AmsTErdam BiLbao cItizen drivEn smaRt cities

Deliverable 3.7:
Impact and major lessons of the PED Innovation Ateliers in the Lighthouse cities and Fellow cities

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List of beneficiaries

No	Name	Short name	Country
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2	AYUNTAMIENTO DE BILBAO	City of Bilbao	Spain
3	FUNDACION TECNALIA RESEARCH & INNOVATION	Tecnalia	Spain
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Document History

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DoA	• Introduce the M&E goals in relation the IA. • Outline the monitoring methods, describe the IA stages of implementation, the multilevel prospective and M&E framework developed to support the monitoring activities • Report on the main results of the monitoring activities in the two Lighthouse cities and in the Fellow-Cities focusing the Stabilization stage (2023-2024) and long-term continuation plans. • Report on learnings about the Innovation Atelier concept and Monitoring activities		
Date	**Version**	**Author**	**Comment**
11/2024	V 0.1	Juanita Devis (AMS)	Toc and general structure
12/2024	V 1.1	Juanita Devis (AMS)	General structure and include the previous work. Introduction, M&E framework, stages of Implementation of IA, Summary of the results during the previous stages reported in D.3.6. Relation with other projects
01/2025	V 1.2	Juanita Devis (AMS)	Analysis and synthesis of data collected during the 2023-2025 period

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03/2025	V 1.4	Omar Shafqat (AUAS) and Begoña Molinete (EVE)	Review deliverable, validate the information of BIA and WP8 (Collaboration with SCC community)
03/2025	V 1.5	Juanita Devis (AMS)	Last changes and general review

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Abbreviations and Acronyms

Acronym	Description
AIA	Amsterdam Innovation Atelier
AIC	Amsterdam InChange
AMS	Amsterdam Institute for Advanced Metropolitan Solutions
AUAS	Stichting Hogeschool Van Amsterdam
BIA	Bilbao Innovation Atelier
CEPV	Basque Energy Cluster
COA	City of Amsterdam
COB	City of Bilbao
DBS	Deusto Business School
DEU	University of Deusto
EU	European Union
EVE	Basque Energy Agency
FC	Fellow city
GA	Grant Agreement
IA	Innovation Ateliers
IBE	Iberdrola
LH	Lighthouse city
M&E	Monitor and Evaluation
PED	Positive Energy District
RMA	Reflective Monitoring in Action
TEC	Tecnalia
TEL	Telur
TNO	Netherlands Organisation for Applied Scientific Research
WAA	Waag society
WG	Working Groups
WP	Work Package

Table 1 Deliverable abbreviations and acronyms

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0 Executive Summary

The ATELIER project aims to support the development of Positive Energy Districts (PEDs) in Lighthouse Cities (Amsterdam and Bilbao) and their replication in six Fellow Cities (Bratislava, Budapest Copenhagen, Krakow, Matosinhos and Riga). In this context, the Innovation Ateliers (IA) have played a central role in fostering collaboration, learning and replication of best practices supporting Energy transition and climate efforts.

Building on previous deliverables (D.3.6 and D.3.8), this report assesses the impact and key lessons from IA implementation in both the Lighthouse Cities and the Fellow Cities. While the initial scope of M&E activities did not include the Fellow Cities, their inclusion became essential to facilitate cross-city learning, allowing them to benefit from the insights developed by LCs. Additionally, the results generated by the Fellow Cities provided additional examples and allowed for the identification of common IA patterns across the cities. This deliverable examines the evolution of the IA through the Establishing, Maturation, and Stabilisation stages, with a particular focus on Stabilisation and plans for long-term continuation.

Reflective Monitoring has evolved into an embedded methodology, allowing for real-time learning and adaptation. Monitoring & Evaluation (M&E) framework has demonstrated its relevance in supporting the cities in increasing the impact of their IA, in foster cross learning and replication of best practices. The M&E is structured around six key components (Mission, Value Proposition, Strategic Coordination, Open Innovation Activities, Learning & Diffusion, and Organisational Capacity), as played a crucial role in assessing the IA's effectiveness and guiding its long-term impact.

Amsterdam and Bilbao followed different but complementary approaches. AIA adopted an iterative model, refining its structure through the different stages. BIA, in contrast, developed a structured, long-term strategy, embedding its IA within the city's energy transition agenda. The Fellow Cities (Bratislava, Budapest, Copenhagen, Krakow, Matosinhos, and Riga) contributed significantly to this stage, adapting the IA methodology to their local contexts and validating its scalability and flexibility. Their experiences have emphasized the importance of early stakeholder engagement, cross-sector collaboration, and capacity-building efforts.

The findings highlight that Innovation Ateliers are effective platforms for advancing PED implementation, fostering local innovation ecosystems, and accelerating urban energy and climate initiatives. The experiences from Amsterdam, Bilbao, and the Fellow Cities demonstrate that the IA model is scalable and adaptable, supporting its broader replication also in the context of other domains (e.g. EU4ADVICE, MOVE21). The main findings of this deliverable will inform *D.3.9 Guide on Innovation Ateliers*, which serves as a practical framework for scaling IAs in different urban contexts.

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1 Introduction

Climate change and ongoing geo-political events have underscored the urgency of transitioning to a carbon-neutral society. The war in Ukraine, along with the resulting sanctions, has further intensified the need for an energy transition in many cities, accelerating efforts toward climate neutrality and reinforcing commitments to energy independence. In response, the decarbonization of the European energy supply, the shift to sustainable mobility, the enhancement of energy efficiency and thermal comfort in buildings, and the expansion of local energy production have become even more critical. Given the complexity and interdependency of these solutions, deep transformations in business models, institutions, governance structures, human behaviours, and social networks are required. Additionally, new technological solutions are essential to enable seamless integration and interaction between buildings, systems, and infrastructures.

The EU ATELIER project aims to contribute to the realization of a carbon neutral society by supporting the realization of Positive Energy Districts (PEDs) in the Lighthouse and Fellow cities. PEDs are urban areas or groups of connected buildings that actively manage to produce a surplus or renewable energy and net zero greenhouse emissions. The energy surplus is shared in regional or local energy grid (JPI Urban Europe, 2020).

WP3 aims to support the deployment of Innovation Ateliers by enabling different city actors to learn, adapt and implement Positive Energy Districts in their local context. The aim of the **Innovation Atelier concept is to** support the process of planning, organizing, realizing and/or operating PED solutions and more in general to contribute to **accelerate** energy **transition**, **by setting up a collaborative innovation ecosystem** among key stakeholders (governments, industry, academia, and civil society), to foster exploring, **co-creating new solutions**, **building up the capacity and expertise to learn and to innovate**. This is done locally, across cities and across related projects.

Initially designed to support the implementation of Positive Energy Districts (PEDs), **Innovation Ateliers** (IAs) **have evolved into broader platforms for tackling key urban energy transition and climate challenges**. As cities worked to implement PEDs, it became clear that barriers such as grid congestion, energy sharing, financing, and regulatory adaptation were deeply interconnected with the wider climate and energy transition agenda. As a result, IAs have become embedded in local governance structures, facilitating collaboration between stakeholders to address systemic challenges beyond PEDs. This shift highlights the flexibility and long-term relevance of the IA model in advancing sustainable urban transformation.

Supporting energy transition and climate efforts requires identifying and addressing hurdles in implementing new technical, legal, organizational, and financial solutions. Over the past five years, Innovation Ateliers have focused on bringing together partners, experts, and researchers to co-create and refine solutions that help overcome these barriers. To foster collective learning and development, cross-city

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knowledge exchange and collaboration between Innovation Ateliers have been actively promoted. Key findings, best practices, and lessons learnt have been documented in multiple deliverables, blog posts, and reports, and shared through local and cross-project events. This has strengthened knowledge dissemination and increased impact across the Atelier pilot cities and their extended energy transition ecosystems.

With the ATELIER project extension, cities had the opportunity to further test the long-term continuation of IAs and refine their governance structures. The ambition is to embed the IA model within existing urban governance structures and ensure its sustainability beyond the project's lifetime. This deliverable contributes to this goal by reporting on the results of the 2023-2024 Stabilization Stage, outlining Replication plans, and providing key takeaways for future IA implementation. For simplicity, FCs results and future plans will be reported following the LHs implementation stages. The results reported in this deliverable will inform D.3.9 Guide on Innovation Ateliers: setting up, operation and lessons learnt.

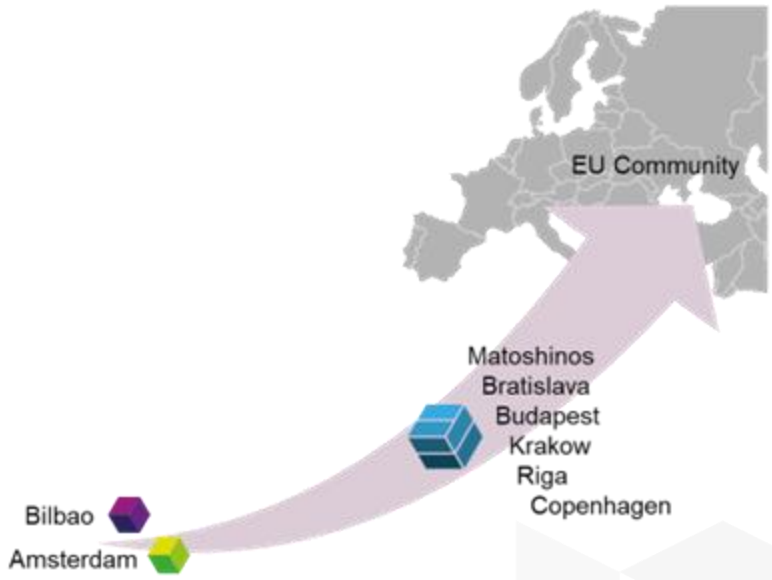

Figure 1 Innovation Atelier Replication and Upscaling process

Given the innovative nature of the solutions developed within the ATELIER project replicating the PED model in other cities requires new approaches to collaboration and governance. **Monitoring and evaluating** the implementation and impact of the Innovation Ateliers **has been crucial in tracking progress, identifying best practices, and refining strategies for replication**.

This deliverable describes the framework developed to monitor and support the Innovation Ateliers implementation in the two Lighthouse cities (LHs) and the Fellow Cities (FCs) and report on the results of the different monitoring activities in the past two years (2023-2024) and on the planned activities in 2025 and beginning of 2026. This deliverable builds on the Monitoring and Evaluation methodology, key components and main results reported in D.3.6 *Lessons learned and experiences with*

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the PED Innovation Ateliers and D.3.8 *PED Innovation Ateliers in the Fellow Cities: Impact and lessons learnt.*

This deliverable is structured as follows. First, we introduce the objectives and expected impact of the deliverable. Second, we outline the monitoring methods, describe the stages of implementation, the multilevel prospective and M&E framework developed to support the monitoring activities. Third, we report on the main results of the monitoring activities in the two Lighthouse cities and in the Fellow-Cities focusing the Stabilization stage (2023-2024) and future for replication. Finally, we reflect on the IA main findings and lessons learnt, its replicability potential, and on the monitoring activities.

1.1. Contributions of Partners

The following table depicts the main contributions from project partners in the development of this deliverable.

Partner short name	Contributions
AMS	Main contributor, overall content
TNO	Reviewing document in connection with Del 3.9, contributions to cross-project information
CEPV	Overall document review, review and contribution on the BIA sections
COA	Formatting of the deliverable, list of events
AUAS	Overall document review, review of the information related to cross-project
COB	Overall document review, Input for the BIA reporting, review of the information related to BIA
FC	Input for the IA long-term plans validation of the content
CARTIF	Organization of joint Monitoring & Evaluation activities with FC

Table 2. Contributions of Partners

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2 Monitoring & Evaluation Framework and Its role in Innovation Ateliers

In this section we describe the Monitoring and Evaluation (M&E) framework, activities and its relation to the overall structure and organization of the Innovation Ateliers. The monitoring cycles and reports are structured according to the different stages Lighthouse Cities follow in the implementation of their Innovation Atelier, specifically: Innovation Capacity Pre-requirement, Establishing, Maturation, Stabilizing, and Long-term continuation. This section also highlights the multilevel strategic governance approach, which connects IAs to the local ecosystem, cross-city and cross-project to enhance impact and knowledge transfer.

2.1 Stages of Implementation of IA

This section describes the five stages of Innovation Atelier (IA) implementation: Preparation, Establishing, Maturation, Stabilizing, and Long-term Continuation (see Figure 2). The core IA implementation process includes the Establishing, Maturation, and Stabilizing stages, while the Innovation Preparation and Long-term Continuation stages typically occur before and after project execution. To support strong governance and facilitate cross-learning and replication of best practices, **M&E should be integrated into the three intermediate stages** of the IA implementation. Each stage represents a distinct phase, from initial setup and collaboration to process refinement, scaling, and long-term sustainability. These stages reflect the overall trajectory of the IA model, with each one building on lessons learnt from the previous phase to ensure long-term impact and replicability.

Fellow Cities were incorporated into the ATELIER project at the end of the Maturation stage for the Lighthouse Cities, and their IA implementation showed differences compared to the Lighthouse stages. Their implementation **did not follow the same process as the LCs**. Facilitated by cross-city collaboration and M&E best practices and lessons learnt, the Fellow Cities were able to accelerate their IA adoption. Unlike the LCs, they were not expected to build their Positive Energy District (PED) through a pilot but instead were tasked with creating a plan (although some are planning to implement pilots). They had to rapidly mature and stabilize their IA systems to ensure long-term continuation after the project ends.

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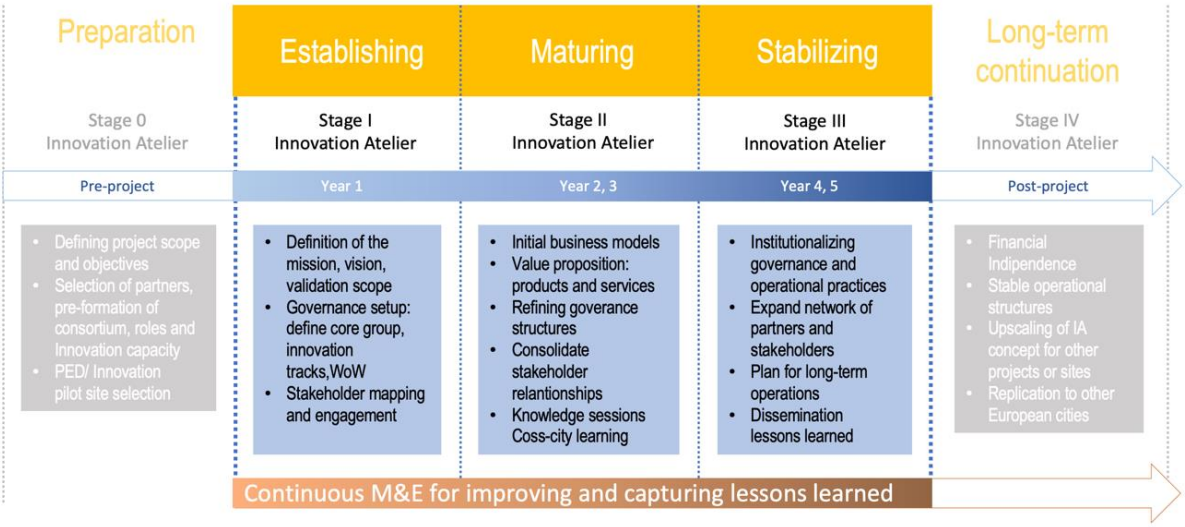

Figure 2 Stages of implementation of the Innovation Ateliers

2.1.1 Preparation stage (Pre-project)

This stage **focuses on creating the necessary conditions** for an Innovation Atelier **(IA) to emerge**, ensuring alignment with broader urban, regional, or national policies. This stage involves securing an agreement among key stakeholders and allocating initial resources for collaboration. The IA may originate as part of a project proposal, city urban policies, neighbourhood plans, or national/regional programs. During this phase, the consortium or core group of stakeholders is formed, defining shared goals, initial scope, and priority areas. The roles and responsibilities of key actors are identified, setting the foundation for governance structures and early-stage planning.

2.1.2 Establishing Stage (2020)

The Establishing stage **focuses on creating the foundational structures** for the Innovation Atelier. This includes identifying key stakeholders to engage, setting up governance frameworks, mission, vision, initial value proposition and defining the innovation tracks (thematic areas). Key stakeholders are identified and engaged through participatory activities ensuring alignment with local strategic agendas. The goal is to foster a collaborative environment where diverse actors can align on energy transition goals. Monitoring and Evaluation systems are introduced to track early progress, identify initial barriers, and refine the IA working approach, thereby laying the groundwork for the subsequent stages of development.

2.1.3 Maturation Stage (2021-2022)

During the Maturation stage, the **focus shifts toward refining operational processes**, strengthening partnerships, and scaling up activities. Governance structures and operational aspects of the Innovation Atelier are fine-tuned, including strategic coordination, stakeholder engagement, and value proposition validation.

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Cross-city knowledge exchange becomes central, with cities sharing experiences and best practices. The M&E framework further supports the IAs in navigating the increasing complexity of activities, ensuring that the collaborative process and the value created become more integrated and effective as it matures.

2.1.4 Stabilizing Stage (2023-2024)

In the Stabilizing stage, the Innovation Atelier's processes and governance are fully embedded and operational. The emphasis is **on standardizing practices, consolidating gains, and ensuring long-term sustainability**. Strategies for continued operation and scaling are developed, including business models and financial plans. New stakeholders are invited to contribute, and scope is expanded to include their needs. M&E framework continues to be deeply integrated into ongoing activities, ensuring continuous progress tracking and real-time adjustments and supporting long-term impact. The goal is to establish a self-sustaining, replicable model that can support IA long-term impact, while continuing to foster cross-city collaboration and innovation.

2.1.5 Long-term continuation Stage (2025-2026)

The long-term continuation stage focuses on **ensuring the sustainability of the Innovation Atelier model beyond the project's duration**. This stage is characterized by the establishment of a stable organization or governance framework, capable of addressing broader innovation challenges beyond the initial scope. The focus shifts toward implementing self-sustaining business models, financial independence, and operating IAs in the context of long-term city strategies or multi-city collaborations. Replication can occur through the adaptation and replication of IA methodologies in new districts, cities, or thematic areas, leveraging lessons learnt from the IA and other related projects. Strong engagement with local, regional, and international stakeholders ensures that IAs continue to evolve as key enablers of transition.

2.2 Multilevel strategic governance in the implementation of IA

Since the project proposal stage, the multilevel strategic governance was embedded in the different WPs. However, it was not initially a focus of Monitoring & Evaluation (M&E) activities, its primarily goal was to analyse the results generated by Lighthouse Cities within their local ecosystems. With the integration of the FCs and the stabilization of BIA and AIA, three levels of results started to emerge from the M&E activities. Initially the multilevel-prospective appeared in one of the M&E key components, strategic coordination, and then across the different components. It was even more present when analysing the M&E main findings across all the IA. Based on these findings, the authors have introduced this section to highlight the multilevel perspective and its three levels, which emerged as part of the M&E results.

In this **section we introduce the three levels of governance structure** identified in the context of the results of the M&E activities: cross-project, cross-city and local

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innovation ecosystem. As demonstrated by the results in following sections, **these levels constantly interact with each other and play a key role in increasing project impact** by disseminating the project learnings, best practices and lessons learnt at different levels. In addition, **they have supported the creation of capacity, expertise in its respective contexts and have been a catalyser of collaborations and new initiatives.**

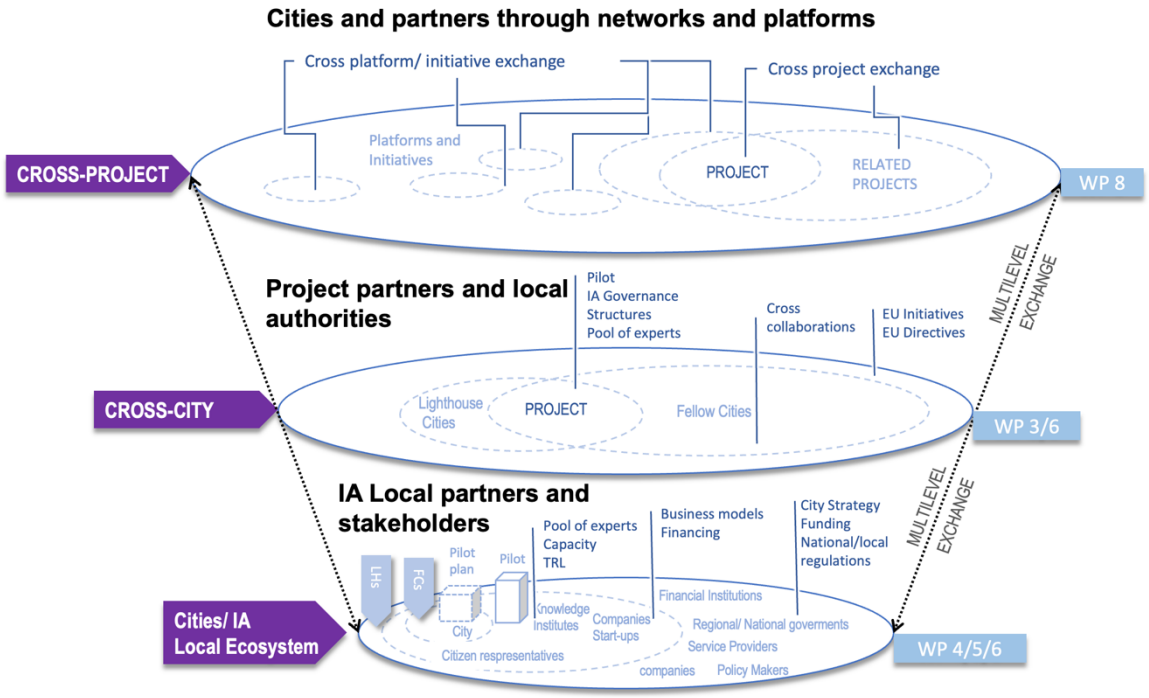

Figure 3 Multilevel strategic governance exchange

2.2.1 Local ecosystem

A **successful IA** implementation **is rooted in local needs** and realities, decision-making, ensuring relevance and alignment with the strategic agendas of key local stakeholders, city-specific needs, policies, and sustainability goals.

2.2.2 Cross-cities

It ensures a **structured exchange of knowledge, solutions, and resources across cities**, leveraging their collective experiences to accelerate impact. In the case of the Fellow Cities, this dimension provided access to a pool of experts from the ATELIER to support the needs FC were experimenting during the implementation.

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2.2.3 Cross-project

It establishes connections between different projects and initiatives to align objectives, share results, and optimize the use of complementary resources. This is typically done by joining or participate in platforms, initiatives or networks of projects working in similar domains and goals.

2.3 Monitoring and Evaluation Framework: Key components, evolution and replicability

In this section we describe the Monitoring & Evaluation framework and its key components, developed in the context of the ATELIER project to support the implementation of the IA in the Lighthouse Cities and Fellow Cities during the different stages of implementation.

The development of the Innovation Atelier's key components has been an iterative, adaptive process that began during the Establishment and Maturation stages and continued through the Stabilizing stage. The **M&E framework evolved across three versions**: starting with an initial version based on Reflective Monitoring in Action (B.C. van Mierlo, 2010) cycles, stakeholder interviews, and observations in Amsterdam and Bilbao. A second version was shaped by a literature review of innovation ecosystem frameworks, while the final version (3.0) was validated through stakeholder reflection meetings and feedback from a community of practice. This approach ensured that the framework was continually refined to address the practical needs of IA implementation. For a detailed description of how the M&E framework and its key components have been developed and validated, we refer the reader to D.3.6, where the entire three-year process is described.

The submission of Deliverable 3.6 *Lessons learned and experiences with the PED Innovation Ateliers* (Devis, et al., 2023) marked a central moment in the ATELIER project, coinciding with the initiation of the Stabilizing stage. The key findings and the refined Monitoring and Evaluation (M&E) framework presented in D.3.6 were disseminated through internal presentations to the ATELIER cities and external events focused on recommendations for establishing successful governance in innovation projects. **The adoption of the same M&E framework across the LHs and FCs cities facilitated increased learning and sharing, allowing cities to more easily identify common challenges, best practices, and frame the next steps of their Innovation Ateliers.** With the adoption of the framework and its six key components across the LHs and the FCs results evolved from only mapping local impact to a more comprehensive Multilevel strategic governance structure: Local ecosystem, cross-city, cross-project. Multiple workshops were organized, fostering cross-learning opportunities and identifying action points for enhancing impact. Additionally, the M&E tool and training module developed and validated in the deliverable were integrated into the AMS Professional Education offering, supporting governance setup in multiple projects. The tool was also adopted by the EU4Advice project (EU4Advice, 2025), extending its impact. These activities demonstrated the relevance of the M&E framework and its six key components in supporting the governance and impact of

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multistakeholder innovative projects, especially in managing complex transitions, and played a key role in establishing successful governance models across the IA cities.

2.3.1 Key Components of the Innovation Ateliers

This section describes the six **M&E key components** that have become **the backbone of the Innovation Atelier's governance structure**. These components have proven essential in driving the IA's operational success, ensuring alignment with sustainability objectives like Positive Energy Districts (PEDs), fostering cross-city collaboration, and enabling scalability across cities and projects. Each component is designed to support continuous learning, facilitate innovation, and build the organizational capacity needed for long-term, replicable outcomes.

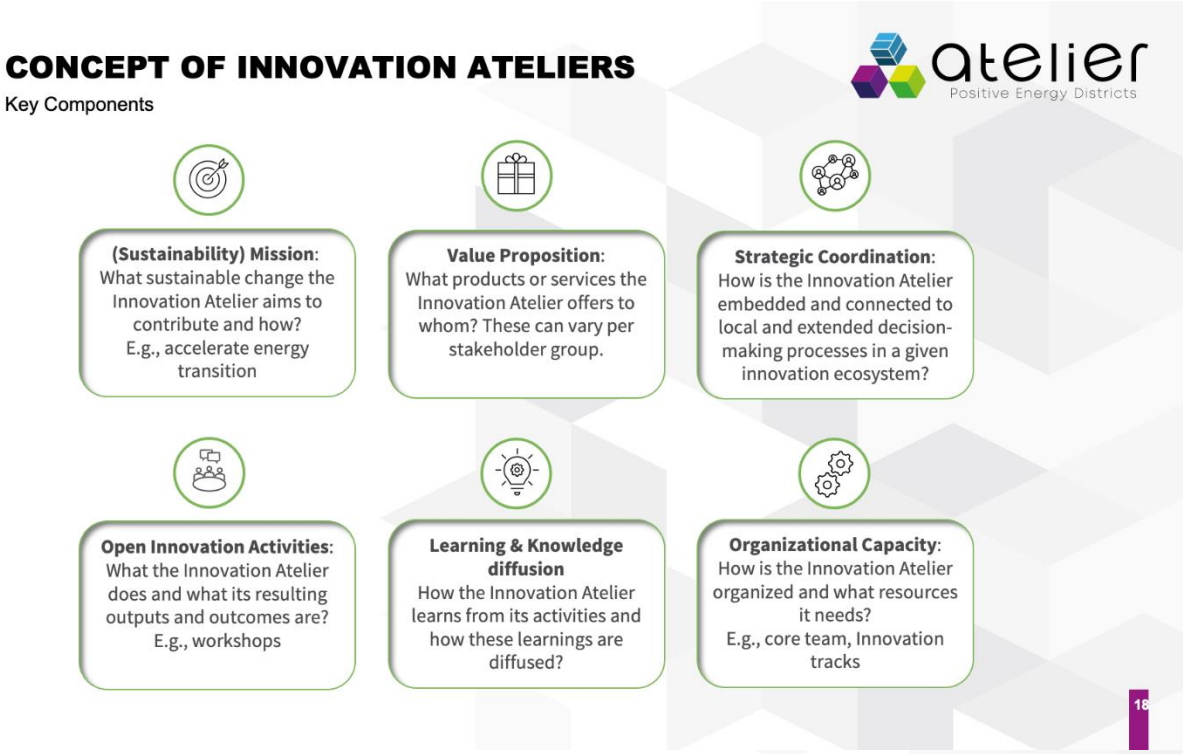

Figure 4 Innovation Atelier Key components

2.3.1.1 (Sustainability) Mission

What is the (sustainable) change the innovation atelier aims to contribute and how it aims to do this?

The Sustainability Mission defines the impact the Innovation Atelier aims to achieve and the approach it takes to get there, aligning with broader sustainability goals such as energy transitions or Positive Energy Districts (PEDs). Successful implementation requires the mission to be closely aligned with local strategies and city visions, providing a shared guiding principle for all stakeholders. As the project progresses, the mission will evolve, from its initial focus to a broader scope, incorporating the priorities of key stakeholders and linking with other ongoing initiatives and projects.

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2.3.1.2 Value proposition

What products or services the innovation atelier offers and to whom?

The Value Proposition explains what the Innovation Atelier offers to various stakeholders whether it's products, services, or resources and how these fulfil specific needs. It focuses on creating value for the local ecosystem through collaboration, knowledge sharing, and providing access to expert networks. A successful value proposition engages stakeholders, delivers tangible outcomes, and adapts to the needs of the community while ensuring long-term sustainability and scalability of solutions.

2.3.1.3 Strategic Coordination

How the innovation atelier is embedded and connected to local, cross-city and cross-project decision-making processes in a given innovation ecosystem?

Strategic coordination describes how the Innovation Atelier is effectively embedded within and connected to the broader innovation ecosystem, involving key actors from business, research, government, and citizens (Quadruple Helix). A successful implementation typically is characterized by an active collaboration with local, cross-city, and cross-project actors to foster alignment, synergy, and impactful decision-making.

2.3.1.4 Open Innovation Activities

What the Innovation Atelier does and what its resulting outputs and outcomes are?

Open Innovation Activities involve collaborative efforts where stakeholders co-create and test solutions to address pressing challenges, such as the energy transition. These activities include workshops, dissemination events, ideation and expert sessions, and real-world experimentation. Successful implementation involves framing activities around relevant community challenges, ensuring broad participation, and fostering an ongoing core group of engaged actors. These activities should lead to concrete outputs (e.g. prototypes, policy recommendations, etc.) and outcomes that contribute to the scaling and replication of solutions across cities or regions.

2.3.1.5 Learning Knowledge and diffusion

How the Innovation Atelier learns and how outputs are diffused?

Learning & Knowledge Diffusion focuses on capturing the insights and lessons from IA activities and ensuring they are shared with relevant stakeholders locally, regionally, and internationally. Effective learning strategies include internal reflection, local knowledge exchange through events, and cross-project and cross-city communication via webinars or joint workshops. The goal is to ensure that lessons are actionable and accessible, enabling replication and scaling of successful solutions in other contexts or regions.

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2.3.1.6 Organizational Capacity

How is the Innovation Atelier organized and what resources it needs?

Organizational Capacity refers to the structures, resources, and governance mechanisms necessary for the IA to operate successfully. It includes clear leadership, defined roles, and robust collaborative frameworks to ensure the IA can adapt to new challenges. A strong organizational structure enables effective coordination, allows for the integration of citizen perspectives, and ensures the IA has the flexibility to scale and sustain innovative solutions long-term.

2.4 Evolution of Monitoring Method: From Establishment to Stabilization

This section describes how the Monitoring & Evaluation activities have been executed, and the M&E framework has been adopted first by the Lighthouse cities and, then by Fellow cities during the project implementation. First, we will briefly describe how the Monitoring activities were conducted during the Establishing and Maturing Stage. Then we will describe in detail how the Monitoring activities were conducted in the Stabilizing stage (2023-2024). Finally, we will reflect on the overall experience of the monitoring activities.

2.4.1 Establishing Stage (2020): Foundational Setup and Initial Framework Development

During the Establishing stage in 2020, the monitoring activities focused on setting up core team meetings and establishing initial contact with key partners in both the Amsterdam and Bilbao Innovation Ateliers. In Bilbao, language barriers initially hindered direct participation from the observation team, but regular meeting with the BIA coordinator, allowed for effective monitoring. In Amsterdam, the Lead Observer participated in all core team meetings without language barriers, contributing to discussions on IA organization, topic selection, and stakeholder engagement. Both cities conducted interviews with partners and stakeholders to gain insights into the IAs' operational status and the realization of PED ambitions, which informed follow-up reflection workshops. Periodic progress reports and online surveys helped track the early stages of both the establishment and maturation of the IAs.

Monitoring adaptations were made based on early lessons learnt. These included simplifying the language of the M&E framework to improve understanding, conducting parallel monitoring cycles to enable comparative analysis, and integrating monitoring steps more organically into the project activities to enhance the efficiency of data collection and analysis.

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2.4.2 Maturation Stage (2021-2022): Process Refinement and Early Integration

In the Maturation stage (2021-2022), monitoring activities focused on assessing how each Lighthouse city was advancing in the implementation and operation of its Innovation Atelier. Both cities were encouraged to reflect on their processes, share lessons learnt, and validate the key components of the M&E framework. This stage saw the evolution of the monitoring process into a more integrated approach, building on insights from earlier activities. Regular bi-weekly T3.3 meetings were held to discuss observations, leading up to structured reflection meetings in both Amsterdam and Bilbao. These meetings, which followed a consistent format (introduction, reflection, and next steps) enabling a comparison of the two IAs. In 2022, as new team members joined, language issues with BIA were resolved, enabling for direct monitoring during WP5 meetings and other activities. In addition, monitoring expanded to include a cross-city event in Matosinhos, where Lighthouse cities shared their experiences and outcomes with Fellow cities to support their own IA creation. These reflection meetings and cross-city workshops provided valuable insights into the practical implementation of IAs, further refining the M&E framework.

2.4.3 Stabilizing Stage (2023-2024): Integration and Consolidation of Monitoring Practices

During the Stabilizing stage, monitoring practices were consolidated and fully integrated into the ongoing work of the Innovation Ateliers (IAs).

The Monitoring & Evaluation (M&E) framework, refined in earlier stages, was adopted across both Lighthouse cities (AIA, BIA) and Fellow Cities (FCs). For this the monitoring activities were extended to WP6 (PED Replication & Upscaling), and multiple joined activities were conducted in collaboration with the WP leaders (CARTIF). By this stage, monitoring was no longer an external task but an embedded part of regular events like Cross-city events, technical meetings, and IA recurrent meetings, reducing the need for additional monitoring-specific activities.

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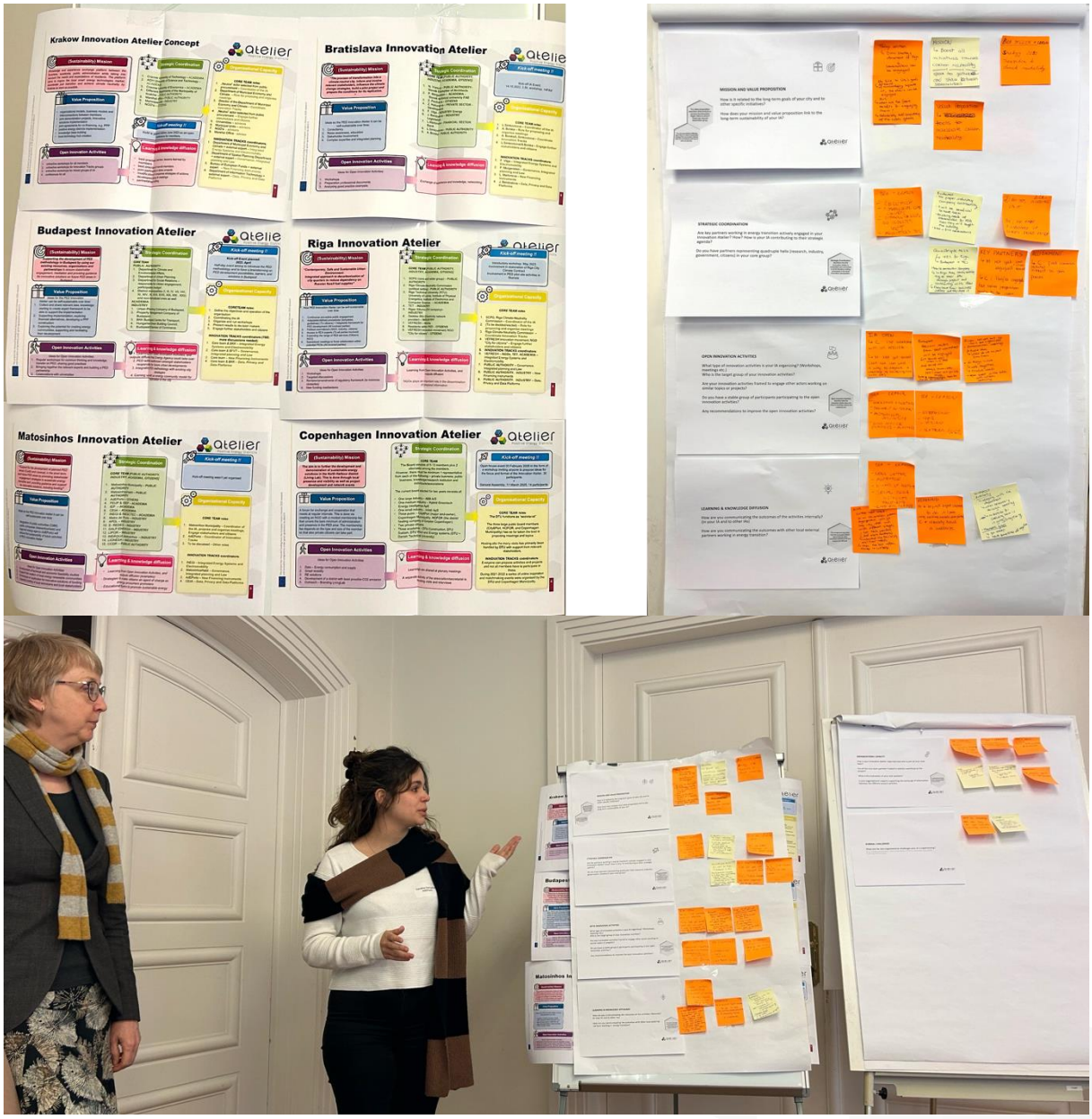

Figure 5 M&E workshop with the Fellow Cities during the Bratislava City Event

A key development was the standardization of monitoring practices, which facilitated better data collection and comparisons across cities. **The consistent use of the M&E framework and its key components helped identify common challenges, find solutions, and foster cross-city learning.** This shared approach enabled more meaningful tracking of progress and reinforced a collective understanding of barriers and opportunities in implementing Positive Energy Districts (PEDs).

Reflective Monitoring in Action (RMA) steps, which had been complex in earlier stages, were streamlined during the Stabilizing stage. The process of observation, reflection, and adaptation became an implicit part of ongoing monitoring, simplifying the process and encouraging continuous learning. Reflection meetings now included both

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Lighthouse and Fellow Cities, facilitated broader participation and enabled timely sharing of findings to support real-time learning and adjustments.

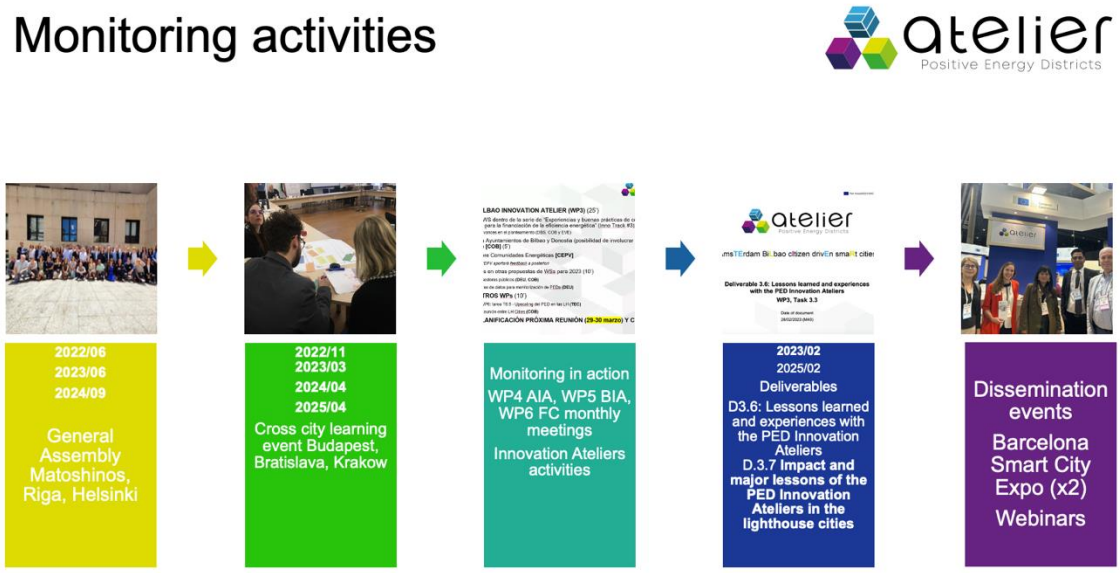

Figure 6 Monitoring in the context of ATELIER project activities

By **aligning monitoring activities with ongoing project events**, the process became an integral part of the IAs' workflows. In-person meetings and workshops facilitated rich, open-ended discussions that enhanced knowledge sharing and led to better qualitative insights. Monitoring evolved from a separate activity to a natural, functional component of the IAs, driving accountability and fostering continuous improvement. To gather and validate the data about FCs plans for replicability and additional survey was conducted.

2.4.4 Overall Reflections on Monitoring Method Evolution

The monitoring activities evolved significantly across the three stages of the project. During the **Establishing Stage**, the focus was on setting up the foundational monitoring structures and addressing early challenges, such as language barriers and engaging key stakeholders. In the **Maturing Stage**, the process became more integrated, with the M&E framework refined and adopted by both Lighthouse and Fellow cities, fostering cross-city learning and collaboration. By the **Stabilizing Stage**, the monitoring process had solidified, becoming an embedded, functional part of the ongoing project activities. The integration of the M&E framework into existing events and workflows, along with simplified RMA steps, ensured real-time learning and continuous reflection, making monitoring a seamless and valuable tool for tracking progress and adapting strategies across cities. The evolution from setup to stabilization ensured a robust, adaptable monitoring system that facilitated effective data collection, knowledge sharing, and the identification of best practices for Innovation Ateliers.

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3 Outcomes Monitoring activities in Lighthouse cities and Fellow cities

This chapter reports the key results of the monitoring activities of the IA implementation in the Lighthouse cities, Amsterdam (AIA) and in Bilbao (BIA), and Fellow cities during the project implementation. First, we will briefly describe the main results of the monitoring activities during the Establishment and Maturation stages, then we will describe in detail the results on Stabilization and planned actions for the Long-term continuation.

For simplicity and **considering the anomalies in IA implementation in the Fellow Cities** (FCs), **we will report the results** and future long-term plans **using the same stages as the Lighthouse cities**. The FCs were incorporated into the ATELIER project at the end of the LHs' Maturation stage, and their IA implementation presented different characteristics. Facilitated by cross-city collaboration and M&E best practices and lessons learnt, the Fellow Cities were able to accelerate their IA adoption. Unlike the LCs, they were not required to implement a Positive Energy District (PED), but instead to create a plan (though some may implement pilots). Given the shorter timeline, the FCs had to rapidly mature and stabilize their IA systems to ensure long-term sustainability after the project termination.

The outcomes of the monitoring and evaluation activities will be extrapolated in a practical guide, *D.3.9 Guide on Innovation Ateliers: setting up, operation, and lessons learned*, aimed at practitioners seeking to establish their own Innovation Atelier to address urgent and complex sustainable transitions.

3.1 Evolution of the Innovation Ateliers: Establishment and Maturation Stages

This section reports on the **main results from the Establishment and Maturation stages** of the Innovation Ateliers (IAs) in the lighthouse cities, Amsterdam (AIA) and Bilbao (BIA), as well as the exchanges with Fellow cities (FCs). A comprehensive analysis of the results, along with detailed lessons learnt, can be found in D.3.6 Lessons Learned and Experiences with the PED Innovation Ateliers (Devis, et al., 2023).

3.1.1 Establishing Stage (2020)

During the Establishment stage in 2020, the implementation of the Monitoring and Evaluation (M&E) framework revealed significant differences in the initiation of the two Innovation Ateliers (IAs). In Bilbao, the Innovation Atelier (BIA) involved a broad range of partners across all tasks within WP5, focusing on long-term energy transition goals, fostering innovation, and building collaborative partnerships. BIA adopted a more structured and comprehensive approach from the outset, integrating diverse stakeholders in the process. In contrast, the Amsterdam Innovation Atelier (AIA) initially focused on the PED pilot in Buiksloterham and engaged fewer external partners,

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particularly small and medium enterprises, and pursued a more flexible, iterative approach to defining its value proposition. This difference in approach reflected the local contexts and the specific challenges faced by each city.

3.1.2 Maturing Stage (2021 and 2022)

In 2021, the monitoring activities focused on developing and validating key performance indicators for both IAs in Amsterdam and Bilbao. This led to several important insights. Although the M&E framework provided valuable guidance, participants in both IAs initially faced challenges in fully grasping some of its components, particularly those related to the sustainability mission. This highlighted the need for clearer explanations and stronger connections between the overarching sustainability mission and the specific activities of the projects.

Bilbao's Innovation Atelier (BIA) succeeded in defining a clear and relevant value proposition and in establishing strategic coordination, successfully engaging key stakeholders in the energy transition process. In contrast, Amsterdam's Innovation Atelier (AIA) was still refining its value proposition, working to position the project more strategically within the broader context of its partner network. While both cities were satisfied with the workshop formats, BIA reported more positive impacts, whereas AIA identified areas for improvement, especially in terms of follow-up activities.

Monitoring also revealed a convergence in the organizational structures of both IAs, despite their differing initial approaches. AIA followed a 'learning-by-doing' approach, while BIA took a more structured and defined path. This convergence reflected the adaptability of the Innovation Atelier model, demonstrating its potential to be replicated across diverse urban contexts.

In 2022, monitoring activities focused on validating the relevance of the Innovation Atelier (IA) concept and fostering knowledge exchange with Fellow cities. Amsterdam and Bilbao presented their IAs at the Matosinhos Cross-city event, where they shared both progress and challenges in implementing Positive Energy Districts (PEDs). AIA made significant progress in refining its sustainability mission and value proposition, while BIA further matured in its operational approach, creating more value for the local energy transition ecosystem.

The Matosinhos city event (see Figure 7) provided a valuable platform for dialogue, allowing Amsterdam and Bilbao to engage with Fellow cities and address shared challenges such as restrictive policies, construction delays, and citizen engagement. These exchanges emphasized the importance of knowledge sharing, highlighting the potential for the Innovation Atelier model to be replicated in different cities. Despite the local contextual differences, common challenges, particularly in citizen engagement and energy community development, emerged as central themes. These challenges offered an opportunity for cross-city learning, as best practices and lessons learnt were shared between the IAs and Fellow cities, reinforcing the IA model as a key tool for accelerating urban energy transitions. Cross- city learning will further materialize in the next IA stages in the context of General Assemblies and ATELIER City events in Bratislava, Riga, Krakow.

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Figure 7 Matosinhos city event 2022

3.2 Evolution of the Innovation Ateliers: Stabilizing and plans for Long-term continuation

In this section we describe the main results of the Stabilizing stage and the plans of IAs for the Long-term continuation stage in the ATELIER Lighthouse cities and Fellow cities.

3.2.1 Stabilizing (2023-2024)

The Stabilizing stage was marked by the submission of D*.3.6 Lessons learned and experiences with the PED Innovation Ateliers* (Devis, et al., 2023) and a period where the learnings from the implementation of the Innovation Ateliers (IAs) were consolidated and shared with both Lighthouse and Fellow cities. This stage also focused on reflecting on the organization of the IA and fine-tuning the operational aspects of the IAs to increase impact in each of the local ecosystems. In addition, IAs focused in developing strategies to ensure the long-term sustainability of their organization and in scaling and replicating the developed solutions.

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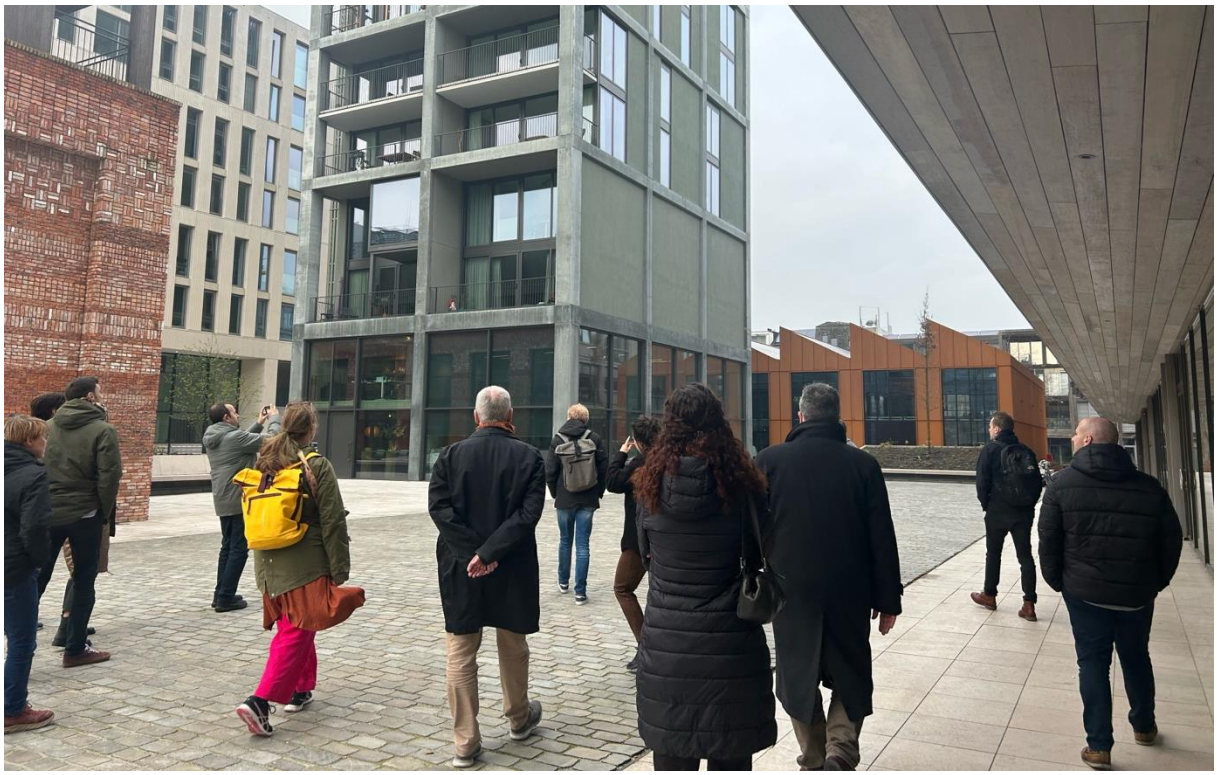

Figure 8 Amsterdam Technical Site Visit March 2024 – Republica

3.2.2 Amsterdam Innovation Atelier

During its stabilisation stage (2023–2024), the Amsterdam Innovation Atelier (AIA) has strengthened its role in the city's energy transition by **broadening its mission, activities, and structure to better align with the needs** and strategic agendas of the relevant **stakeholders**. A major development has been the growing collaboration with Amsterdam InChange (AiC) previously Amsterdam Smart City (ASC), a new partner enhancing AIA's reach and impact. Alongside the City of Amsterdam (COA), particularly with its energy and innovation teams, AIA continues to drive engagement and knowledge exchange, reinforcing its position within the local innovation ecosystem.

3.2.2.1 AIA (Sustainability) Mission

The Amsterdam Innovation Atelier's (AIA) sustainability mission has undergone significant evolution. Originally focused on the implementation of Positive Energy Districts (PEDs), **the mission has expanded to encompass the broader energy transition strategy**. This evolution has enabled AIA to support key actors in addressing pressing energy challenges in Amsterdam and other Dutch cities, including grid congestion, the development of energy communities, and the implementation of local energy-sharing systems. By broadening its scope, the AIA has successfully connected its findings to ongoing initiatives to decarbonize the urban energy

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landscape. For instance, with its pool of experts, AIA played a key role in supporting Amsterdam's candidacy and submission for the EU's 100 Climate-Neutral Cities initiative. In addition, it has assisted both the EU and the Dutch government in advancing the implementation of local energy-sharing regulations.

3.2.2.2 AIA Value proposition

In the Stabilizing stage (2023-2024), AIA has refined its value proposition, ensuring that it addresses the strategic needs of existing partners while being attractive to key stakeholders. In this stage, the PED concept and learnings passed from being the core of the IA to be the source of knowledge and expertise about how to accelerate energy transition and address current local challenges. This evolution focused on enhancing the impact of the activities, ensuring long-term relevance, and further solidifying AIA's role in accelerating energy transition across Amsterdam and beyond.

- **Access to a pool of PED and energy experts**: Offering expertise to support critical initiatives like local energy-sharing regulation and urban decarbonization strategies, including Amsterdam's bid for the EU's 100 Climate-Neutral Cities initiative.
- **Translate PED development experiences into actionable knowledge for the local ecosystem:** This is done by integrating challenges and lessons learnt from PED implementation into innovation track activities. Key focus areas include technical governance, finance, and data within the broader sustainable energy transition.
- **Integrated funding strategies**: Assisting in the development of project proposals and funding strategies to secure financial support for energy transition initiatives.
- **Developing financing strategies for energy transition**: For this several funding strategies have been introduced in track 3. Examples include Financing energy savings, Public-private collaboration in funding strategies, Finance and business models for energy communities, Finance multifunctionality, Investment platform, Value case of the PED.
- **Network of key stakeholders**: Establishing a strengthening a network of key stakeholders working on energy related initiatives. This network was further matured thanks to the progressive integration in the AIC activities.
- **Innovation Atelier workshops and activities**: Organizing targeted workshops and events to connect stakeholders, accelerate knowledge exchange, and drive the realization of energy transition projects.
- **Capacity-building and best practices**: Delivering feedback and sharing best practices to help Amsterdam and Dutch partners scale successful solutions in diverse urban contexts.

In addition, the concerns about the AIA long term value proposition after the project termination has been addressed with the signature of the collaboration agreement between Amsterdam Innovation Atelier, Amsterdam InChange and the City of Amsterdam.

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3.2.2.3 AIA Strategic Coordination

In the stabilizing stage (2023-2024), the **Amsterdam Innovation Atelier** (AIA) has further **solidified its role as a driver of the energy transition in the local ecosystem**. By leveraging on its expertise and network of local and international experts, AIA has become a catalyst for accelerating the transition. Its involvement in the broader EU network has enabled the replication and adaptation of Positive Energy District (PED) solutions across different contexts, contributing to a validated framework for energy transition.

AIA has successfully integrated with **Amsterdam InChange** (AiC), a network organization focused on urban sustainability challenges in the Amsterdam region. This **collaboration** has **strengthened its connections with key stakeholders** across sectors, providing a platform for engaging businesses, research institutions, government bodies, and energy communities. This ensures AIA's initiatives align with, and support, ongoing energy transformation efforts. AIA's expert pool, particularly in energy-sharing systems, has had a tangible impact on local policy and the implementation of EU directives on energy sharing. Furthermore, AIA played a pivotal role in supporting the City of Amsterdam's submission for the EU's 100 Climate-Neutral Cities initiative, with technical assistance from partners like TNO.

The AIA Republica PED **pilot site**, with its **regulatory sandbox**, has provided valuable insights for Dutch regulators and policymakers, offering a unique testing ground for innovative energy solutions (e.g. technical, governance, community and market) that would not be feasible under standard regulatory frameworks. Lessons learnt from these tests are actively **feeding back into policy discussions**, helping shape the future of energy regulation in the Netherlands. In addition to policy implications, the installation of **battery systems** for grid load balancing has yielded crucial lessons on operational effectiveness, as well as **challenges related to pricing models and the technical integration** of energy-sharing systems. While progress has been made, these technologies have highlighted areas for further refinement to ensure the successful scaling of decentralized energy solutions.

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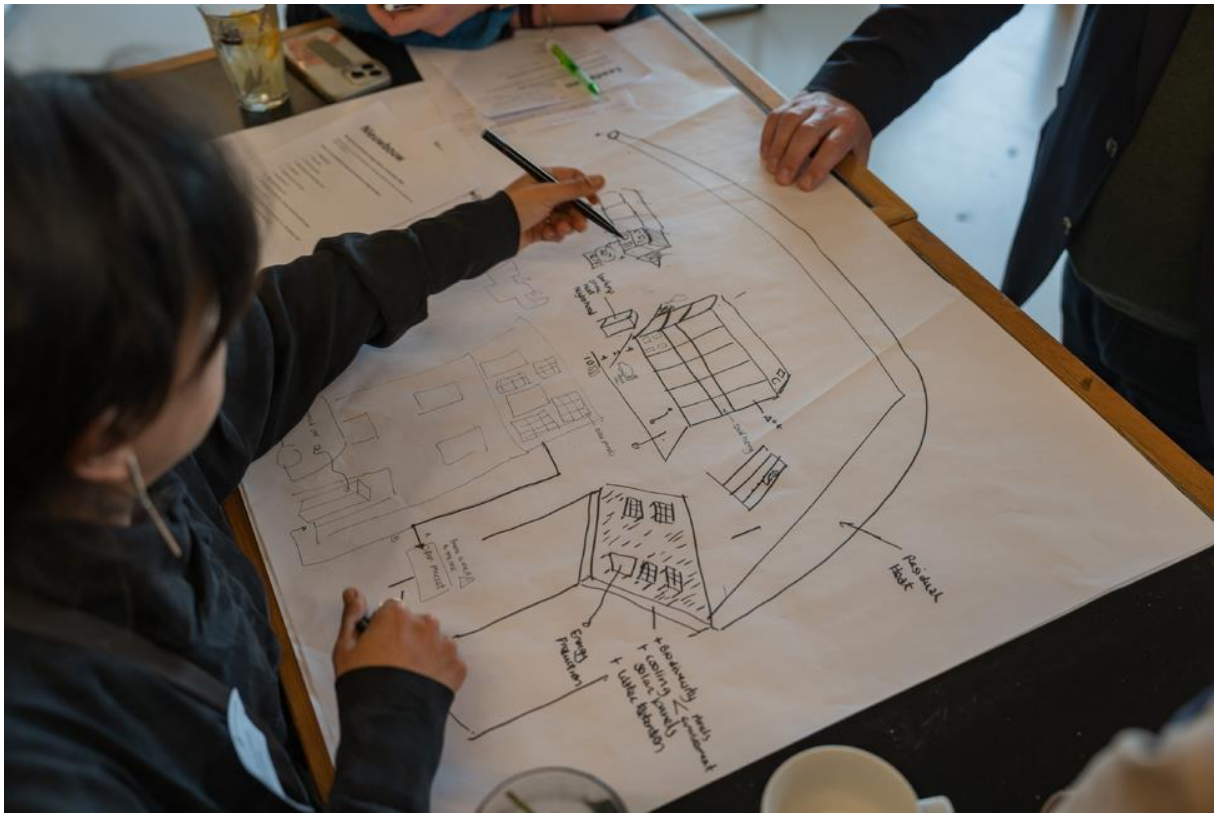

Figure 9 Session on financing multiple investments simultaneously during Amsterdam Network Event Nov 2024

Engaging residents at Republica proved challenging, as many were unknown during the development process. However, Amsterdam ATELIER contributors mitigated this by consulting with nearby communities and hosting an artistic intervention at Republica to communicate the project's impact and gather feedback. Despite ongoing difficulties, particularly in engaging energy providers who remain reluctant to support decentralized models, AIA has made significant progress in overcoming barriers to broader energy transition efforts.

3.2.2.4 AIA Open Innovation Activities

During the stabilization stage, **the Amsterdam Innovation Atelier focused on embedding learnings from the PED implementation into the broader energy transition landscape**, making its work more relevant to key local stakeholders, including service providers and governmental organizations. This was achieved through expert sessions, integration into existing events, and collaborations with strategic partners.

Key activities included:

- **Workshops on Local Energy Systems (2023):** Sessions during the **AIC Transition Day (June 2023)** and other **AIC hosted activities** explored energy-sharing barriers, monitoring approaches, and policy alignment.

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- **Energy Data Commons Workshop (March 2023):** Experts discussed data-sharing mechanisms for PEDs, emphasizing transparency and interoperability.
- **Business Models for Energy Flexibility (January 2024):** AIA led a workshop (**WS#11**) as part of a congestion management series, focusing on flexibility models for sustainable energy use.
- **5-Year Celebration Event (November 2024):** AIA organized a major event to reflect on its achievements and engage wide range stakeholders in the Amsterdam innovation ecosystem. Sessions covered all innovation tracks, project results were presented, and the event concluded with the signing of an agreement with AIC **and COA** to formalize ongoing collaboration.

By leveraging existing events and expert sessions, including multiple presentations within **co-hosted AIC activities**, AIA ensured its insights contributed to broader discussions on energy transition, supporting continued innovation and cross-sector collaboration in Amsterdam.

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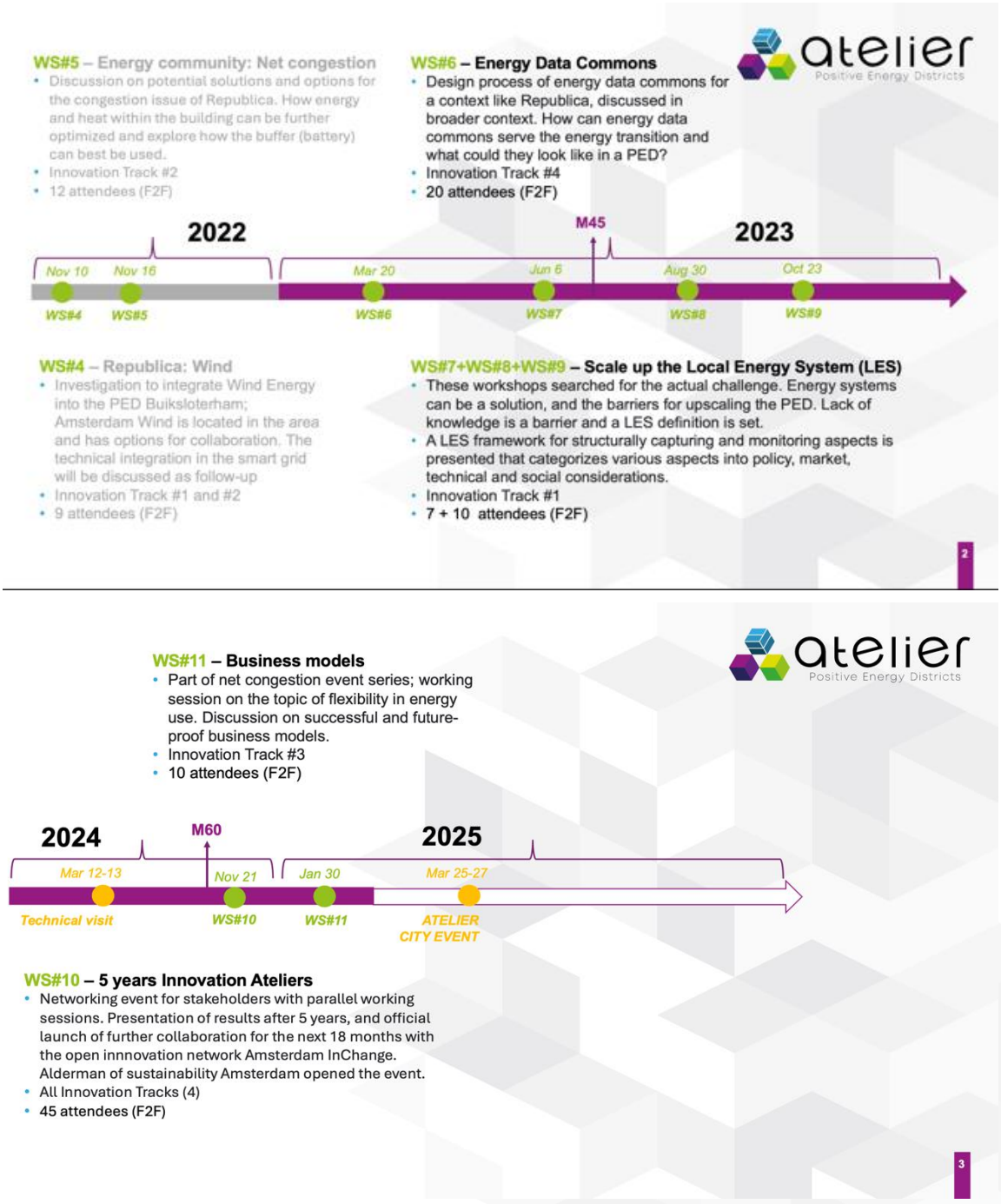

Figure 10 AIA Open Innovation Activities

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3.2.2.5 AIA Learning Knowledge and diffusion

During the period from 2023 to 2024, the Amsterdam Innovation Atelier (AIA) focused on disseminating its knowledge and lessons learnt through various events and collaborations. AIA organized **workshops and webinars** with both internal and external stakeholders, discussing topics related to the IA innovation tracks, particularly around **energy-sharing, grid congestion, new financial instruments** and other critical issues. These events were integral in bringing together partners to address specific challenges in the local energy transition context. In addition, AIA drafted internal reports summarizing the outcomes of these sessions, which were shared within the team to ensure reflections and actionable next steps were captured. Cross-project or cross-city events further helped disseminate findings and best practices to a wider audience. Locally, Amsterdam InChange **(AIC) provided a platform for AIA** to share insights with the broader network, gather feedback, and further diffuse knowledge (see Figure 11). This collaboration with AIC helped amplify the impact of

Figure 11 Session on local energy systems during the AIC Transition Day in June 2023

AIA's work by ensuring key learnings were accessible to a broader network of stakeholders, contributing to the scaling of energy transition models across different urban contexts.

3.2.2.6 AIA Organizational Capacity

Amsterdam Innovation Atelier (AIA) made important progress in strengthening its organizational capacity, addressing both internal and external challenges. The **organizational capacity of AIA evolved** from being structured in two parts, Atelier Amsterdam Core Team and the Innovation track coordinators, **to have a cohesive core group** actively contributing to the IA.

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The uncertainty regarding the AIA long-term continuation beyond the project duration was successfully addressed with the functional merging with Amsterdam InChange (AiC), a well-established network organization focused on urban sustainability. This collaboration was formalized through an agreement signed in November 2024 between AIA's core partners, AiC, and the City of Amsterdam (COA), ensured a more robust and sustainable organizational structure moving forward.

Personnel transitions in 2023, including change of chairing the Core team of AIA, initially raised concerns about AIA continuation. However, these challenges were effectively managed as new team members were brought on board, further strengthening the core team. The reorganized structure helped improve coordination and created stronger connections within the team with knowledge institutes (AUAS, TNO, and AMS) taking a more active role, adding significant expertise to the project. Other concerns related to the partner capacity and contribution were mitigated.

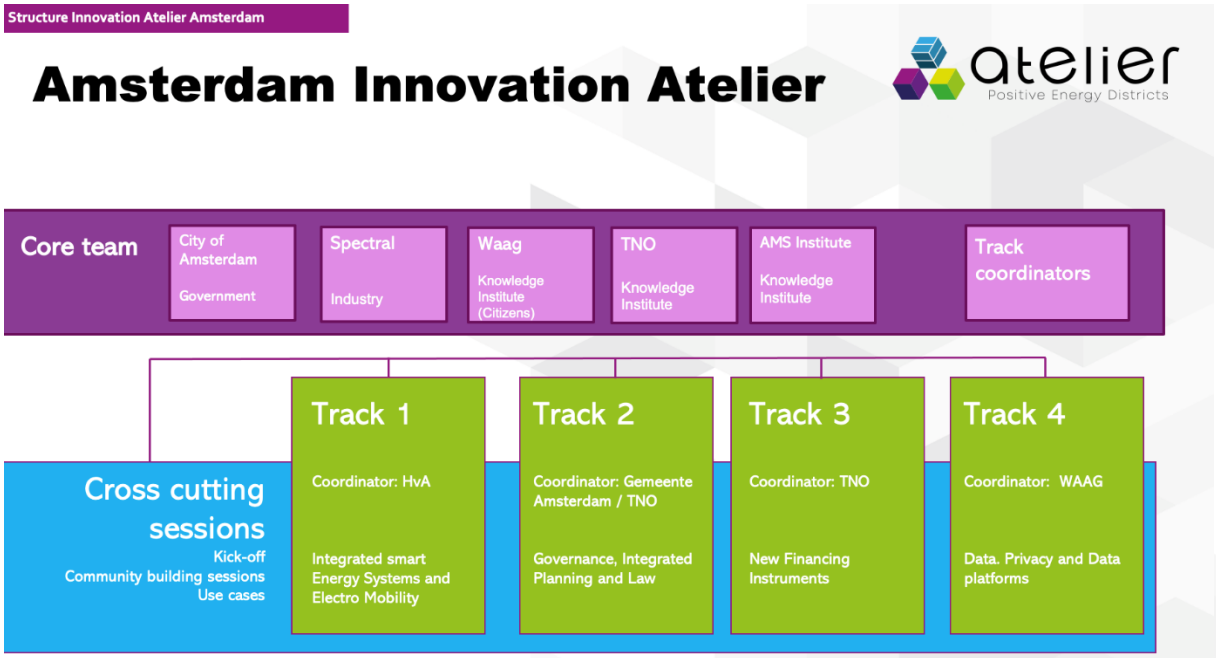

Figure 12 Amsterdam Innovation Atelier Organizational Capacity

3.2.3 Bilbao Innovation Atelier

During the stabilisation stage (2023–2024), the Bilbao Innovation Atelier (BIA) has strengthened its role in the local energy transition while maintaining close collaboration with its core partners, including the Basque Energy Cluster (BIA coordinator), Tecnalia, EVE, University of Deusto, Iberdrola, Telur and the City of Bilbao. Through knowledge sharing and practical collaboration, BIA started to align with regional priorities and emerging challenges. As it matures, its impact within the innovation ecosystem remains strong, ensuring continuity and adaptability in Bilbao's sustainable energy transition.

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3.2.3.1 BIA (Sustainability) Mission

The (sustainability) mission of BIA is to promote a sustainable energy transition model and contribute to the development of the Bilbao City Vision 2050 and its energy transition strategy, in close connection with WP2 (City Vision 2050) activities. During the stabilisation stage, BIA has remained closely committed to its original mission while further strengthening and maturing its connections with key energy stakeholders within the local ecosystem. To achieve this mission, BIA has engaged these stakeholders in its Innovation Atelier, where they are contributing to the co-creation of the Bilbao City Vision 2050, the transformation of Zorrotzaurre into a Positive Energy District, and broader energy transition efforts in the region.

3.2.3.2 BIA Value proposition

During the Stabilizing stage, BIA's value proposition continues to focus on its role as a catalyst for sustainable urban transformation, providing valuable insights, knowledge, and practical solutions for the ongoing energy transition in Bilbao and beyond. As the organization matures, its offerings have become increasingly relevant and adaptable to the evolving needs of local stakeholders, ensuring the long-term sustainability and impact of its work.

The core elements of BIA's value proposition are:

- **Disseminating Progress and Results:** BIA serves as a platform for sharing progress and results from the development of ATELIER smart urban solutions, providing insights into their applicability in the energy transition of Bilbao. This includes detailing the potential of specific innovations like Positive Energy Districts (PEDs) and energy-sharing systems, as well as the application of these solutions in different urban contexts.
- **Engaging the Local Ecosystem:** BIA works closely with local stakeholders to tailor solutions that address local challenges, identify barriers, and fine-tune business models to ensure practical, sustainable implementation of energy transition projects in Bilbao and the surrounding regions.
- **Share knowledge and experiences:** BIA facilitates the exchange of knowledge and best practices with other Smart City initiatives, cities, and solution developers, fostering collaboration and the scaling of successful solutions across diverse urban contexts.
- **Capacity Building for Upscaling:** BIA provides feedback and expertise to help scale up successful solutions, focusing on key areas such as geothermal networks, financial instruments for energy transition, digitalization of urban assets, energy communities, electrification of heat/cooling demand and energy regulation. This drives broader adoption of these innovations in Bilbao and the Basque region.
- **Funding and project opportunities**: Through working sessions, BIA connects local stakeholders with funding opportunities and project collaborations, empowering the development of strong proposals for sustainable energy initiatives.

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- **Collect Feedback from Citizens:** BIA engages citizens in the energy transition process by gathering feedback through the District Councils, via the COB, ensuring their input helps guide local energy solutions**.**

3.2.3.3 BIA Strategic Coordination

During the Stabilizing stage, Bilbao **has maintained its existing approach to strategic coordination**, continuing to embed its Innovation Atelier (BIA) within the local innovation ecosystem. BIA has aligned its efforts with local energy transition policies and engaged key stakeholder (including companies, knowledge institutes, and governments) by providing access to its expert pool from COB, EVE and Tecnalia. This ensures that its activities support the city's goals. Workshops on EU decarbonisation directives and their impact for Municipalities, as well as on the Basque Energy Transition and Climate Change Law (adopted in 2024), which establishes the legal framework for achieving climate neutrality in the Basque Country, have engaged stakeholders at both local and regional levels, further reinforcing BIA's role in the Basque energy transition.

The success of these events highlights BIA's integration within the local and EU ecosystems. For instance, the workshop on the Basque Energy Transition Law, which was joined by 25 of the 75 impacted cities in the region, demonstrated how BIA facilitates local engagement on critical energy and climate regulations. Additionally, BIA's workshop on energy regulation at local level (especially regarding the ban on the use of natural gas in the municipalities) with participation from cities like San Sebastián, Vienna, and Winterthur, illustrates its role in fostering cross-city collaboration on shared energy challenges. These events underscore BIA's effectiveness in bridging local and EU efforts towards a cohesive energy transition.

Although the workshops and activities in the framework of BIA have been primarily focused on the industry/business, institutional and knowledge/academia stakeholder communities, the citizen perspective has been integrated through the COB's role in engaging local communities via district councils, ensuring their voice is considered in energy community discussions.

Additionally, the creation of BilboEner, a joint initiative between EVE and the City of Bilbao to promote energy efficiency, renewable generation and integrated energy planning, demonstrates BIA's success in integrating local projects with broader EU energy transition goals, such as replicating the Zorrotzaurre geothermal network.

3.2.3.4 BIA Open Innovation Activities

Following the needs of the key local stakeholders, BIA organized a series of targeted workshops. These workshops have facilitated knowledge exchange on energy efficiency, digitalization, and regulatory compliance, engaging companies, knowledge partners, and external cities. Sessions include Experiences and Best Practices of Public-Private Collaboration for Energy Efficiency (series of 4 workshops along the project), where stakeholders such as SURBISA, GNE Finance, Deutsche Bank, Giroa

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Veolia, BIDEBI, Fundación Europace, Iberdrola, MUGABI and COB shared insights on building energy efficiency, public-private collaboration and the role of Energy Service Companies (ESCOs); The Basque Energy Transition and Climate Change Law and Its Implications for Local Councils which brought together 25 of the 75 impacted cities in the region to discuss regulatory challenges and opportunities, demonstrating how BIA fosters local engagement on critical energy and climate policies; and Opportunities for the Energy communities in the framework of the energy transition in Bilbao a session led by the Basque Energy Cluster, EVE and COB that disseminated experiences and

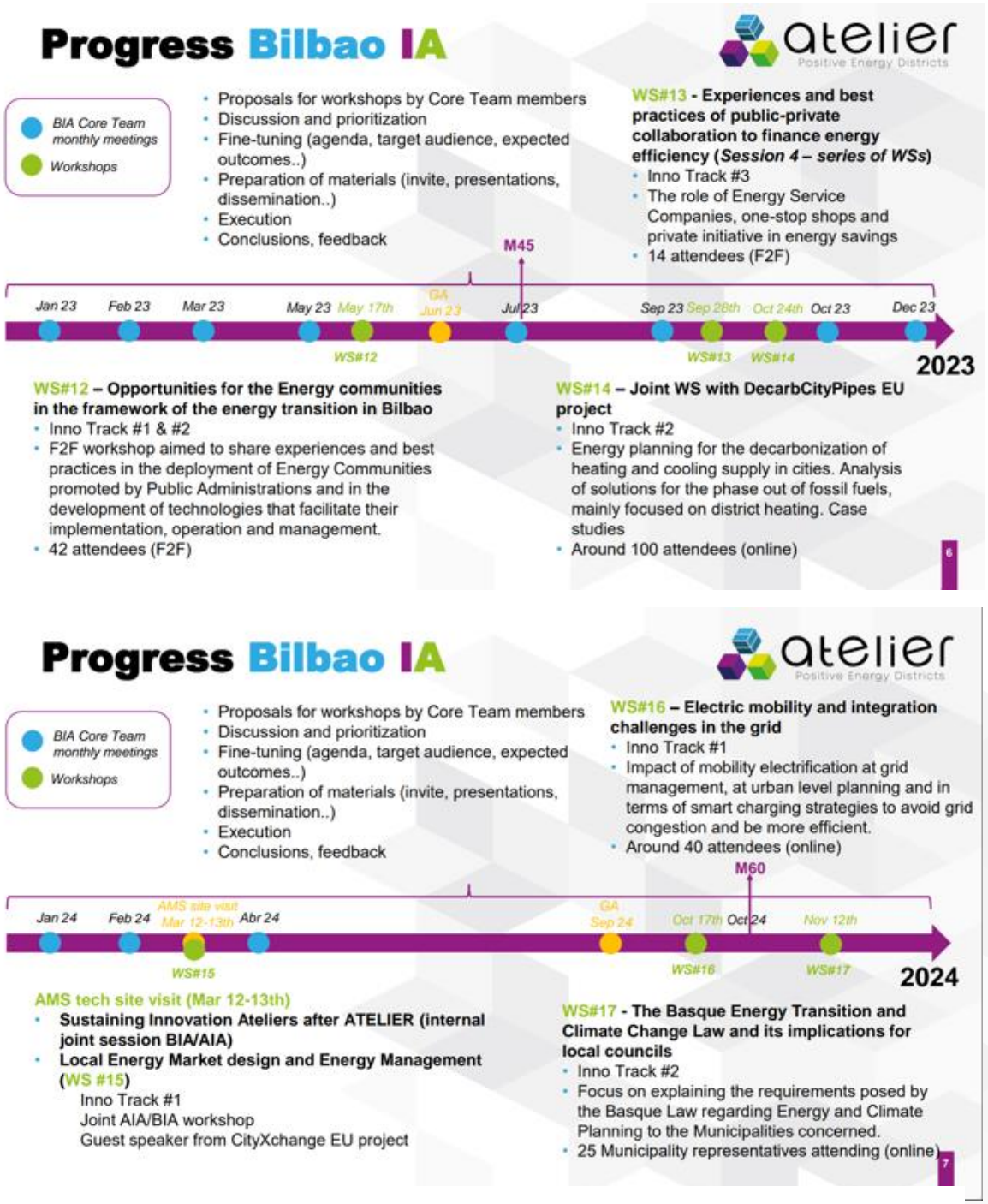

Figure 13 BIA Open Innovation Activities

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good practices in the deployment of Energy Communities by Public Administrations and explored the technological developments that may facilitate the implementation, operation and management of these Energy Communities.

Figure 14 Workshop on Experiences and Best Practices of Public-Private Collaboration for Energy Efficiency in September 2023

Figure 15 Workshop on the Opportunities for the Energy communities in the framework of the energy transition in Bilbao in May 2023

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3.2.3.5 BIA Learning Knowledge and diffusion

During the stabilization stage, BIA maintained its existing Learning, Knowledge, and Diffusion approach. Outcomes continued to be analysed and discussed in monthly Core Team meetings, ensuring internal alignment. Following a standardized template, key findings were documented and internally disseminated. Additionally, workshop results were shared through social media, websites, and press releases, reinforcing knowledge exchange within the local ecosystem.

3.2.3.6 BIA Organizational Capacity

During the stabilisation stage, the organisational capacity of the Bilbao Innovation Atelier remained largely unchanged, maintaining its structure with the Core Team, Innovation Track Coordinators, and Local Stakeholder Community. Citizen engagement expanded through the COB, particularly with new outreach efforts related to the geothermal network in Zorrotzaurre. Personnel changes within the Core Team did not significantly impact overall operations, ensuring continuity in coordination. The project extension has not had any impact so far, though it could potentially reduce the intensity of participation from some core partners in the future.

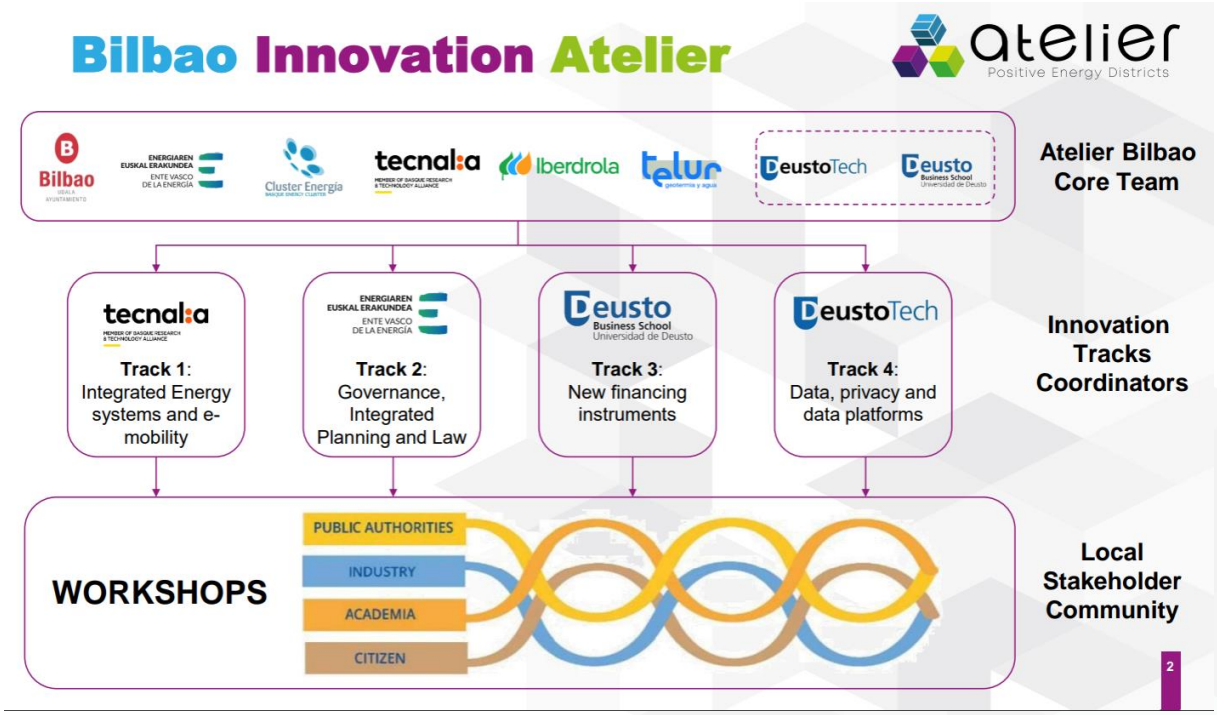

Figure 16 Bilbao Innovation Atelier Organizational Capacity

3.2.4 Fellow-cities

This section reports on the main findings from the Monitoring & Evaluation activities in the Fellow Cities during the Stabilization stage. The information contained in this report is based on the monitoring notes, outcomes of the different workshops conducted

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during ATELIER cross city events and the outcomes of the monitoring activities the main findings reported in Deliverable.3.8 *PED Innovation Atelier in the Fellow cities* (CARTIF, 2024). The reader is invited to consult the deliverable for more detailed information.

3.2.4.1 FC (Sustainability) Mission

The Fellow Cities have effectively **aligned their missions** with both the ATELIER project proposals and **their city-specific goals**, integrating these into the overarching 100 Climate Neutral Cities (CNC) strategy. This alignment has been essential in creating a unified and coherent narrative that supports their local sustainability efforts. For example, Riga and Budapest have successfully linked their climate actions to the 100 CNC initiative, shaping their climate neutrality goals while also expanding their networks through additional EU projects. Budapest, in particular, has further leveraged its participation in ATELIER by connecting it with the ASCEND project, another EU-funded initiative aimed at accelerating the energy transition. Moreover, the War in Ukraine has acted as a catalyst for many cities, especially the ones located in east Europe, intensifying their sense of urgency and reinforcing their commitment to energy transition. This external crisis has accelerated cities' focus on achieving energy independence and deepened their climate ambitions, pushing them to take more assertive action toward achieving their sustainability goals.

Figure 17 Krakow and Riga presenting the status of their CCC during the ATELIER Cross City Event in Krakow April 2024

3.2.4.2 FC Value proposition

Empowering local ecosystems to develop expertise in energy transition and climate neutrality. A key element of this process has been **capacity building**, where cities like Riga and Budapest were able to enhance their local knowledge and skills in sustainable energy strategies. This capacity building was further supported through access to the **ATELIER pool of experts**, including TNO, TECNALIA and other ATELIER knowledge partners, which guided cities in refining their energy transition plans and positioning them for success in the 100 Climate Neutral Cities (CNC) initiative. Another example are the expert sessions organized by AIA with the ATELIER cities about the implementation of EU directives on energy communities and energy sharing (see. Figure 18). This expertise allowed cities to develop more robust, evidence-based climate strategies that align with broader sustainability goals.

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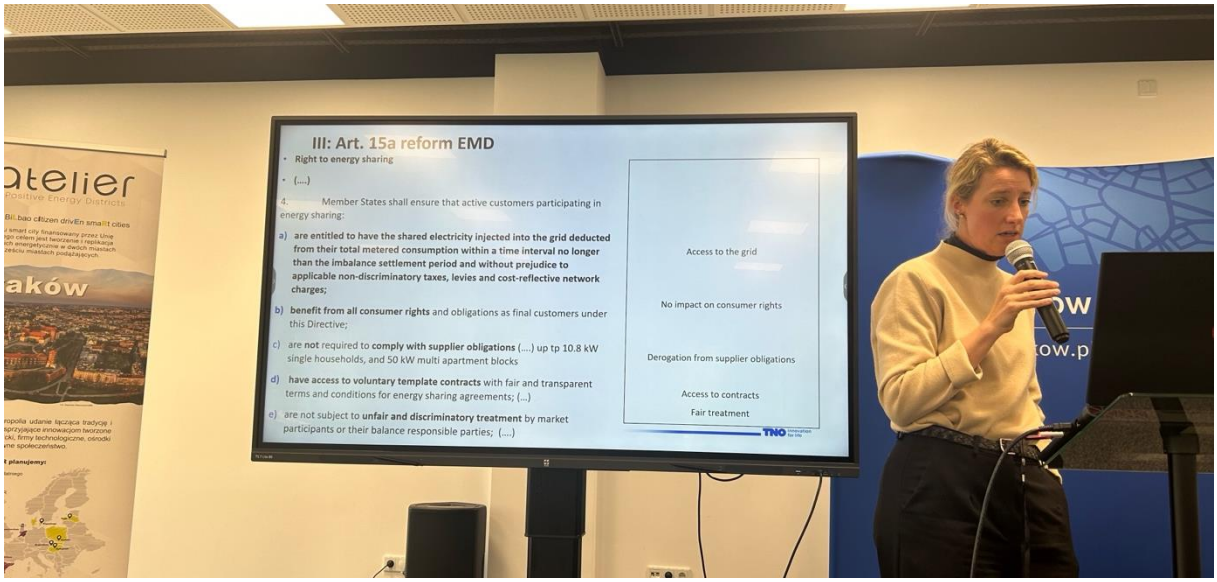

Figure 18 Session on energy sharing during the Krakow Cities event April 2024

In addition to building capacity and providing expert support, ATELIER has facilitated the creation of a **network of key stakeholders**, including local governments, businesses, universities, and NGOs, which has fostered collaboration both within individual cities and across the broader group of fellow cities. This shared platform has enabled cities to exchange knowledge, best practices, and innovative solutions to common challenges.

ATELIER has also supported the **replication of the Positive Energy District (PED) concept**, with Budapest extending ATELIER's methodologies to other EU projects, strengthening the value proposition for key actors in local ecosystems and advancing energy transition efforts. Furthermore, ATELIER has been instrumental in building the technical skills necessary for cities to establish **local energy management systems**, essential for the successful implementation of PEDs and other energy transition initiatives.

Finally, ATELIER has been key in unlocking **EU funding opportunities**, enabling cities to leverage these resources to accelerate their climate actions and secure financial support for projects aligned with their sustainability goals. Through a combination of capacity building, expert guidance, stakeholder collaboration, and access to funding, ATELIER has significantly enhanced the ability of Fellow Cities to advance their energy transition agendas and achieve their climate neutrality targets.

3.2.4.3 FC Strategic Coordination

Fellow Cities (FCs) have strengthened strategic coordination by **embedding ATELIER within local governance frameworks**, ensuring alignment with sustainability policies and stakeholder priorities. ATELIER Cities events played a key role in securing municipal buy-in, engaging governments, businesses, and research institutions. Riga integrated six EU projects into its local strategy and formed a municipal climate team,

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reinforcing institutional capacity. Budapest aligned ATELIER with ASCEND, enhancing its local energy transition while increasing EU-level visibility.

Beyond local coordination, FCs fostered **cross-city collaboration**, as seen in the urban heat pump design challenge between **Bratislava and Copenhagen**, demonstrating the power of shared expertise. By linking local, cross-city, and cross-project networks, FCs have embedded Innovation Ateliers within broader sustainability frameworks, ensuring long-term impact.

Figure 19 ATELIER GA visit to Riga's Municipal District Heating June 2023

3.2.4.4 FC Open Innovation Activities

The Fellow Cities (FC) have effectively implemented open innovation activities, utilizing **workshops, competitions, and collaborative design challenges** to engage local stakeholders in their energy transition and climate neutrality efforts. For example, Matosinhos launched the Climate Transition Citizenship Laboratory, a space where citizens actively contribute to shaping the city's decarbonization strategy through hands-on workshops and collaborative sessions. Krakow organized a series of workshops focused on energy communities, helping to align local citizens and businesses with the city's climate goals, while also contributing to the creation of its Climate City Contract. In Riga, a series of stakeholder meetings and workshops have been conducted as part of the ExPEDite project and other related EU initiatives, fostering collaboration between municipalities, businesses, and citizens to develop solutions for positive energy districts (PEDs) and climate action plans.

3.2.4.5 FC Learning Knowledge and diffusion

During the stabilization stage, Fellow Cities (FCs) reinforced learning, knowledge sharing, and diffusion through structured local, cross-city, and EU-wide knowledge-sharing mechanisms. Internally, FCs documented insights using reflection meetings and internal reports. Locally, they engaged stakeholders through workshops, thematic

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events, and expert sessions, ensuring that lessons learnt were shared within municipal structures.

3.2.4.6 FC Organizational Capacity

During the stabilization stage, **Fellow Cities (FCs) reinforced their organizational capacity** by strengthening leadership structures, governance mechanisms, and resource management. Copenhagen initially institutionalized its IA under the ELN Association. Matosinhos, inspired by Bilbao IA, secured municipal backing and sustained citizen participation through the Matosinhos Innovation Hub. Budapest leveraged EU projects like ASCEND to integrate financial and regulatory expertise, while Krakow adopted an IT-driven governance model to enhance data-driven decision-making. Riga developed a multi-project cooperation framework, ensuring scalability and adaptability in its IA operations. Across all FCs, the formalization of leadership roles, resource mobilization, and structured governance frameworks have been key in securing the long-term sustainability of their IAs.

Four Fellow Cities reported that the **project extension had a positive impact**. In Copenhagen, it helped align the IA with the city's climate strategy by compensating for delays caused by COVID-19 and the prolonged approval process. In Krakow, the extension ensures the continuation of the IA while strengthening the stakeholder group by providing additional opportunities for engagement and expert consultations. No FC reported any negative impact.

3.2.5 Main findings and reflections on the IA during the Stabilizing Stage in LHs and FCs

In this section we reflect on main findings of the IA Stabilizing stage in the Lighthouse cities and Fellow cities. In the Stabilization Stage BIA, AIA, FCs reinforced IA as a long-term enabler of urban energy transition by embedding it within local governance, fostering cross-city collaboration, and securing EU project synergies. These foundations ensure the continuity, scalability, and impact of IA beyond ATELIER.

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Figure 20 Krakow Cities event April 2024

3.2.5.1 (Sustainability) Mission

In the Stabilizing stage, the missions of AIA, BIA, and Fellow Cities have evolved to better align with both local energy transition strategies and broader sustainability goals, particularly the EU's 100 Climate-Neutral Cities mission. This evolution reflects how each city's mission is tailored to address local challenges while contributing to the overarching energy agenda. For example, AIA expanded its focus from Positive Energy Districts (PEDs) to tackle broader energy transition challenges, such as local energy-sharing systems, strengthening its role in Amsterdam's decarbonization efforts. Similarly, BIA has stayed committed to supporting Bilbao's energy transition while deepening collaboration with local stakeholders to co-create solutions for the city's Vision 2050. Five Fellow Cities have leveraged the ATELIER project to submit their candidacies and develop plans with the support of ATELIER knowledge partners. Riga has joined six additional EU projects, and Budapest has connected its efforts to the ASCEND project. While Bilbao and Matosinhos did not directly join the 100 Climate-Neutral Cities mission I, Matosinhos is linked to Porto's submission. By aligning local needs with EU goals, the ATELIER network is well-positioned to drive long-term energy transition progress.

3.2.5.2 Value proposition

In the IA Stabilizing stage, a convergence towards a common value proposition has emerged across the Lighthouse cities (AIA and BIA) and Fellow cities, emphasizing expert networks, stakeholder engagement, funding strategies, and capacity-building. This unified approach reflects the role of the ATELIER project and its IAs in advancing energy transition goals across diverse urban contexts, while supporting the long-term continuation of the IA organization.

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Figure 21 Amsterdam Technical Site Visit March 2024 - BIA and AIA presenting their IA

While community engagement is acknowledged as important for incorporating local perspectives into energy solutions, it is typically done by having an organization representing and engaging the local residents. The primary focus remains on triple-helix collaboration (government, industry, and knowledge institutions).

These are the common aspects that can be retrieved across the different value propositions:

- **Access to a pool of experts:** Providing specialized knowledge and guidance in energy transition, energy sharing, and policy development.
- **Funding opportunities**: Connecting cities to EU and regional financial resources to accelerate energy transition initiatives.
- **Network of key stakeholders:** Fostering collaboration among local governments, businesses, NGOs, and academic institutions.
- **Capacity building:** Empowering local ecosystems to develop the skills and expertise needed for managing energy transition projects.
- **Collaboration across city networks**: Encouraging cross-city cooperation within the ATELIER network to create synergies, drive innovation, and address shared challenges in energy transition.
- **Knowledge exchange and best practices**: Facilitating the sharing of successful solutions and insights from various cities, promoting the replication of effective strategies across different contexts (e.g., the replication of the PED concept in Budapest and other EU projects).

3.2.5.3 Strategic Coordination

During the Stabilization Stage, the strategic coordination of BIA, AIA, and FC has shown a tendency to embed the Innovation Ateliers within local, cross-city, and cross-project ecosystems. These efforts have reinforced the IAs' influence in the broader

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energy transition process, aligning their activities with both local needs and EU sustainability goals.

- **Local Ecosystem:** IAs have embedded their activities within local ecosystems and decision-making processes. BIA has engaged stakeholders such as 25 Basque cities, companies and research institutions, while ensuring citizen participation through district councils organized by COB. AIA has strengthened its connections through its involvement with Amsterdam InChange, with its pool of experts supporting local energy transition efforts. FC cities like Riga and Budapest have aligned their work with local energy and climate goals. Some examples include, Riga linking ATELIER to EU projects on energy and waste management, and Budapest leveraging AIA's work with the ASCEND project.
- **Cross-City Collaboration:** Cross-city collaboration has been central to the IAs' approach, with knowledge exchange and resource sharing between cities. BIA and AIA organized a joint webinar on electric mobility and a joint session during the Amsterdam technical visit on local Energy Markets, while Bratislava and Copenhagen collaborated on an urban heat pump design competition. Participation in the Smart City Expo in Barcelona and the ATELIER Cross-City events further facilitated exchanges among BIA, AIA, and FC, allowing cities to share experiences and lessons learnt in advancing the energy transition.
- **Cross-Project Synergies:** The IAs have connected their local efforts with broader EU initiatives, strengthening the impact of their work. ATELIER has engaged in the Scalable Cities Network focusing on advancing Smart Cities and Positive Energy Districts (PEDs). AIA complimented Amsterdam's participation in the EU's 100 Climate-Neutral Cities initiative, providing expertise and technical assistance. FC cities have also contributed to multiple EU projects, such as ASCEND, amplifying their local efforts through cross-project collaboration.

3.2.5.4 Open Innovation Activities:

Open Innovation Activities expanded beyond local engagement to include Cross-City, Cross-Project, and Local Embeddedness. **Locally**, Bilbao's Innovation Atelier (BIA) and Amsterdam's Innovation Atelier (AIA) organized multiple events to engage stakeholders and strengthen their role in the urban energy transition. In Bilbao, the IA sessions attracted participation from municipalities, regional authorities and key private sector stakeholders such as Deutsche Bank and Giroa Veolia (among others). Amsterdam hosted ATELIER Webinars, including one on Urban Energy Transition with Positive Energy Districts (PEDs), which highlighted the role of IAs in driving systemic change. Both cities also held workshops and discussions to refine their IA strategies and enhance collaboration within their ecosystems.

At the **Cross-City** level, LHS and FCs collaborated to exchange knowledge and co-develop initiatives. Bratislava and Copenhagen launched an architecture competition, leveraging IA methodologies to promote sustainable urban design. The BIA-AIA ATELIER joint webinar on electric mobility provided a platform to discuss challenges related to EV integration and grid stability.

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Figure 22 Panel during the SPARCS Final Conference joined by ATELIER project coordinator Sep 2024

On a **Cross-Project** scale, ATELIER actively contributed to EU-wide initiatives, promoting best practices beyond its immediate network. The General Assembly at the SPARCS Final Conference in Espoo, Finland, enabled cross-project learning on PED implementation (Figure 22). ATELIER also strengthened its presence in the Scalable Cities Network, participating in Board of Coordinators, and task groups. initiatives such as Barcelona Smart City Expo. In addition, ATELIER has been actively participating in platforms like EERA JPS SC, COST ACTION on PEDS and IEA Annex 83. Furthermore, a joint webinar series with PED projects like POCITYF, NEUTRALPATH, and ASCEND explored key challenges in replication, particularly focusing on energy communities as enablers of PED scalability (van Wees & Vallejo, 2020). These activities reinforced the AI model as a powerful tool for accelerating urban transformation.

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3.2.5.5 Learning Knowledge and diffusion

Figure 23 ATELIER in Barcelona Smart City Expo 2024

The ATELIER project has made progress in **promoting learning and knowledge exchange across partner cities**, focusing on key topics such as Positive Energy Districts (PEDs) and urban energy transition. In previous years, ATELIER has actively participated in the PED community events such as the Smart City Expo World Congress in Barcelona, where it collaborated with projects like RESPONSE, SPARCS, MAKING-CITY and POCITYF to explore regulatory challenges and innovations in PED development (ATELIER, 2024). These events provided a platform for sharing lessons learnt and discussing the intersection of technology and policy in sustainable energy solutions. Through a series of workshops, webinars, and meetings with both internal and external stakeholders, the project has facilitated the exchange of ideas on critical issues such as energy-sharing systems and urban decarbonization. Additionally, ATELIER has used its website and social media platforms to disseminate key findings, engage a wider audience, and collect feedback, further supporting knowledge diffusion across diverse urban contexts.

3.2.5.6 Organizational capacity

Cities formalized IA leadership roles, governance structures, and institutional support to secure long-term sustainability. AIA strengthened its core group by integrating into Amsterdam InChange (AiC), ensuring long-term continuity despite leadership transitions. BIA maintained its structure, expanding citizen engagement through the COB while ensuring operational stability. The Fellow Cities adapted their approaches to local needs, with Copenhagen, Matosinhos, Budapest, Krakow, and Riga formalizing leadership roles, securing municipal or project-based support, and reinforcing governance structures. Across all IAs, securing long-term institutional backing, strengthening leadership, and integrating stakeholders have been critical to sustaining innovation and impact.

3.3 Long-term continuation of IA (2025-2026)

The **18-month extension** of the ATELIER project, due to delays in construction sites in Amsterdam and Bilbao, **has given Innovation Ateliers (IAs) the opportunity to further develop their organizational structures and replicability efforts**. This extension will further support each city in evaluating and testing, in practice, how IA long-term continuation can be implemented, ensuring that methodologies, governance models, and stakeholder collaborations evolve into permanent structures beyond the project's duration. While not a project requirement, **this section was included to**

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showcase how IAs are evolving into permanent structures, demonstrating their value beyond ATELIER. The fact that Lighthouse (LHs) and Fellow Cities (FCs) are also planning for IA continuation voluntarily supports the impact and perceived value that IA is creating in each of the cities.

Figure 24 ATELIER team in Riga General Assembly Jun 2023

3.3.1 Amsterdam Innovation Atelier

After formalizing its partnership with AIC and COA, the Amsterdam Innovation Atelier **(AIA) is now testing how this collaboration will function in practice** to secure its long-term continuation beyond ATELIER. During the Long-term continuation stage (2025-2026), AIA will refine strategies for scaling PED solutions, managing grid congestion, and enabling energy sharing, ensuring its activities are relevant in addressing the needs of the local ecosystem. This period will also focus on strengthening stakeholder engagement, integrating lessons from PED implementation, and aligning AIA's work with Amsterdam's broader energy transition goals.

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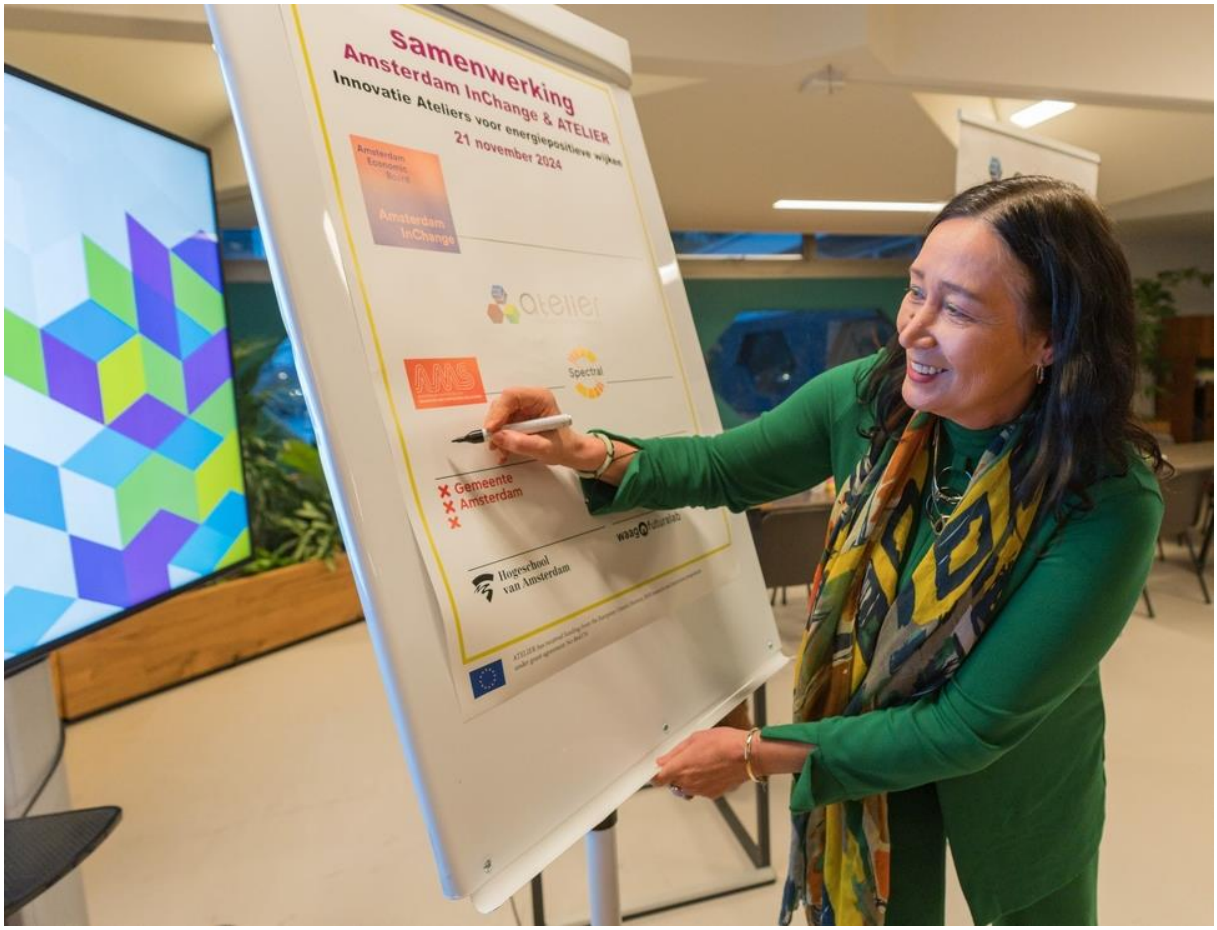

Figure 25 Signature of the IA collaboration agreement with COA and AIC Nov 2024

3.3.1.1 AIA (Sustainability) Mission

The mission for **AIA** in the Long-term continuation stage (2025-2026) **keep extending its focus** from Positive Energy Districts (PEDs) **to the broader energy transition**, aligning with Amsterdam's climate goals and addressing challenges like grid congestion and energy sharing. It will support the scalability of PED solutions to other city districts while remaining adaptable to local needs. The project extension provides an opportunity to assess how merging with Amsterdam InChange (AIC) and the more active involvement of COA can secure AIA long-term continuity and keep supporting the energy transition local landscape.

3.3.1.2 AIA Value proposition

In the Long-term continuation stage (2025-2026), AIA will test its collaboration with Amsterdam InChange (AIC) to explore how it can evolve into a long-term organization driving the energy transition. The 18-month Project Extension will assess integration, clarify roles, and refine stakeholder engagement. AIC will focus on strengthening local connections, while AIA's expert network will continue supporting the scaling of PEDs

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and energy solutions. The City of Amsterdam will provide challenges and a testing ground to refine and expand solutions citywide.

Figure 26 Net Congestion Learn & Share COA AIC session Mar 2025

Core elements of AIA's value proposition:

- **Access to a pool of ATELIER experts**: Ongoing technical support and strategic guidance from PED and energy transition specialists, covering governance, business models, policy, and regulation for scaling PEDs.
- **Network of key stakeholders**: AIC will further IA support to connect with key local actors and facilitate the aliment of their needs and agendas with the AIA.
- **Innovation Atelier workshops and activities**: Events and workshops will be planned in the context of AIC and other events to further disseminate the ATELIER lessons learnt and best practices and facilitate advance energy climate initiatives.
- **Adaptable Frameworks for PEDs**: Scalable, flexible models tailored to different cities for PED replication and broader energy transition strategies.
- **Integrated funding strategies**: COA Identifying funding opportunities to ensure the long-term viability and scalability of projects.
- **Capacity-building**: Training, tools, and resources to empower local stakeholders in managing and expanding energy transition initiatives.

3.3.1.3 AIA Strategic Coordination

The City of Amsterdam **(COA) is well embedded in AIA** as an active partner and is exploring follow-up proposals to sustain its activities. Municipal departments are working to integrate AIA's expertise and experiences into the city's energy transition strategy, particularly in addressing grid congestion, surplus energy sharing, and energy community challenges, including their link to VvEs (Homeowners association). While PED scalability remains of interest, **the focus** is on leveraging AIA's expert network

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and experiences to **refine strategies for managing energy demand and optimizing grid capacity**. Knowledge institutes (AUAS, TNO, AMS, Waag) remain key contributors, and efforts are underway to engage energy providers more actively. Through its local connections, **AIC will help strengthen collaboration** across the city's energy transition ecosystem.

3.3.1.4 AIA Open Innovation Activities

In the Long-term continuation stage (2025-2026), AIA will continue fostering knowledge exchange and collaboration with its IA activities. The four Innovation Tracks (finance, data commons, energy communities, and local energy systems) will remain the core, with the potential addition of a technology track. Amsterdam is working on a list of topics such as energy group contracts, grid congestion, and lessons from PED implementation. AIC will organize four demo days with working sessions and pitches, where ATELIER is invited to contribute with relevant insights. Additionally, AIA (through Amsterdam Economic Board) organized a workshop during a Learn & Share series on net congestion, co-hosted with AIC and Alliander, focusing on the net congestion task force (Nathalia, 2025). The ATELIER City Event in March will further engage municipal stakeholders unfamiliar with the project, showcasing key findings and lessons learned.

Figure 27 Parallel session on business models for Local Energy Systems at the Net Congestion Learn & Share Feb 2025

3.3.1.5 AIA Learning Knowledge and diffusion

In the long-term continuation stage, AIA will continue organizing meetings, workshops, and webinars with internal and external stakeholders involved in energy initiatives. Outcomes from AIA activities, including workshops and meetings, will be shared through the ATELIER website, blog posts, and public event listings. Local events, particularly Amsterdam InChange (AIC) demo days, will be used to disseminate findings and gather stakeholder input. AIC will further amplify AIA outreach through its

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social media and communication platforms. Additionally, the City of Amsterdam (COA) is preparing an outreach effort, and internal meetings are planned to reflect on key findings and lessons learned from the AIA PED pilot implementation. The ATELIER Cross-City Event in March in Amsterdam will provide municipal stakeholders with an opportunity to engage with ATELIER findings.

3.3.1.6 AIA Organizational Capacity

The merger between AIA, COA, and AIC has strengthened the connection between ATELIER activities and the city's energy transition strategy, ensuring better alignment with municipal priorities and shaping AIA's agenda accordingly.

The core group and Innovation Tracks will continue operating as in the Stabilization Stage, with the possible addition of a Technology Innovation Track. Follow-up recurrent meetings with AIC and COA are underway to define Innovation Atelier topics for AIC demo days and other related projects.

3.3.2 Bilbao Innovation Atelier

As **BIA** transitions beyond the ATELIER project, it **will expand its scope** to support energy transition efforts **across the Basque region**, leveraging CEPV's regional network while maintaining Bilbao as a core partner. With its integration into CEPV, BIA as a business and technology Working Group (WG) will ensure the continuity of its Innovation Atelier, fostering scaling-up and long-term impact through regional engagement, knowledge exchange, and capacity building.

3.3.2.1 BIA (Sustainability) Mission

The Bilbao Innovation Atelier (BIA) and its coordinator, the Basque Energy Cluster (CEPV), plan to expand their mission to support the broader energy transition needs of cities across the Basque region by fostering collaborative projects and initiatives among the industry and research stakeholders. While continuing to advance ongoing projects in Bilbao, BIA aims to extend its expertise to assist other Basque cities in addressing their energy transition challenges. This expansion aligns with BIA's commitment to sustainable urban innovation, ensuring that key initiatives, such as the transformation of Zorrotzaurre into a Positive Energy District and the scalability of geothermal networks, remain central references for regional replication efforts.

3.3.2.2 BIA Value proposition

As BIA expands its scope beyond Bilbao to support cities across the Basque region, it leverages its expertise, network, and partnerships to ensure that energy transition efforts are tailored to local needs while enabling the scalability of successful solutions.

The core elements of BIA's value proposition are:

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- **Disseminating Progress and Results:** Sharing insights from ATELIER smart urban solutions and their applicability to Bilbao's and the Basque region's energy transition.
- **Engaging the Local Ecosystem:** Identifying local specificities, barriers, and business models to implement tailored solutions and expand engagement across the region.
- **Sharing Knowledge and Experiences**: Facilitating exchanges with Smart City projects, other cities, and solution developers to promote innovation and best practices.
- **Capacity Building:** Providing feedback and best practices to scale up developed solutions, particularly in areas like geothermal networks, across the region.
- **Funding and Project Opportunities**: Organizing working sessions to connect stakeholders and identify new collaboration opportunities around technology development proposals/projects, pilots and scaling-up initiatives towards the city districts or the Basque Country, as well as supporting funding instruments.
- **Citizen Engagement:** While CEPV does not focus on direct citizen engagement, cities are encouraged to involve citizens through their existing structures, as seen in ATELIER with COB and the District Councils.

3.3.2.3 BIA Strategic Coordination

BIA will **expand its strategic coordination** beyond the City of Bilbao (COB) to engage a broader range of stakeholders across the Basque region, leveraging CEPV's regional network. This includes fostering collaborative projects that align industry needs with innovative energy solutions.

BIA will strengthen ties with knowledge institutions, maintaining its collaboration with Tecnalia and Deusto while opening participation to the BIA working group to other research centres and universities within CEPV's network (12 Basque research institutes and universities are currently part of the cluster association).

Additionally, with over 200 companies active in hydrogen, geothermal, solar, wind, smart grids, decarbonization of the industry and electric mobility, **BIA will leverage CEPV's network to further integrate industry players into the Innovation Atelier**, fostering collaboration and scaling energy transition solutions.

Most of the BIA Core team members have expressed their willingness to continue after the handover of the coordination from BIA to the CEPV. The scope and the objectives will be fine-tuned based on partner needs and interests. Additionally, the Working Groups (WGs) will welcome participation from other cluster partners and external entities that can provide additional value.

The WG will hold follow-up meetings every 4 months arranged by the Basque Energy Cluster to reinforce communication and networking among WG partners. A yearly review session will be organized with the Core Team to update the annual objectives, set priorities, plan activities and maintain IA momentum.

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Topics to be discussed in the meetings may be – not exclusively – the following:

- **Presentations of interest to WG partners**: technological advances, results of other ongoing projects, pilots or demonstrators of PED solutions, grant programs, etc.
- **Co-creation of business opportunities** linked to the priorities identified by the Municipality of Bilbao.
- **Proposal and activation of collaborative** Research and development projects/initiatives to evolve the developments/plans/studies carried out within the framework of ATELIER.
- Proposal and planning of communication and dissemination activities (workshops, events…) related to the scope of the WG.

3.3.2.4 BIA Open Innovation Activities

BIA has successfully fulfilled ATELIER's formal project requirements, organizing 17 workshops (until Dec. 2024) to advance the Innovation Atelier (IA) activities. To ensure IA continuity during the project extension, **BIA is now gathering input from Bilbao Municipality and key stakeholders to define future activities.** Topics under discussion include new financial mechanisms for local municipalities and geothermal heating solutions, with potential workshops covering:

- GSHPP technology development and pilot deployment in Zorrotzaurre (Track 1). (CEPV/TEL/COB)
- Experiences and best practices in public-private collaboration for financing energy efficiency (Track 3 – session 5) (DBS/COB).
- Findings and outcomes from the monitoring processing the pilot site (DEU).
- Potential collaboration with eight cities, following up on previous IA activities related to the Basque Energy Transition Law.

Following the handover of BIA to CEPV at the end of the project, the WG members will keep on organizing workshops and related open innovation activities on a regular basis addressing knowledge exchange among the Basque stakeholder's ecosystem on the topics of interest identified.

3.3.2.5 BIA Learning Knowledge and diffusion

BIA does not anticipate changes to its current learning and diffusion strategy. Following the project's completion, BIA will be integrated into the Bilbao Energy Cluster (CEPV) as a working group, ensuring that local dissemination efforts continue without major adjustments.

Outcomes from BIA activities, including workshops, meetings and collaborative initiatives fostered in the Working Group, will be disseminated through the Basque Energy Cluster communication channels (website, social media and monthly newsletters). The Core Team members will contribute to extend the BIA outreach through its social media and communication platforms. Support from the City of Bilbao

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(COB) will be key to achieving the maximum impact for the activities planned, especially when citizens or other Public Authorities are involved.

3.3.2.6 BIA Organizational Capacity

Following the project's completion, Bilbao Energy Cluster **(CEPV) will oversee the continuation of BIA as a working group, ensuring that core team partners remain engaged.** The ATELIER project extension will delay the formal handover, allowing BIA to maintain its current structure and operations (workshops and events organization) until the project concludes. Upon termination, **BIA will assess which core team members wish to continue and identify potential new participants**.

BIA aims to expand its Innovation Atelier beyond Bilbao, potentially integrating the three Basque capitals (Bilbao, San Sebastián, and Vitoria) or expanding within the Bilbao metropolitan region. While Bilbao will remain a core member, its municipal needs will continue to shape BIA's agenda and activities.

For long-term financial sustainability, BIA will rely on CEPV's existing paid membership model, where cluster partners contribute financially with an annual fee according to their company profile (turnover and number of employees) Based on this model, a funding structure for BIA is proposed with 50% of its costs covered by CEPV own resources and the remaining 50% covered by Regional Funding Programmes (Basque Government). CEPV will apply for these grants on a yearly basis to secure the BIA sustainability. The current governance model and activities will be reviewed after the project termination to determine if adjustments are needed, though no major structural changes are anticipated.

3.3.3 Fellow-cities

In this section, we will describe the planned actions of Fellow Cities (FCs) during the 2025-2026 Long-term continuation stage. **FCs will be focusing on scaling their Innovation Atelier (IA) activities, integrating them into broader EU projects, national climate strategies, and local governance frameworks.** Their aim is to ensure long-term impact by replicating successful solutions and fostering cross-city collaboration in energy transition and climate efforts.

3.3.3.1 FCs (Sustainability) Mission

Fellow Cities **(FCs) are expanding their Innovation Atelier (IA) mission to strengthen cross-project collaboration, regional impact, and integration into broader urban strategies.** Five cities are aligning their mission with 100 Climate-Neutral Cities and ongoing EU projects. Riga's Climate City Contract (CCC) has already been evaluated and is expected to be approved soon, while Budapest is finalizing its CCC and awaiting a response. Several cities are leveraging EU initiatives to sustain IA activities, with Budapest integrating IA learnings into ASCEND and Riga strengthening multi-project cooperation across six EU projects, including ExPEDite. Bratislava is also exploring new project opportunities.

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Some FCs are scaling their IA scope to a regional or national level, with Budapest and Bratislava leading these efforts. Others are embedding IA into broader urban strategies to ensure alignment with climate and energy transition goals. Budapest is integrating IA into its climate-neutral city strategy and PED replication efforts, while Copenhagen has formally aligned IA with its Climate Strategy 2035/2050. Riga has linked its mission to the newly adopted national energy community's framework, enhancing PED feasibility, and Matosinhos is embedding IA within the Matosinhos Innovation Hub to ensure continuity. Krakow remains committed to its existing mission, keeping IA aligned with city priorities.

Additionally, Budapest is exploring ways to extend PED principles in the context of ASCEND to other urban areas and projects, reinforcing the replicability of ATELIER's approach. This strategic expansion ensures that IA methodologies continue driving urban energy transition efforts beyond the project's duration.

3.3.3.2 FCs Value Proposition

Fellow Cities **(FCs) are refining their value proposition** to strengthen expert networks, stakeholder collaboration, knowledge-sharing, funding strategies, and capacity-building for long-term energy transition efforts.

These are the common aspects of FCs value proposition:

- **Access to a Pool of Experts:** Technical support and strategic guidance from PED and energy transition experts remain a priority for FCs. Budapest plans to integrate IA and PED expertise into ASCEND to scale PEDs. Krakow and Bratislava will maintain their expert networks, with Bratislava relying on external specialists for future projects. Riga, through its PED Living Lab, combines scientific expertise from universities and municipal partners to support energy community development.
- **Network of Key Stakeholders:** Expanding and maintaining stakeholder networks is a key replicability strategy. Copenhagen has formalized its IA into three Innovation Fora, coordinating energy sector actors, grid operators, and transport stakeholders to support climate initiatives. Krakow will continue fostering its established stakeholder network, while Bratislava aims to build on IA-created relationships, securing long-term engagement with local authorities, businesses, and academia.
- **Innovation Atelier Workshops and Activities:** Workshops remain central to knowledge exchange and scalability. Budapest will focus on upscaling PED-related solutions through knowledge-sharing sessions and cross-project collaboration. Riga, through ExPEDite, has established a PED Living Lab, integrating participatory research, citizen engagement, and university-municipality collaboration. With the Energy Communities legislative framework in place, Riga anticipates the emergence of new PED initiatives and conceptual plans. Copenhagen will continue using its Innovation Fora to facilitate discussions and strategic action.
- **Integrated Funding Strategies:** Securing funding is essential for scaling and sustaining IA activities. Riga and Budapest are actively linking their efforts with

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EU-funded projects, such as ExPEDite and ASCEND, ensuring continued financial support for PED replication and energy transition strategies.

- **Capacity-Building in the Local Ecosystem:** FCs emphasize training and knowledge-sharing to strengthen local expertise. Riga will continue providing resources to enhance energy transition capabilities. Krakow's IA model has successfully created an extended stakeholder community, bringing together businesses, academia, local government, and residents to share knowledge and best practices. This collaborative approach not only strengthens local capacity but also serves as a model for other cities aiming to implement similar innovation platforms.

By reinforcing these core value areas, FCs are ensuring that IA methodologies and PED-related innovations remain impactful beyond the ATELIER project, supporting long-term urban energy transition strategies.

3.3.3.3 FCs Strategic Coordination

Fellow Cities (FCs) are strengthening their strategic coordination by fostering cross-project collaboration, aligning IA activities with city strategies, addressing energy security challenges, engaging citizens, and scaling PED frameworks.

- **Fostering Cross-Project Collaborations:** FCs are aligning IA efforts with broader European initiatives. Budapest is integrating IA into ASCEND to further develop Positive Energy Districts (PEDs). Riga is reinforcing ties with six EU-funded projects, while Copenhagen is exploring ways to better connect its IA with ongoing city initiatives.
- **Aligning IA with Strategic Agendas:** Ensuring IA activities support climate and energy goals remains key. Budapest is adapting its IA strategy to city needs, while Bratislava depends on external policy decisions. Copenhagen's three Innovation Fora provide a structured role for stakeholders in advancing the city's Climate Strategy 2035/2050. Krakow will continue using IA as a knowledge-sharing platform while expanding stakeholder engagement.
  Recent geopolitical events have heightened energy security concerns. Riga, facing threats to its energy infrastructure, is accelerating energy transition efforts. In January 2025, Latvia finalized its Energy Communities legislative framework, enabling municipal energy communities and PED implementation.
- **Scaling PED Frameworks Through New Projects:** Several FCs are embedding IA principles into new energy projects. Budapest is launching a new PED pilot in District 4 under ASCEND, while Riga is establishing multiple energy community pilots under its new legislation. Copenhagen is participating in a NetZeroCities pilot on heat flexibility in multifamily buildings, and Bratislava will shape its IA role based on future projects. Matosinhos is collaborating with regional partners to scale PED implementation. Additionally, Riga's PED Living Lab will enhance citizen participation in energy transition initiatives.

Embedding Innovation Ateliers into the local ecosystem through cross-project collaborations, city strategic agendas, and scalable PED frameworks will ensure their continued role in supporting energy transition and climate goals.

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3.3.3.4 FCs Open Innovation Activities

The Fellow Cities (FCs) are planning to **keep organizing expert sessions and workshops**; while also **leveraging on EU projects** such as ASCEND and ExPEDite to support these efforts. For example, Budapest plans a PED replication workshop with follow-up sessions under ASCEND, aimed at sharing lessons learned. Copenhagen is advancing low-heating systems and pilots, with continued IA support to scale these solutions. Bratislava and Copenhagen are collaborating on urban heat pump and energy-efficient architecture solutions. Krakow is hosting workshops to involve local businesses and citizens in energy-sharing models. Matosinhos is engaging local communities through its climate transition labs focused on sustainability projects. Riga's PED Living Lab will continue to organize expert sessions while supporting the implementation of Riga's Climate City Contract (CCC). Additionally, Bratislava is extending the IA concept to other cities through workshops and discussion forums, promoting broader knowledge-sharing.

3.3.3.5 FCs Learning Knowledge and Diffusion

Most FCs plan to use municipal platforms, EU project networks, and direct stakeholder communication to continue knowledge-sharing efforts. Additionally, internal reports and city communication channels will be uses to further disseminate the learning across the relevant stakeholders.

3.3.3.6 FCs Organizational Capacity

Fellow Cities (FCs) are **working in formalizing their governance models and securing institutional support** to ensure the long-term sustainability of their Innovation Ateliers (IAs). The project extension has provided additional time for cities to refine leadership structures, integrate IAs into existing municipal frameworks, and align their activities with ongoing EU projects and climate strategies.

Many cities are **embedding their IAs into existing municipal frameworks** to secure institutional and financial support. Budapest will continue its IA activities through the Climate Platform while aligning with the ASCEND project to integrate financial and regulatory expertise. Krakow and Matosinhos are working towards formal municipal integration of their IAs, ensuring alignment with city-wide climate and energy strategies. Copenhagen is institutionalizing its IA through three dedicated governance forums, ensuring ongoing collaboration with key stakeholders: a Strategic Energy Forum engaging the traditional energy sector, an Electricity Grid & Energy Production Forum coordinating grid management, and an Electric Transport Forum involving municipal departments and private transport operators. Riga, meanwhile, is establishing a multi-project cooperation framework, integrating its IA into ongoing EU-funded initiatives to create a sustainable governance structure for long-term impact.

FCs are also **refining and expanding their IA core teams**. Budapest plans to expand its core team, bringing in new partners to strengthen its expertise and ensure broader

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participation in the energy transition. Copenhagen will retain its existing core team, consolidating its structure through the three innovation tracks embedded in its municipal climate strategy. Matosinhos is securing municipal backing by institutionalizing its IA under the Matosinhos Innovation Hub, an initiative that integrates public authorities, businesses, research institutions, and citizens to foster collaborative energy solutions. A key initiative within this hub is the Citizenship Laboratory for Climate Transition, which promotes public participation in climate and energy transition projects.

By **embedding Innovation Ateliers within local governance structures**, securing institutional backing, and expanding IA core teams, Fellow Cities are taking the steps to ensure long-term continuity and impact of their IAs beyond the ATELIER project. These efforts position FCs to sustain and scale their energy transition strategies, leveraging the IA model foster for local and regional energy and climate action.

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3.3.4 Main findings on the long-term continuation plans in LHs and FCs

Figure 28 ATELIER City Event Bratislava Feb 2023

This section reflects on the long-term continuation plans of Lighthouse Cities (AIA, BIA) and Fellow Cities (FCs), highlighting **how IAs are planning to evolve beyond the ATELIER project**. Common patterns **include institutionalizing IA within projects and organizations, expanding its scope and scale, and securing institutional and**

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financial support. Cities are also exploring cross-city collaboration and integration into other EU projects and initiatives to sustain knowledge exchange.

The IA model has proven flexible and valuable, leading IA to expand its scope, integrate it into urban strategies, and scale its impact. Even without formal project obligations, cities are actively shaping long-term pathways for IA, reinforcing Innovation Atelier role as a key driver of urban energy and climate transitions.

3.3.4.1 (Sustainability) Mission

Across Lighthouse Cities (AIA, BIA) and Fellow Cities (FCs), the long-term continuation plans show **that Innovation Ateliers (IAs) are evolving beyond their original PED mission, expanding in scale, scope, and strategic alignment to address broader energy and climate transition challenges**. Three key patterns emerge:

- **Integration into Broader Urban Strategies** - Cities are embedding IA within local climate and energy strategies to ensure long-term impact. AIA is focusing among others on grid congestion and energy sharing, BIA is aligning with Bilbao's energy strategy and plans for geothermal network expansion, and Copenhagen and Budapest are integrating IA into their climate-neutral city strategies.
- **Expansion to Regional and National Levels -** Some cities are scaling IA beyond municipal boundaries. BIA is supporting multiple Basque cities, while Budapest and Bratislava are expanding nationally. Riga is linking IA to national energy policies, reinforcing its long-term role.
- **Cross-Project and EU Initiative Alignment** - Cities are securing IA continuity by leveraging EU programs. Five FCs are aligning with 100 Climate-Neutral Cities, Budapest is embedding IA into ASCEND, and Riga is integrating it into six EU projects, ensuring continued funding and collaboration.

3.3.4.2 Value proposition

Across Lighthouse Cities (AIA, BIA) and **Fellow Cities** (FCs), the long-term value proposition of Innovation Ateliers (IAs) **keeps converging toward a common offering** on expert networks, stakeholder collaboration, funding strategies, and capacity-building. Many common patterns emerge at different scales:

Local Ecosystem

- **Access to a Pool of Experts:** IAs continue to provide specialist knowledge on energy transition, PED scaling, and policy development. AIA is leveraging its expert network to support the needs of COA, while Budapest, Krakow, and Bratislava are maintaining technical advisory groups.
- **Network of Key Stakeholders:** Strong stakeholder engagement remains essential. Copenhagen, through its three Innovation Fora, coordinates energy actors, grid operators, and transport stakeholders, while Bratislava and Krakow are securing long-term municipal and business engagement.

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- **IA Workshops and Activities:** Workshops continue to be a core knowledge-sharing tool. Budapest is upscaling PED-related solutions, Riga is using its PED Living Lab to integrate participatory research, and Copenhagen facilitates discussions through its Innovation Fora.
- **Scalable and adaptable solutions:** The flexibility of IA methodologies supports PED replication and broader energy transition strategies. AIA is refining scalable PED models, while BIA focuses on scaling geothermal networks across the city. Budapest is planning a PED development.
- **Integrated Funding Strategies:** Cities are actively linking IA with EU and national funding. Riga and Budapest are securing financial support through projects like ExPEDite and ASCEND.
- **Capacity-Building:** IAs serve as hubs for training and local expertise development. Krakow's extended stakeholder community strengthens local energy transition knowledge, and Riga is enhancing municipal capabilities.

Cross-City

Leveraging ATELIER's Expert Network: Cities recognize the value of cross-city knowledge exchange and seek continued access to ATELIER experts. Fellow Cities (FCs) want sustained access to ATELIER's expert network for future PED challenges. Copenhagen is exploring best practices for rolling out low-temperature district heating. Budapest is seeking support from CARTIF to address PED development challenges in its 4th district.

Cross-Project

Some cities are **embedding IA in EU projects**. Budapest is integrating IA insights into ASCEND, while Riga is strengthening its role across multiple EU initiatives, fostering multi-project cooperation.

3.3.4.3 Strategic Coordination

IAs plans to **strengthen its role within local governance, inter-city collaboration, and EU smart city networks**. By embedding IA into municipal strategies, cross-city knowledge exchange, and large-scale projects, cities are ensuring IA remains a valuable tool for long-term energy transition efforts.

- **Local Ecosystem:** By embedding IA in City and regional strategies, cities are integrating IA into local energy transition plans, strengthening coordination between municipalities, knowledge institutions, and industry. AIA is aligning with COA energy transition strategy. BIA is planning to expand its reach across the Basque region while keep supporting COB needs, FCs are embedding IA into local strategic agendas, with Copenhagen's Innovation Fora guiding its Climate Strategy 2035/2050 and Riga accelerating municipal energy communities under Latvia's new legislative framework.
- **Cross-City:** By strengthening knowledge exchange, cities are actively sharing best practices and coordinating strategic efforts through direct city-to-city engagement. Amsterdam City Event (March 25-27) will host different workshops and sessions to

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address the different question form the FCs. Bratislava and Krakow are using IA as a platform to expand stakeholder engagement and align with external policy decisions.

- **Cross-Project:** By Expanding IA's Role in EU Smart City Networks, IA activities are increasingly connected to larger European smart city initiatives to enhance impact and funding opportunities. Amsterdam City Event (March 25-27) will be joined by cities from the Scalable Cities network. FCs engaged with EU smart city projects like ASCEND and ExPEDite. FCs are embedding IA into new energy projects, with Budapest launching a PED pilot under ASCEND, Riga establishing energy communities, and Copenhagen participating in a NetZeroCities heat flexibility project.

3.3.4.4 Open Innovation Activities

Across Lighthouse Cities (AIA, BIA) and Fellow Cities (FCs), Open Innovation Activities have remained central to IA operations, focusing on workshops, expert sessions, and knowledge-sharing. Key patterns include:

Local Ecosystem

Cities are structuring their innovation activities to sustain IA's role in energy and climate transition. AIA will continue its four Innovation Tracks with a potential fifth track on technology. IA topics will cover grid congestion, PED lessons, and energy group contracts, with some activities integrated into AIC demo days. BIA is now defining future activities with its stakeholders' topics under discussion include new financial mechanisms for municipalities and geothermal heating solutions. FCs are leveraging EU projects to sustain workshops and expert sessions. Budapest is hosting PED replication workshops under ASCEND, while Krakow is engaging local businesses and citizens in energy-sharing models. Riga's PED Living Lab continues to serve as a platform for expert sessions and stakeholder engagement in energy transition initiatives

Cross-City

Cities are strengthening collaboration and **facilitating knowledge exchange through targeted events and cross-city discussions**. The ATELIER City Event (March 25-27, Amsterdam) will host sessions dedicated to FCs' challenges, covering topics such as energy communities, energy poverty, heating, and grid congestion. Bratislava and Copenhagen are jointly advancing urban heat pump and energy-efficient architecture solutions through IA workshops.

Cross-Project

IA activities are expanding beyond ATELIER through collaborations with broader EU projects and networks. Scalable Cities Board of Coordinators will participate in the Amsterdam City Event, with representatives from five cities working on PED-related projects joining. FCs are integrating IA into projects like ASCEND and ExPEDite, ensuring that workshops and expert exchanges continue beyond ATELIER.

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Figure 29 Barcelona Smart City Expo and World Congress cross project session on PED as a component for designing climate neutrality Nov 2023

3.3.4.5 Learning Knowledge and diffusion

The learning and diffusion strategies of AIA, BIA, and FCs will largely remain unchanged in the long-term continuation stage. AIA will use the AIC demo days to disseminate the findings, in addition COA is preparing a communication and engagement strategy about the main findings of ATELIER. BIA will continue dissemination through CEPV. FCs will use municipal platforms, EU networks, and city channels for knowledge-sharing.

The **ATELIER Cross-City Event in March 2025** will serve as a key cross-city and cross-project platform, while the Scalable Cities Energy Communities Task Group will present a report that includes how energy communities can contribute to net congestion.

ATELIER will continue to share our learnings and experiences through continued collaboration with PED platforms as well as through peer-to-peer exchanges with other projects. Further participation in events such as Smart City Expo World Congress among others is anticipated.

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3.3.4.6 Organizational Capacity

Cities are securing IA's long-term sustainability through institutionalization, governance adaptation, and integration into EU networks. These efforts ensure IA remains a valuable tool for urban energy transitions beyond ATELIER.

Local ecosystem

Cities will keep working towards institutionalising their IA governance structures by reviewing its core groups and adapting innovation tracks to meet future local ecosystem needs and future projects. AIA has strengthened ties with COA and AIC, ensuring alignment with Amsterdam's energy transition strategy, while maintaining its core group. BIA will be integrated into Bilbao Energy Cluster (CEPV) as a working group, ensuring continuity beyond ATELIER, with its core group reviewed and adjusted post-project. FCs are formalizing IA within municipal frameworks, with Copenhagen with its three governance forums, Budapest aligning IA with the Climate Platform and ASCEND, and Riga integrating IA into a multi-project cooperation framework. Matosinhos is securing municipal support under the Matosinhos Innovation Hub.

Cross-city

During the project extension TNO supported by AMS has taken the lead on setting recurrent meetings with the FCs every six weeks.

The project coordinator is planning to discuss during the Amsterdam Cross city event with the LHs and FCs if they want to keep the ATELIER cross-city network after the project termination and how. FC like Budapest and Copenhagen have reported that they would like to keep having access to the ATELIER pool of experts, respectively for the PED scalability and the low heat grids.

Cross-project

ATELIER will continue its engagement with Scalable Cities and following the end of Scalable Cities in September, discussions are currently underway to integrate with other suitable platforms. Lessons drawn from IA's will be disseminated both via the platforms but also in bilateral exchanges with other smart cities projects as a part of our ongoing activities relation to EU collaboration.

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4 Implementation of the IA and M&E framework in other project activities

This section describes how the Innovation Atelier (IA) concept and the Monitoring & Evaluation (M&E) framework have been implemented in other EU and local projects focused on large-scale sustainable transitions. It also highlights how tools and methodologies developed within IA have been adopted by knowledge organizations for training, tool development, and project support.

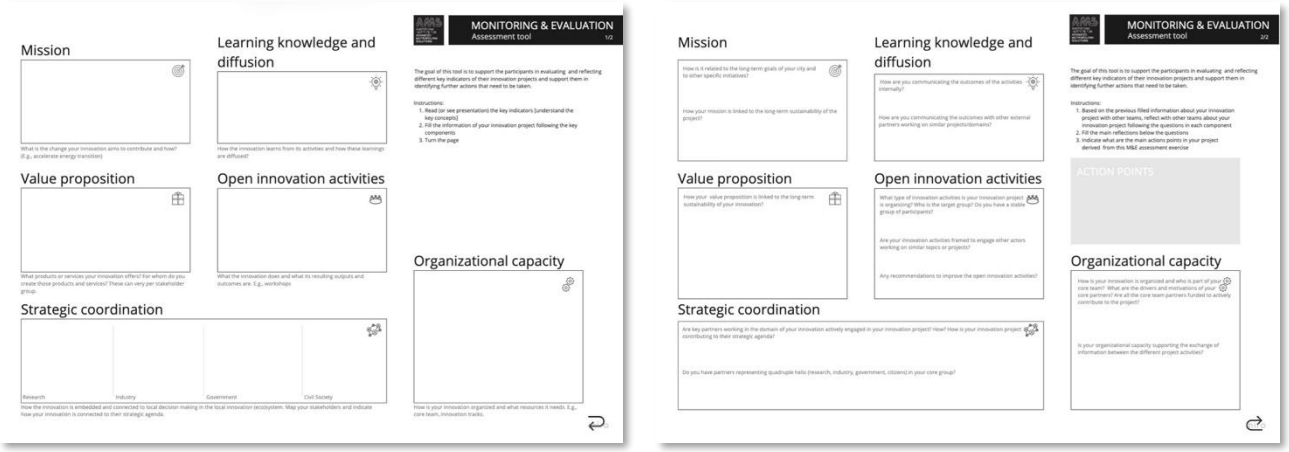

Figure 30 Monitoring and Evaluation tool developer and validated in the context of the ATELIER project

4.1 Adoption of IA in EU Projects

In this section we provide two examples on how EU projects have integrated IA learnings, best practices, and frameworks into their methodologies: EU4ADVICE and MOVE21.

EU4Advice: is an EU Horizon 2020 project that aims to settle the foundations and structures required to ensure effective capacity building of Short Food Supply Chains SFSC actors through fluent knowledge transfer. This is performed by establishing a Living Lab in each pilot country. The M&E framework and key components from ATELIER has been applied to guide the establishment and maturation of these Living Labs, ensuring structured cross-city learning, reflection, and impact assessment through online and in-person sessions. Further information: www.eu4advice.eu

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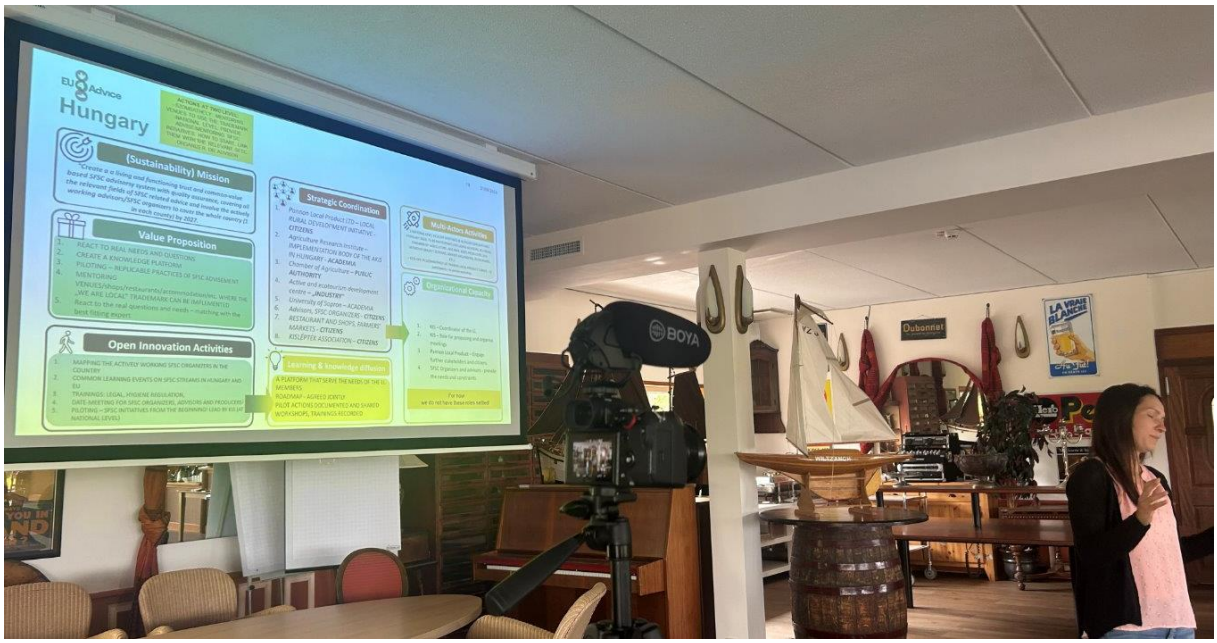

Figure 31 EU4ADVICE LL presenting their governance structure following the M&E framework 2024

MOVE21: This Horizon Europe project aims to transform European cities and functional urban areas into climate neutral, connected multimodal urban nodes for smart and clean mobility and logistics. MOVE21 will do this through an integrated approach in which all urban systems are connected, and which addresses both goods and passenger transport together. As a result, MOVE21 will improve efficiency, capacity utilisation, accessibility and innovation capacity in urban nodes and functional urban areas.

The integrated approach in MOVE21 ensures that potential negative effects from applying zero emission solutions in one domain are not transferred to other domains but are instead mitigated. It also ensures that European transport systems will become more resilient. Central to the integrated approach of MOVE21 are three Living Labs in Oslo, Gothenburg, and Hamburg and three replicator cities Munich, Bologna and Rome. In these, different types of mobility hubs and associated innovations are tested and means to overcome barriers for clean and smart mobility are deployed. The process of applying, testing and learning of these innovations in the Living Labs is supported by *self-sustaining Innovation Co-Creation Partnerships* (ICCPs) that have been implemented and based largely on the Innovation Ateliers model. The ICCPs are based on an open innovation model with quadruple helix partners, like the Innovation Atelier approach. The co-creation processes are further supported by coherent policy measures and by increasing innovation capacity in city governments and local ecosystems. The proposed solutions deliver new, close to market ready solutions that have been proven to work in different regulatory and governance settings. Similar to the Atelier project, are the Living Labs of MOVE21 also designed to outlast the project duration by applying the self-sustaining co-creation partnership model (ICCP). Further information: www.move21.eu

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4.2 Integration of IA in Trainings and Modules

The IA model and M&E framework have also been adopted by knowledge institutions for capacity-building and training programs.

- **AMS Institute**: Following validation of the M&E module, AMS has integrated it into its professional education offerings, helping practitioners' structure multi-stakeholder projects for greater impact. The module has been applied in projects such as Logicell and ShareRepair.
- **TNO**: as part of EU project DIHNET.EU, TNO is involved in developing an extensive training for practitioners, people in business, local authorities and others, interested in setting up a Digital Innovation Hub. Through the DIHNET.EU Academy, TNO is offering a collection of papers, tools and practical guidelines that outline the key concepts and provide relevant background or orchestrating innovation networks at regional, national and EU level. Further information: Discover the DIHNET Academy's Primer Series on Repository-Based Community Platforms
- AMS: AMS will incorporate IA best practices, the M&E framework, and real-world examples into its Urban Living Lab Handbook, providing guidance for practitioners on implementing and sustaining urban innovation initiatives.

The IA concept and M&E framework have proven adaptable beyond ATELIER, influencing EU projects, training programs, and policy-oriented innovation hubs. Their continued adoption demonstrates their value in guiding large-scale sustainability transitions across different sectors.

5 Best practices and Lessons learned about Innovation Ateliers

This section presents the key lessons learned and best practices derived from Monitoring & Evaluation (M&E) results, structured around the stages of IA implementation, multilevel strategic governance, and the M&E key components. The objective is to provide practitioners and decision-makers with actionable insights that can inform their current and future initiatives.

By following a stage-based approach, this section highlights practical steps cities can take to successfully implement, scale, and sustain Innovation Ateliers (IAs). It also examines how multilevel governance structures, from local ecosystems to cross-city and cross-project collaboration, have contributed to IA success and replication. Additionally, this section reflects on the role of M&E framework and its key components in driving continuous learning, refining strategies, and ensuring long-term impact.

The insights provided serve as a practical guide for cities, organizations, and projects aiming to accelerate urban energy transitions, scale Positive Energy Districts (PEDs), and enhance sustainability governance models.

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5.1 Stages of implementation

The **implementation of Innovation Ateliers (IAs)** follows distinct stages, each with specific actions to ensure success. Below are key **practices for each stage**, providing actionable guidance for practitioners working on similar projects.

5.1.1 Establishing Stage

- **Define Clear Objectives & Mission**: Align the IA with local sustainability priorities and broader climate strategies to ensure long-term relevance.
- **Stakeholder Engagement**: Identify and engage key actors (public sector, businesses, research institutions, citizens) early on to ensure alignment with municipal agendas.
- **Set Up Governance Structures**: Establish roles, decision-making processes, and an initial coordination framework for the IA.
- **Introduce M&E**: Implement an adaptable monitoring approach to track progress, identify barriers, and refine strategies from the outset.

5.1.2 Maturation Stage

- **Expand Stakeholder Involvement**: Strengthen engagement through thematic workshops, expert sessions, and participatory activities that reinforce collaboration.
- **Leverage Cross-City Learning**: Use knowledge-sharing events and case studies from other cities to accelerate implementation and avoid common pitfalls.
- **Fine-Tune Governance & Value Proposition**: Ensure the IA's structure supports scaling and aligns with both local needs and EU-wide initiatives.

5.1.3 Stabilizing Stage

- **Integrate IA into Municipal Structures**: Formalize the IA's role within city governance, securing political backing and long-term institutional support.
- **Strengthen Cross-Project & Cross-City Synergies**: Connect the IA with EU initiatives **(**100 Climate-Neutral Cities, ASCEND, ExPEDite) to enhance its impact.
- **Broaden Scope Beyond PEDs**: In this stage, several IAs expanded their focus from PEDs to broader energy and climate challenges, responding local ecosystem needs.

5.1.4 Long-Term Continuation

- **Integrate long-term continuation stage in your project scope**: the ATELIER extension is providing the LHs and FCs and umbrella to test how the IA will work in practice after the project termination under other institutions, projects and initiatives. It also extended the access to experts

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- **Ensure Financial Sustainability**: Transition from project-based funding to **institutional support**, public-private partnerships, and regional funding models**.**
- **Extend IA Reach Beyond Cities**: Some IAs evolved from a city-scale initiative to a regional or national platform, supporting broader ecosystems and aligning with national policies
- **Replicate IA**: Expand the IA model to new themes, and collaborative projects, ensuring continued innovation and impact.

5.1.5 IA Stages in Fellow Cities

Fellow Cities followed an accelerated and adapted process, shaped by local conditions and access to external expertise:

- **No direct PED pilots**: FCs focused on developing a plan for PED implementation. Some fellow cities are planning to build a PED after the project some other deviated on other relevant pilots and initiatives related to the needs of the local ecosystem.
- **Access to an ATELIER pool of experts**: FCs leveraged the technical, financial, and regulatory expertise from network to advance their IAs more rapidly.
- **Accelerated learning and IA implementation curve**: By integrating insights from LCs and participating in cross-city exchanges, FCs shortened their IA setup and stabilization periods, allowing for faster integration into municipal strategies.

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5.2 IA Multilevel strategic governance

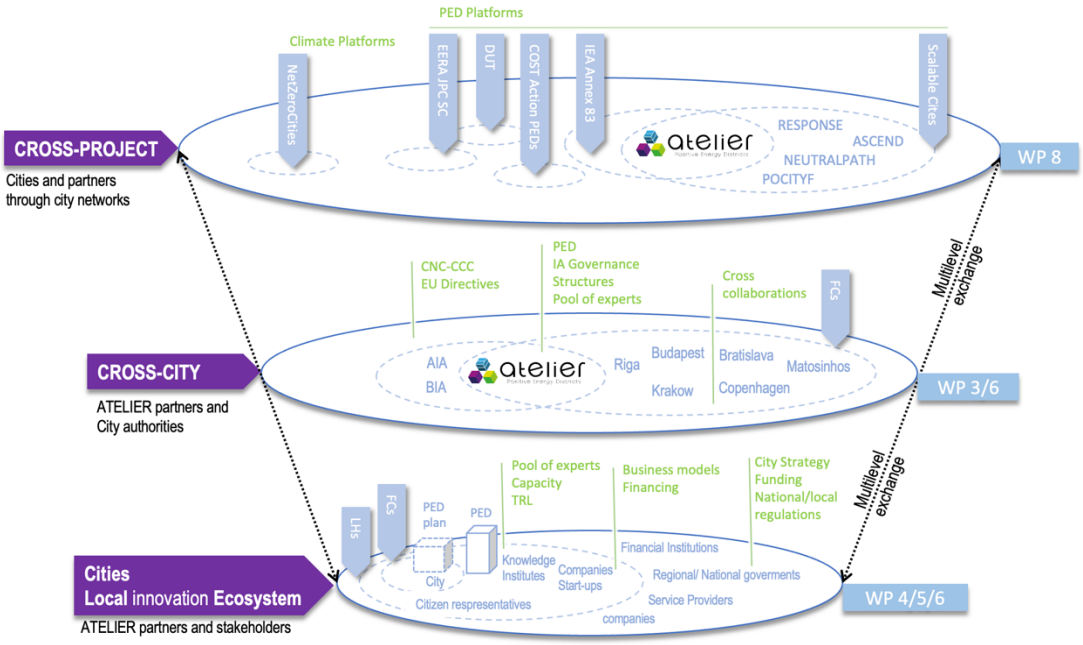

Figure 32 Multilevel governance structure exchange in the ATELIER project

The **multilevel governance approach** of Innovation Ateliers (IAs) operates at three interconnected levels: **local ecosystem, cross-city, and cross-project**. Each level plays a distinct role in enhancing project impact, capacity-building, and fostering collaboration. Below are the best practices based on M&E results.

5.2.1 Local Ecosystem

- **Embed IA in local decision-making**: Ensure alignment with city strategies, municipal structures, and key stakeholders to maintain long-term relevance.
- **Leverage local funding opportunities**: Explore public-private partnerships and municipal financing to ensure financial sustainability beyond project.
- **Engage key stakeholders**: Maintain regular dialogue with businesses, research institutions, and policymakers to integrate IA results into city planning.
- **Use existing city events**: Organize expert sessions or workshops within ongoing municipal and regional initiatives to maximize outreach.

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5.2.2 Cross-City

- **Facilitate structured knowledge exchange**: Organize exchange through joint webinars, study visits, and expert sessions to accelerate shared learning.
- **Utilize expert networks**: Fellow Cities benefited from access to ATELIER's pool of experts, enabling them to build capacity in their own ecosystems and navigate technical and regulatory challenges.
- **Cross city collaboration on shared challenges**: Cities successfully co-developed solutions, such as Bratislava and Copenhagen's urban heat pump design competition
- **Maintain a cross-city network post-project**: Ensure continuity through scheduled meetings and shared platforms to sustain long-term knowledge transfer.

5.2.3 Cross-Project

- **Align IA with EU initiatives and projects**: Cities linked their IA work with 100 Climate-Neutral Cities, ASCEND, ExPEDite, and Scalable Cities to expand impact.
- **Join relevant EU-wide platforms networks**: Participation in initiatives like Scalable Cities and Smart City Expo amplified the visibility and replication of IA results.
- **Share best practices through joint events with other related projects and initiatives**: ATELIER collaborated with POCITYF, NEUTRALPATH, and other PED projects to address common replication challenges.
- **Secure long-term collaboration opportunities**: Cities integrated IA findings into new EU-funded projects, ensuring sustainability beyond ATELIER.
- Cross-Project Learning: Documenting lessons learned and providing structured guidance accelerated implementation across different initiatives.

By embedding multilevel governance practices, IAs can maximize impact, sustainability, and cross-city learning, ensuring long-term urban energy transition success.

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5.3 IA Best practices by M&E key components

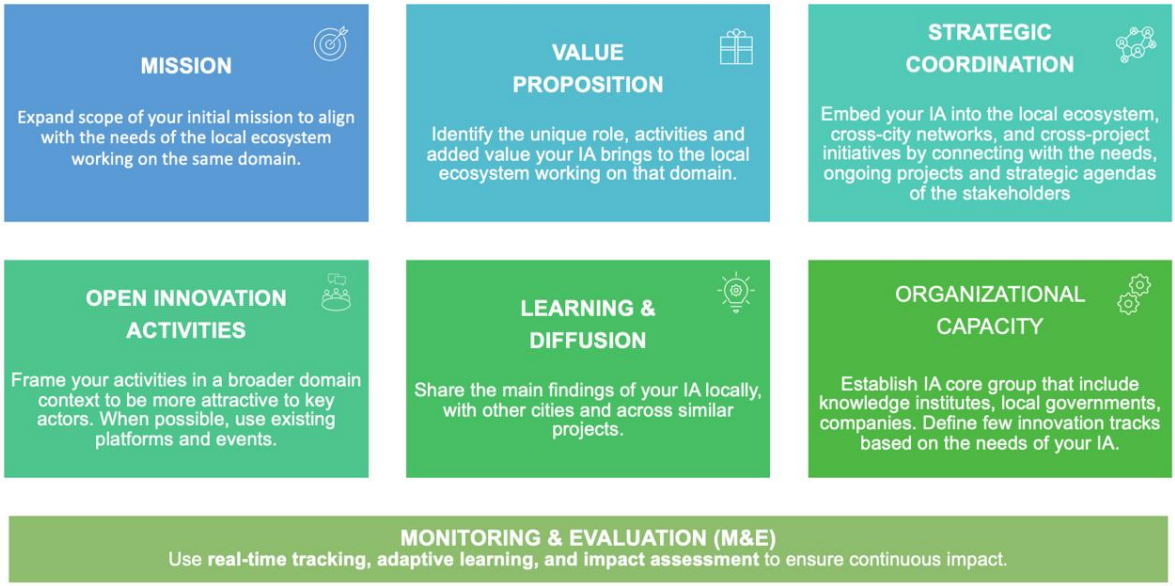

Figure 33 IA Best practices per M&E key component

The M&E framework and its six components focuses on monitoring the underlying conditions and governance structures of Urban Living Labs (ULLs) rather than rigid KPIs, which can be limiting given the uncertainty of final solutions. Instead of evaluating specific outcomes or impacts, it assesses whether the right conditions for success are in place. By tracking six key components over time, the approach provides insights into the effectiveness and maturity of ULL governance, allowing for meaningful comparisons across different contexts.

Its adoption in the context of projects in other domains shows, its relevance in establishing successful governance structures capable to deliver impact outside of the project scope.

5.3.1 Mission

A successful IA **mission evolves** throughout the project, **expanding beyond its initial focus to accommodate key stakeholders' needs, integrate with ongoing initiatives, and align with broader sustainability goals**. To effectively guide cities in their sustainable transitions, the IA mission should serve as a foundation for planning and executing projects.

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Best practices include:

- **Align with Local and Broader Goals:** Ensure the IA mission aligns with the city's specific energy or climate transition strategy and broader objectives, such as the EU's climate-neutral and smart city goals.
- **Adapt to city/regional needs and ecosystem challenges:** Regularly reassess and refine the mission to address evolving local challenges, stakeholder expectations, and policy shifts. This maintains relevance and maximizes impact.
- **Connect projects and initiatives:** Use the IA mission as a unifying framework for scoping and onboarding new projects, ensuring they contribute to both local needs and overarching sustainability targets.

5.3.2 Value proposition

The value proposition of Innovation Ateliers, as demonstrated by both Lighthouse cities and Fellow Cities, is centred in its role as facilitator of local engagement, cross-city and cross-project collaboration, and knowledge-sharing. By promoting stakeholder cooperation, supporting knowledge exchange, and strengthening local capacity, IAs help key actors navigate regulatory, technical, and financial challenges while accelerating urban energy and climate transitions.

A successful value proposition typically includes:

Local Ecosystem

- Access to a pool of experts on relevant topics (e.g. legal, technical, governance etc.)
- Network of key stakeholders (Industry, knowledge partners, governments)
- IA Workshops and Activities tailored to the needs of the local ecosystem
- Innovative solutions that can be adapted and upscaled
- Integrated Funding Strategies and business model development
- Capacity-Building in the local ecosystem

Cross-City

- Leveraging ATELIER's expert network to accelerate learning and replication
- Promoting knowledge sharing and collaboration, facilitating the sharing of best practices and lessons learned

Cross-Project

- Connecting and learning with EU-wide platforms, networks and other projects

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5.3.3 Open Innovation Activities

Open innovation activities should be framed around topics that are relevant to the broader community working on the same sustainability challenge and target the appropriate audience.

Best practices include:

Local Ecosystem Level

- **Frame activities** around topics that address **the needs and agendas** of key stakeholders.
- Framing IA and (PED) pilot learnings and activities in a broader energy/domain context, making it more attractive for other key local stakeholders including service providers, governmental organizations.
- **Organize expert sessions that support capacity building** to strengthen the local ecosystem ability on addressing bottlenecks related to your urban. Expert sessions include topics such as policy, technical aspects, business models, community adoption.
- Establish a dedicated **core group that consistently participates in activities**. This will allow your local ecosystem to advance towards a shared understanding and vision on the given local challenge.
- **Link open innovation activities to existing projects and initiatives** in the IA cities, fostering wider collaboration and greater impact.
- **Organize regulatory and funding sessions** to translate the challenges into opportunities for funded projects and policy recommendations

Cross-City and Cross-project

- **Promote Cross-City, cross-project knowledge exchange**: Organize joint learning sessions, cross-city visits, and shared innovation challenges to accelerate knowledge transfer and adaptation in new contexts. Incorporate learnings from other cities, using structured events, joint workshops, and peer-to-peer learning to accelerate adoption of best practices.
- **Collaborate on thematic challenges**: Cities can co-develop solutions to common urban transition issues.
- Facilitate **joint activities with sister projects** or domain related platforms to amplify the reach and impact of the initiatives. This will further support you in gaining the buy in of the key actors in the local ecosystem.
- **Leverage Existing Platforms**: Use existing cross-city cross-project webinars, or joint sessions to organize expert sessions, share knowledge, lessons learned, and innovations.

5.3.4 Strategic Coordination

A successful strategic coordination in the Innovation Atelier (IA) model requires embedding the IA within the local innovation ecosystem and connecting it to decision-

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making processes. This ensures alignment with city-specific goals while fostering active collaboration with local, cross-city, and cross-project actors. By engaging key stakeholders from business, research, government, and citizens (Quadruple Helix), the IA enhances alignment, synergy and enables impactful decision-making.

Best practices include:

- **Align with Local Stakeholders**: Ensure the IA is in sync with the strategic agendas of local stakeholders (businesses, public institutions, research, and citizens). This increases relevance and impact by addressing city-specific challenges and goals.
- **Foster Cross-City Collaboration**: Promote structured exchanges between cities, leveraging shared experiences and resources to scale solutions across regions.
- **Integrate Key Actors**: Engage all relevant actors from the quadruple helix, ensuring they actively participate in the IA's activities. Clear leadership and role definitions within the IA team help maintain focus and accountability.
- **Leverage Existing Platforms**: Use existing local events, cross-city webinars, or joint sessions to share knowledge, lessons learned, and innovations.
- **Support Funding Mechanisms**: Identify or create funding opportunities that support the broader ecosystem's engagement, particularly for stakeholders outside the core team.

5.3.5 Learning Knowledge and diffusion

A comprehensive knowledge diffusion strategy should consider different levels of communication:

- **Internal Communication:**
  Use internal reports, core meetings, and reflections to discuss the outcomes of IA activities. Encourage the authors of deliverables and reports to present their findings and next steps, ideally through reflection meetings that enable further elaboration and actionable outcomes.
- **Local Ecosystem Communication:**
  Leverage existing events on relevant topics to organize expert sessions, communicate lessons learned, and frame innovations within a broader context that engages all key partners working on a given transition.
- **Cross-project and Cross-city Communication:**
  - Foster connections between stakeholders from different cities, organize joint webinars or shared events, and collaborate with similar projects (e.g., GA, Cross-city events).
  - Ensure communication channels are tailored to distinct actor groups, using press releases, social media, and project websites to increase engagement and disseminate key learnings.

In general, is recommended to clear communication channels targeted to the distinct types of actors.

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- Press releases, social media post and websites (ATELIER & corporate websites) can be used to disseminate knowledge among different stakeholders and increase engagement. This will result in an increased learning.

5.3.6 Organizational Capacity

Building strong organizational capacity within an Innovation Atelier is essential for ensuring its success and sustainability.

Best practices include:

- **Appointing clear leadership** and engaging all key actors in the core team, including track coordinators.
- Investigating **strategies to integrate citizens' perspectives** into the core team, ensuring that their input is considered in decision-making. In practice this is typically done by integrating a core member that works together with the affected citizens during all the IA implementations.
- Defining specific **innovation tracks** that address key challenges within the transition process.
- Ensuring that the **task and activities** of the contributors are **aligned with organizational** goals and objectives.
- **Promoting** collaborative work and **sharing learnings** across teams and cities.
- Long term continuation after the project, handover or frame IA in the context of other projects, embedded in the existing organization structures.
- Integrate IA into Larger Sustainability Networks and platforms: Expand IA activities into regional, national, or EU-wide initiatives, allowing for greater impact and scalability.

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Main Takeaways: Best Practices and Lessons from IA Implementation

Figure 34 ATELIER Technical site visit Amsterdam Apr 2024

The Innovation Atelier (IA) concept has proven to be an effective governance and collaboration model for in supporting cities in organizing and accelerating the implementation of sustainable transitions. The staged implementation approach, multilevel strategic governance, and Monitoring & Evaluation (M&E) framework have each contributed to the success of IAs in both Lighthouse Cities (LCs) and Fellow Cities (FCs). The following key lessons provide practical guidance for practitioners looking to implement and scale IAs in their own cities.

Stages of IA Implementation: IAs evolve through establishment, maturation, stabilization, and long-term continuation. A key factor for success is early stakeholder engagement and governance setup, ensuring integration into municipal structures. LCs gradually embedded IAs into city governance, while FCs followed an accelerated learning process, leveraging cross-city collaboration and expert networks to fast-track implementation.

Multilevel Strategic Governance: IAs operate at three governance levels: local, cross-city, and cross-project. Locally, embedding the IA into city decision-making ensures long-term impact. Cross-city collaborations have facilitated knowledge transfer, access to experts and share of best practices, helping cities in creating solid governance structures to accelerate their ongoing energy and climate efforts. At the cross-project level, linking IAs with EU initiatives, platforms and other related projects has facilitated opportunities for learning, identification of common challenges and best practices.

M&E Key Components: The M&E framework has helped cities track IA progress by focusing on governance conditions rather than rigid KPIs. Lessons learned show that

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an evolving mission, a strong value proposition, and strategic coordination are essential for success. Open innovation activities and structured knowledge-sharing further enhance IA effectiveness.

These findings demonstrate that Innovation Ateliers can be applied beyond urban energy transitions, as seen in their adoption in other sustainability projects. The methodologies, tools, and training modules developed through IAs have been integrated into new initiatives, such as EU4Advice, a Living Lab project focused on short food supply chains across multiple EU countries. This highlights the scalability and adaptability of IA principles across different sectors. Additionally, the term "Innovation Atelier" can be refined to better reflect its broader role. In the context of other projects, it has been framed as a governance model for collaborative innovation ecosystems or Living Lab governance, emphasizing its function in structuring and supporting innovation processes rather than being project specific.

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6 Lessons learned about monitoring IA

In this section, we describe the main findings about the usage of Reflective Monitoring in Action (RMA) and the Monitoring and Evaluation (M&E) framework in the context of the implementation of the Innovation Ateliers in Amsterdam (AIA), Bilbao (BIA), and Fellow Cities (FCs).

- **Integrating M&E in the project activities**: Its adoption across all cities (AIA, BIA, and FCs) enhanced its relevance and usability. By integrating M&E into existing project activities such as workshops and recurrent meetings, the monitoring process was aligned with the IAs' evolving needs. This integration reduced the need for additional meetings and allowed for real-time sharing of lessons learned, making monitoring an intrinsic part of the IAs' work.
- **Cross-City Monitoring for Learning & Reflection:** Conducting simultaneous monitoring across AIA, BIA, and Fellow cities enabled more meaningful comparisons and deeper insights, which became the norm during the Stabilizing stage. The inclusion of Fellow cities in reflection meetings (e.g. Cross-city events, technical meetings, and recurrent meetings) facilitated cross-city knowledge exchange, supported the identification of best practices, and streamlined monitoring efforts. This integration of monitoring into regular events not only reduced the organizational burden but also promoted continuous reflection, making it a natural part of the project workflow.
- **Simplification of M&E Framework:** The M&E framework was progressively simplified and refined, particularly during the Stabilizing stage, when a more user-friendly tool was developed. The ultimate goal of the M&E framework is to support an innovative project with multiple stakeholders working towards sustainable transitions in establishing a successful governance structure capable to deliver value to the local ecosystem, to other cities and to other projects.
- **Evolution of Reflection and Learning Processes:** In earlier stages, the complexity of RMA posed challenges for cities, especially with navigating the observation, reflection, and adaptation steps. During the Stabilizing stage, these steps were streamlined and implicitly integrated into regular monitoring activities, reducing complexity and fostering continuous learning. Reflection sessions were structured to involve both Lighthouse and Fellow cities, ensuring meaningful exchanges and timely sharing of preliminary findings with the core team, which led to more immediate action and adjustments.
- **Survey Methodology, Language Barriers, and Participant Engagement:** Surveys conducted with local leads in the Establishing and Maturing stages often lacked substantial qualitative insights due to time constraints. In the Stabilizing stage, language barriers in Bilbao were mitigated by including a Spanish-speaking team member. Survey questions were reframed to promote proactive feedback, and as in-person meetings became more frequent, there was greater opportunity for open-ended responses. Tools like Mentimeter, once central to data collection, became marginal and were primarily used for participant engagement.
- **Continuous Improvement and Adaptation:** In the Establishing and Maturing stages, lessons learned led to ongoing improvements in the monitoring methodology and M&E framework. By the Stabilizing stage, the monitoring process

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had solidified, and no significant changes were necessary. The integration of the M&E framework's key components became embedded in existing events and activities, such as Cross-city events and recurrent meetings, supporting the evolving needs of the IAs without requiring significant adjustments.

7 Conclusions

The Innovation Atelier (IA) model has proven flexible and effective in driving sustainable urban transitions. Through its structured approach to stakeholder engagement, multilevel governance, and continuous learning, IAs have successfully supported the implementation of Positive Energy Districts (PEDs) and broader energy and climate initiatives in Lighthouse and Fellow Cities. The integration of Monitoring & Evaluation (M&E) has been central to refining IA strategies, ensuring knowledge diffusion, and embedding these models into long-term city planning.

A relevant finding has been the tendency of integrate of IAs into local governance structures. Amsterdam's IA merging with Amsterdam InChange (AiC), expanding its focus beyond PEDs to address grid congestion, energy-sharing models, and local energy communities. Bilbao's IA strengthened its alignment with regional energy policies and financing models, ensuring that its governance and stakeholder network remain active beyond ATELIER. Fellow Cities, such as Copenhagen, Budapest, and Riga, have embedded their IAs into municipal climate strategies, securing institutional support and linking them to EU programs such as the 100 Climate-Neutral Cities initiative.

Monitoring activities demonstrated to be essential in supporting IA development and replication in FCs. Initially designed as a structured step-by-step methodology, the monitoring process evolved into a simplified, embedded process integrated into regular IA activities, enabling real-time learning and continuous adaptation.

The adoption of M&E framework supported cities track progress, compare experiences across different contexts, and refine governance strategies. By aligning M&E with existing project activities, such as cross-city events and expert sessions, the monitoring process became more actionable, fostering dynamic and responsive city-driven innovation. The M&E framework also facilitated cross-learning, with Fellow Cities accelerating their IA adoption by leveraging insights from Lighthouse Cities.

Despite the progress made, some challenges remain, particularly in ensuring long-term financial sustainability beyond project-based funding and further embedding IAs into municipal structures. Stakeholder engagement has been largely successful, though involving the private sector and citizens in energy-sharing initiatives remains an area for growth. Additionally, regulatory alignment continues to evolve, particularly Fellow Cities, faced policy-related delays in implementing new energy-sharing and PED models, requiring closer alignment with national and EU energy directives.

Beyond ATELIER, the Innovation Atelier (IA) model has proven its relevance in supporting broader sustainability initiatives. By fostering local, cross-city, and cross-

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project collaboration, IAs have helped innovative projects expand their impact, as seen in their integration with other projects and initiative. Cities have leveraged IAs to facilitate knowledge-sharing, stakeholder engagement, and financial strategy development, ensuring long-term sustainability. Additionally, IAs have contributed to cross-project learning by aligning methodologies with EU-wide programs and networks, reinforcing their role as key enablers of urban transitions. Their continued integration into municipal strategies and cross-project collaborations will further enhance their scalability and long-term impact.

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