number of knowledge and infrastructural based partnership assets were identified, which we feel are critical components for supporting effective living lab activities. As with

- Stakeholder Needs Reports
- Consultancy Services including training, toolkits at various levels
- Innovation in specialist knowledge and technology
- Events that engage actors and publics (Clinics, Workshops, Festivals)
- Platforms for partnerships, networking and cooperation support
- Community energy measuring, monitoring and reporting
- Creative / cultural partnerships for enhanced public engagement
- High level frameworks (Sustainable Energy Communities; Bauhaus Goes North)

SOAR

Citizen Engagement and Capacity Building for Decarbonisation

Strengths	**Opportunities**
• Lots of existing activity and infrastructure • Willingness to change • Existing financial backing/support • Very active organizations • Active across diverse sectors, geographic areas, QH groups • Existing partnerships, working groups, collaborations already in place • Existing expertise, knowledge and workforce (local and technical) • Existing models of good practice in Cork and Ireland	• High interest to be capitalised on • More and better public engagement / fora • Framework for understanding, coherence and joined up thinking • Building visibility / dashboard view of collective work • Research for informed decision making and interventions and increase knowledge base • Inspire other communities / community-to-community learning and exchange • Collaboration across funding streams • SEAI grants • Libraries for dissemination • Help people and the environment (i.e. decarbonisation + social inclusion and equity)
Aspirations	**Results**
• Make the world a better place to live	• Multiple DZs

• Educate to have a long lasting effect on citizens • School curriculum change – primary and secondary • One stop shop for energy audits for SMEs • Community empowerment • Economic support through energy initiatives • Remove silo effect • Better knowledge of decarbonisation benefits • Address skills and talent gaps and generate sustainable employment	• More effective partnerships + projects • Joining the dots • Based on evidence base of QH actors needs • Educated knowledgeable communities • Related jobs and employment • More ambitious projects • More integrated projects • Excellence in pilot projects • Become a lighthouse region for rural sustainability

GOING FORWARD

- Both Internal and External Silo effect is problematic but can be overcome
- Policy is coming on stream (Climate Action Plan, Local economic & community Plans. Biodiversity plans)
- Abundance of interest, talent and activities (Just needs aligning and linkages)
- Enormous opportunity to build up existing relationships between Quadruple Helix partners (LA, PPN and Community, Research, SME & Business)
- Increasing opportunities for citizen centric research and support for Decarbonisation & Climate adaptation.
- Opportunities to further strengthen the relationship between sustainability and digitalization (Twin Transition to social responsibility CSR And CDR)

Going forward the HYBES living lab activities in Cork will aim to add value to the existing eco-system of actors progressing decarbonization initiatives in the region. It will aim to enable better cross fertilisation between the pioneering innovations and initiatives and help joins the dots for better community engagement and impact.

Focused on strategic alignment, reducing duplication of work and enhancing visibility of community engagement initiatives, it will engage more widely across the quadruple helix to support co-creation work that can engage diverse perspectives towards identifying barriers and realizing solutions for building capacity for citizen/community engagement for decarbonization.

A first priority will be to add cohesion, visibility and develop the eco-system level infrastructure needed for: understanding stakeholder needs; supporting local knowledge transfer and exchange; and co-creating actions and outputs with partners that can contribute to decision making, policy and programme development.

Potential for Trans-national Exchange

Best Practice Transfer	Food waste in the Tourism Sector
Social Inclusion	Warmer Homes Initiative
Skills and knowledge transfer	Community Climate Action Programme (CCAP)
Research & Academic Collaborations	Horizon Europe – AA_AGORA & BioSensei
Impact/influencing policy	Climate Action Plan
Co-operation and collaboration	EU Projects - BGN & Energy Islands; European University Alliances
Cultural festivals, creativity and craft	Multiple Opportunities esp through tourism and festivals grant; Creative Ireland Creative Climate Action Fund
Other	SME (Micro) Business supports – Energy Audits and Energy Grant