Scaling up the implementation of Sustainable Energy and Climate Action Plans across Europe: Lessons learned from AT LAST project

Final Project Report

January 2026

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1. Executive Summary

The **AT LAST Final Publishable Report (D2.3)** synthesises the project's principal outcomes, key achievements, and lessons learnt, drawing on experiences from all AT LAST pilot networks and the wider Communities of Practice (CoP) established across Europe. It highlights the methods and tools that have proven most effective in supporting mid-sized and smaller municipalities, showcases concrete examples of successful local implementation, and identifies systemic barriers that still hinder progress in turning Sustainable Energy and Climate Action Plans (SECAPs) into action. The report also provides a set of forward-looking recommendations for policymakers, local authorities, and practitioners seeking to accelerate climate action at the local level and ensure that no municipality is left behind in the transition toward climate neutrality.

AT LAST was launched in response to a persistent challenge faced by municipalities across Europe: while many have developed SECAPs under the Global Covenant of Mayors for Energy and Climate (GCoM), the shift from planning to implementation remains difficult, particularly for cities with limited resources, smaller administrations, and competing local priorities. By offering tailored capacity-building, peer-to-peer learning, and practical implementation support, AT LAST has contributed directly to bridging this gap.

Over its implementation period, AT LAST equipped 28 municipalities across Italy, the Netherlands, Belgium, and Sweden with the skills, knowledge, and cross-sectoral collaboration mechanisms needed to translate climate ambitions into concrete, operational measures. Beyond the pilot networks, the project successfully engaged municipalities through its Communities of Practice, creating an extended ecosystem for knowledge exchange, mutual learning, and replication of effective approaches.

This report presents the project's most significant outcomes, including strengthened institutional capacities, improved SECAPs monitoring and implementation processes, enhanced internal coordination within municipalities, and new opportunities for financing climate actions. It also captures lessons that can inform future support mechanisms for smaller cities, particularly the need for sustained technical assistance, long-term political commitment, improved access to climate finance, and structured opportunities for cross-municipal collaboration.

Professionally designed and accessible, this final report serves as an inspirational guide for local governments across Europe seeking to operationalise their climate strategies. It reinforces the project's contribution to the EU Green Deal, the 2030 climate objectives, and the broader mission of fostering climate-neutral and resilient communities.

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2. Introduction

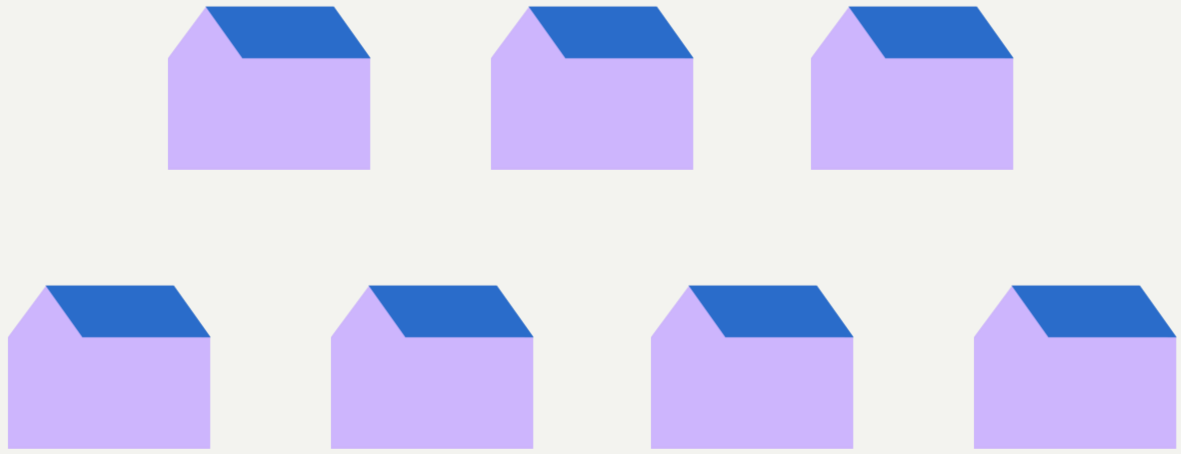
Throughout its duration, AT LAST worked closely with municipalities in four pilot regions: Italy, the Netherlands, Belgium, and Sweden, while also engaging a wider network of more than one hundred municipalities through Communities of Practice. These combined activities generated a substantial body of knowledge, tools, and insights that form the basis of this report. More than a summary of results, this report consolidates the project's practical achievements, distils the lessons learnt, and captures the approaches that proved most effective in helping smaller and midsize municipalities advance in their SECAPs. It is designed as a resource that will continue supporting local authorities, practitioners, and policymakers well beyond the lifetime of AT LAST.

The report presents the main outcomes of the project in a clear and accessible way, guiding readers through the evidence collected across the pilot regions and the wider CoP community. It begins by outlining the key results from AT LAST, including the progress made in Italy, the Netherlands, Belgium, and Sweden. Each pilot region offers unique insights into how municipalities strengthened their planning and implementation processes, improved internal coordination, and overcame barriers related to expertise, resources, or governance structures.

The subsequent part of the report reflects on the main lessons learnt throughout the project. These insights reveal what local authorities need most to progress in their climate commitments, as well as the systemic challenges that continue to hinder implementation efforts. Building on this understanding, the report then presents a set of recommendations aimed at local, national, and EU-level actors. These recommendations draw directly from the experiences of the pilot municipalities and are intended to help strengthen future support mechanisms and amplify the impact of initiatives like AT LAST.

Following the results from the pilot regions, the report introduces two of the project's major outputs: the e-learning platform and the Handbook for Local Energy and Climate Planning. The e-learning platform provides practical training, courses, and ready-to-use tools, while the Handbook compiles a range of actionable solutions that cities can apply to accelerate climate and energy measures on the ground.

Together, these elements offer a comprehensive and practical overview of the knowledge generated by the project. They provide a foundation for ongoing collaboration and capacity-building efforts, ensuring that the benefits of AT LAST continue to inform and inspire municipalities across Europe in their journey toward climate neutrality and resilience.



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3. Key Results from AT LAST

Across all pilot cities (Italy, the Netherlands, Belgium and Sweden) AT LAST supported municipalities in advancing climate and energy objectives through approaches adapted to the local context. While the thematic focus varied, including energy transition, renewable energy deployment, climate adaptation, investment planning, and governance, all pilots shared a strong emphasis on capacity building, participatory processes, and practical implementation support.

Several cities focused on energy transition measures such as the establishment of renewable energy communities, the development of citizen facing support services, and the execution and monitoring of local energy transition plans. These actions aimed to facilitate the uptake of renewable energy, improve energy efficiency, reduce costs for end users, and strengthen social inclusion. Other pilots concentrated on climate adaptation, applying nature-based solutions, assessing environmental and microclimatic impacts, and co designing interventions for urban, industrial, or peri urban areas to improve resilience to climate risks.

In parallel, several municipalities engaged in governance, financing, and knowledge building activities, including communities of practice, peer learning processes, environmental spending analyses, and climate investment assessments. These initiatives contributed to stronger institutional capacity, improved understanding of regulatory and financial frameworks, and more informed decision making.

Citizen and stakeholder engagement was a cross-cutting element across all pilots, involving residents, businesses, community collectives, and municipal staff. Participatory approaches enhanced the quality of inputs, increased local ownership, and supported more effective and context-specific outcomes.

The following section provide a structured and detailed overview of each pilot, presenting the local context, the main activities and highlights achieved, as well as the key lessons learned and recommendations for future action and replication. The section also highlights the AT LAST Academy and the the Handbook for Local Energy and Climate Planning.

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Insights from the pilot regions

Results from Italy

Context

The results achieved through the AT LAST project in Italy vary from city to city. A total of six municipalities were involved: Rimini, Cervia and Modena, which focused on shared energy initiatives, while Imola, Ravenna, and Carpi developed projects more oriented towards climate adaptation. Together, these cities formed the Italian Community of Practice within AT LAST, creating a structured space for exchange, mutual learning and collaboration among municipalities working on the energy transition and climate adaptation. Despite these differences, all initiatives shared a strong commitment to citizen engagement, which generated concrete outcomes both in terms of participation and in the quality of the decisions taken.

Figure 1. Municipalities involved in the AT LAST Project pilot in the Emilia-Romagna region in Italy (to date December 2025).

Baseline context of Italian pilot municipalities

Across the six Italian pilot cities, all of which had already adopted Sustainable Energy and Climate Action Plans (SECAPs), AT LAST supported municipalities in advancing measures already identified in their local strategies. The project developed locally tailored solutions for the energy transition and climate adaptation, combining technical assistance with strong citizen and stakeholder engagement.

Italian municipal climate plans generally set ambitious mitigation targets, commonly aiming at CO_2 emission reductions of around 40% by 2030 compared to baseline years, while some plans include even more ambitious objectives or longer-term climate neutrality goals. These plans commonly prioritise **energy efficiency improvements** in buildings, the **expansion of renewable energy generation**, particularly photovoltaic installations,

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and the **promotion of sustainable mobility solutions** such as public transport improvements, cycling infrastructure, and the gradual electrification of transport systems.

Climate adaptation is also increasingly recognised within municipal strategies. Measures often include the expansion of green infrastructure, improvements in urban permeability, flood risk monitoring systems, and actions aimed at strengthening resilience to extreme weather events. However, adaptation components are often less detailed than mitigation strategies and, in some cases, remain at a more strategic or exploratory level

Another recurring feature across the analysed plans is the **challenge of implementation capacity and financing**. While municipalities frequently refer to regional, national, and EU funding opportunities, many plans do not include detailed budget allocations or long-term financial frameworks. This highlights the importance of external support, technical expertise, and strong stakeholder engagement to translate strategic objectives into concrete local actions.

Highlights

The following section presents the main actions and results achieved in each of the six Italian pilot cities, illustrating how AT LAST supported local implementation of energy transition and climate adaptation measures.

Figure 2. Consortium partners meeting in Rimini during the project's third General Assembly. Photo: REVOLVE

Rimini
150.700 inhabitants

In Rimini, the municipality used AT LAST technical assistance to establish its Renewable Energy Community (REC), named Comuné. Supported by the local partner AESS, the municipality received legal, administrative and technical guidance to set up the REC within a broader public–private partnership. The community aims to reach 1.7 MW of installed renewable capacity and has a strong social focus, supporting households affected by energy poverty through shared energy production. Citizen participation played a central role: a public launch event attracted over 150 people and generated more than 100 pre-registrations, showing strong local interest and engagement.

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Cervia
29.000 inhabitants

Cervia chose a different model, establishing its REC together with ASP, the local Public Social Services Agency. This collaboration allowed energy and social objectives to be integrated from the outset, strengthening the REC's ability to reach and support citizens. The initiative promotes renewable energy, energy savings and local economic development. With AESS's support, the municipality developed communication materials and organised a public event to explain how the REC works, sparking widespread interest and laying the groundwork for future citizen and private-sector involvement.

Figure 3. Interview with AT LAST project coordinator Claudia Carani (AESS) during EUSEW. Brussels, June 2025. Photo: REVOLVE

Modena
184.349 inhabitants

In Modena, AT LAST supported the creation of a One Stop Shop (OSS): a physical and digital helpdesk designed to support citizens in energy retrofitting and the adoption of renewable solutions. The OSS provides free guidance on photovoltaic systems, helping residents navigate administrative procedures and connect with qualified professionals. AESS supported both the design of the service and the development of clear, accessible online content. While still in its early stages, the OSS is expected to play a key role in making the energy transition more inclusive and accessible across the city.

Imola
69.714 inhabitants

Imola focused its AT LAST activities on climate adaptation and citizen participation, working on a disused urban area with potential for future public use. Through a participatory process designed and facilitated by AESS, local residents were involved in imagining how the area could better respond to climate challenges and community needs. An exploratory walk and a follow-up workshop allowed participants to identify critical issues (heat, water management and accessibility) and to explore nature-based solutions. The process resulted in a shared vision and a meta-project delivered to the municipality, providing a concrete foundation for future planning.

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Ravenna
156.500 inhabitants

In Ravenna, the project centred on a recently redeveloped parking area improved through nature-based solutions, including permeable surfaces and new trees. AESS carried out a microclimatic analysis to assess the environmental benefits of the intervention and developed on-site signage to clearly communicate these benefits to citizens. The initiative culminated in a public event dedicated to nature-based solutions, combining technical explanations with on-site observation. Between 60 and 80 people participated, demonstrating how clear communication can help citizens better understand and appreciate climate adaptation measures.

Carpi
74.028 inhabitants

Carpi worked on the industrial sector, addressing climate adaptation challenges in an outdated and environmentally critical area. Through guided urban walks and a workshop with local businesses, AESS supported the municipality in collecting direct input from those who work daily in the area. The process highlighted shared challenges related to heat, mobility, water management and accessibility, and resulted in a meta-project that will support future municipal planning. The active involvement of entrepreneurs proved essential in identifying realistic priorities and co-designing potential solutions.

Taken together, the six pilot cities show that there is no one-size-fits-all approach to the energy transition and climate adaptation. However, a common element emerges clearly: **projects are more effective, inclusive and sustainable when they actively involve the people who live and work in the territories concerned**. By combining technical expertise with participatory processes, AT LAST helped municipalities design solutions that are not only environmentally sound, but also socially relevant and widely supported.

Figure 4. Modena, Province of Modena, Italy. 2024. Unsplash free license

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Main lessons learned

What we learned throughout the project is strongly grounded in the Italian context and in the way municipalities typically operate. Local authorities often work with limited human and financial resources, which can make implementation challenging and slow down decision-making processes. These structural conditions shaped both the design and the outcomes of the AT LAST activities.

Tailored approaches are essential. Different local contexts require different tools: Renewable Energy Communities, One Stop Shops and climate adaptation actions respond to distinct needs. Their effectiveness increases significantly when interventions are designed around local priorities, institutional capacities, and available resources.

Citizen engagement is a shared priority, but also a complex process. All municipalities involved showed a strong commitment to involving citizens, which should not be taken for granted, as participation is difficult to organise and resource intensive. Experience shows that citizen engagement works best when it is concrete and place based. Activities such as guided walks, site visits, and public events proved particularly effective, as they allow people to directly experience spaces and better understand proposed interventions. Engaging citizens is challenging and time-consuming, but it is essential when environmental actions directly affect everyday life.

Participatory processes help municipalities better align actions with citizens' needs. Input collected through walks, workshops and discussions directly informed analyses and meta-projects, leading to more targeted, realistic and context-specific proposals. This approach improves both the relevance and the quality of local actions.

Early and clear communication is key to participation. Informative materials, public presentations and accessible explanations significantly increased citizens' interest and willingness to engage, as demonstrated by high attendance at events and early expressions of interest.

Public–private collaboration can facilitate implementation. In several cases, involving private actors from the early stages helped align technical solutions with real needs and increased both feasibility and overall effectiveness.

Some initiatives require longer timeframes to deliver measurable results. Projects such as One Stop Shops or newly established energy communities need time to consolidate. Their impact should therefore be assessed over the medium to long term, rather than relying solely on short-term indicators.

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Recommendations for the future

- **Engage citizens early**. Invest time and resources in **early communication and participation** to build trust and long-term involvement, using diverse communication channels.
- **Use and replicate participatory tools**. Formats such as **guided walks and mapping workshops** are effective, adaptable and transferable across municipalities and policy areas.
- **Combine technical and social skills**. Technical expertise should be paired with **facilitation and mediation**, making complex topics accessible to non-expert audiences.
- **Ensure long-term follow-up.** Include **monitoring mechanisms** to assess participation, behavioural change and outcomes over time.
- Integrate climate, energy and social policies. Linking environmental goals with social inclusion and local development increases public acceptance and impact.
- **Support scalability**. Provide **clear guidelines and templates** to help municipalities replicate successful approaches.

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Results from the Netherlands

Context

In the Netherlands, 10 municipalities participated in a Community of Practice to gather knowledge, learn collectively from experts, share experiences and in that way strengthen and accelerate their SECAPs and their implementation. Every 6 weeks sessions were organised which focused on different topics that were either introduced by the CoP participants during our start-session or brought up during the project.

In total 14 CoP sessions were organised of which 3 were in-person events and the others were online gatherings. The in-person events consisted of the start gathering in May 2024, a visit to an inspiring sustainable citizen collective in September 2025 and a visit to the Green Village in Delft showcasing innovative sustainable approaches. In addition, 5 events were organized on AT LAST themes for CoP members as well as a wider group of stakeholders.

Figure 5. Municipalities involved in the AT LAST Project pilot in the Netherlands (to date December 2025).

Baseline Context of Dutch Pilot Municipalities

The Dutch pilot involved Arnhem, Berkelland, Borger-Odoorn, Deventer, Hoorn, Horst aan de Maas, Lochem, Rheden, Ridderkerk and Veenendaal. They are located in 7 different provinces of the Netherlands and hence have not cooperated geographically before. These municipalities differ significantly in size, administrative capacity, and experience with SECAP implementation.

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Municipalities	Population	Neighbourhood	Houses
Arnhem	165.770	**Elderveld (a.o.)**	4.307
Berkelland	44.022	**Rural area**	3.878
Borger-Odoorn	25.919	**Borger & 2e Exloërmond**	572 & 505
Deventer	102.781	**De Hoven**	979
Hoorn	75.216	**Hoorn-Noord**	2.803
Horst aan de Maas	43.641	**n/a**	n/a
Lochem	34.314	**Laren**	843
Rheden	43.570	**Dieren-West**	2.000
Ridderkerk	47.477	**n/a**	n/a
Veenendaal	68.525	**Petenbos**	1.414

Table 1. CoP municipalities population including number of houses in targeted neighbourhoods

Climate and Energy Planning Frameworks

All participating municipalities have adopted sustainable energy and climate action plans, in the form of a **Transitievisie Warmte** (or equivalent). These define municipality's long-term goals and strategic pathway for transitioning the built environment away from natural gas. The municipalities translated their Transitievisie Warmte into concrete implementation programmes such as insulation strategies, energy-poverty support schemes, spatial planning frameworks for renewable energy generation, and municipal sustainability or energy-saving programmes. Others included targeted renovation plans for low-energy-label housing and the development of smart energy hubs. In addition, the municipalities made use of regional sustainability plans—the **Regionale Energie Strategie**—which outline regionally coordinated targets and spatial strategies for renewable electricity generation (such as wind and solar) and the development of regional energy infrastructure.

Only 3 municipalities (Hoorn, Rheden and Veenendaal) had developed wijkuitvoeringsplannen; which are neighborhood-level implementation plans that translate the municipality's Transitievisie Warmte into concrete actions for the local energy transition—detailing when and how specific neighborhoods will move away from natural gas to sustainable heating solutions. These plans should be developed in close consultation with residents. The participating municipalities in the CoP aimed to initiate or develop wijkuitvoeringsplannen (or equivalents) for the neighbourhoods noted above during the project.

Key Challenges Identified for the development of wijkuitvoeringsplannen.

- Community engagement and social acceptance of energy and heat transition measures.
- Financial feasibility and affordability, including financial insights for citizens
- Regulatory and legislative clarity, including stronger legal anchoring and clearer long-term policy frameworks.
- Long-term strategic planning and policy continuity for the energy transition.
- Monitoring of actual implementation.
- Dealing with grid congestion, especially under growing electrification.

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The abovementioned challenges were collected during a starting session of the CoP, and the subsequent CoP sessions in the 2 years following the starting session therefor zoomed in all of these topics, sharing best practices from within the CoP, inviting outside experts and discussing solutions to these challenges.

Figure 6. Group discussion during the starting meeting of the Dutch Community of Practice – May 30, 2024

Highlights

The CoP sessions organised in the Netherlands can be roughly divided into three main topics:

- The execution and monitoring of local energy transition plans;
- Community participation;
- Knowledge building on specific topics; legislation & policies, financing and grid congestion.

Firstly, on **the execution and monitoring of local energy transition plans** (1), we focused on exchanging best practices and challenges. In total 3 CoP sessions were organised for the 10 participating municipalities. Discussions build on an assessment by Klimaatverbond of the neighbourhood characteristics of the municipalities that influence possible sustainable energy and renovation solutions (neighbourhood DNA). Furthermore, an in-depth session was held on monitoring and data driven decision making in energy transition plans. One of the participating municipalities shared their advanced methods and best practices around this topic.

Quote from one of the participants:

"Before this meeting I felt stuck because of all the obstacles to renovate neighbourhoods, but now I feel inspired and ready to continue!"

Secondly, one of the main topics of our Community of Practice centered around **community participation** (2). Concrete approaches for successful implementation of energy transition plans, through community participation, local cooperatives, and the integrated neighbourhood approach were shared. In total, we organised 5 CoP sessions on this topic; for example, an elaborate explanation of the integrated neighbourhood approach including an

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integrated approach to renovation was shared by our partner 'the Bouwhulpgroep'. This resulted in a publication that generated a lot of interest from municipalities. Furthermore, sessions focused on social profiling, collaboration with energy cooperatives, ways to support community collectives and presentations by the collectives of their transformative power at neighbourhood level. Sessions included substantial time for Q&A and discussion on how the approaches could or could not benefit the municipalities.

Figure 7. Local initiative 'De Groene Wijkeconomie' in Arnhem shares examples of community participation

Quote from a community collective:

"Why hire expensive consultants from outside, when there is so much energy and knowledge within the neighbourhood?"

Thirdly, we focused on **building the knowledge** (3) of the government workers on specific topics relevant for municipalities when implementing local energy transition plans. We organised 3 CoP sessions for the participating municipalities, specifically on legislation and policies, financing, and grid congestion. Experts were invited to share in-depth information, followed by substantial time for Q&A and discussion on how municipalities can deal with these contextual elements. This contributed to the improved knowledge and capacity of the municipalities to implement local energy transitions plans using opportunities in the existing legislation and overcoming challenges in the context.

Quote from municipality of Utrecht:

"We have purposely invested in extensively going through the environmental impact assessment, so other municipalities can learn from our example and apply it more efficiently"

Finally, exchange and learning in the Dutch CoP informed several publications:

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- A publication on cooperation between energy collectives and municipalities (de Opgroeiverkenner)
- A publication on the integrated neighbourhood approach to sustainable renovation;
- A 2026 report on responding to increasing cooling demand within municipal energy transition plans;
- A best practice report on community participation and cooperation between municipalities and citizen

Main lessons learned

Reflecting on the practical outcomes of our Communities of Practice, the following points highlight key observations on participation, group composition and the added value created for municipal officials. These insights are drawn from direct experience and feedback from participants:

A community of practice with a relatively large number of participants and a wide range of municipalities has the benefit of rich exchange, because of the different sizes, experience and phase of implementation of sustainability plans. However, it makes it harder to focus on in depth support and because of the geographical spread, it was a challenge to create a true community with high social cohesion.

Creating a community for government officials with colleagues from different municipalities who are facing similar challenges and has been truly valuable. For these individuals it has been not only valuable to gain knowledge, get better access to latest information around the energy transition, but also to connect with colleagues who are facing similar challenges. Sharing best practices and exchanging ideas with people working in the same field has been both rewarding and led to direct impact in the daily work of these policy officers.

Insights for municipalities:

- Using the knowledge and expertise of citizens and inhabitants of the neighbourhood is smart and efficient. Instead of hiring an expensive consultant, enable citizens to fully participate and bring in their knowledge into the process. Citizens are experts on their neighbourhood, the needs of their community and the local situation.
- Municipalities in the Netherlands are facing an enormous challenge; they are responsible for the transformation of the build environment. In a lot of cases, the organisational capacity of the municipality does not match the task at hand. Therefore, policy officers are overwhelmed by the amount of work, the scope of the work and the flow and changes of new policies, budgets and regulations coming from the national government and national expertise partners.

This has impacted the project as well. Though municipalities have responded positively to all knowledge shared in the CoP sessions, this did not immediately lead to application of the methods or approaches presented. A specific example was the integrated neighbourhood approach. Municipalities responded overwhelmingly positively to the vision of the approach and its opportunities. Klimaatverbond aimed to support CoP members in the application of that approach during the lifespan of the AT LAST project. However, this has proven difficult in practice, as municipalities are faced with insufficient capacity and means to introduce the approach.

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Figure 8. Community of Practice session of September 15, 2025 on local collectives & community participation

Recommendations for the future

Based on our experience in setting up and running Communities of Practice, the format and scale of a CoP should always follow its primary objective. Different goals require different levels of interaction, group size and facilitation methods. The points below summarise key considerations that can help define the most appropriate approach and ensure that the CoP delivers concrete value for participating municipalities:

- If the main aim of your CoP is to build a community, setting up a more in-depth CoP with a smaller number of municipalities from a smaller region is most suitable; approaches recommended are field visits, creative exercises for information exchange and limited ‘presentations’.
- If the main aim of your CoP is in-depth knowledge sharing, an online CoP with a larger number of participating municipalities who can share knowledge, and exchange will be more effective. Approached recommended are sessions of 1,5-2 hours (including a break). With maximum 2 presentations and ample time for questions. It is recommended to ensure active facilitation and discussion sessions in which participants are encouraged to share the experience from their municipalities or their learning needs. Useful tools are MIRO boards, Mentimeter and prepared discussion propositions.
- Use existing expertise, both from other organisations as from within the municipalities. Policy offers have more expertise than they sometimes realize. Asking them to present their municipality’s methods is not only an easy way to organise a quality presentation for a CoP, but it also ensures that information is relatable for other participants and it contributes to a recognition of their – or their municipalities’ - efforts.

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Results from Belgium

Context

In 2024, 2 COP sessions were organised, and one assignment was delivered via the e-learning platform. These activities focused on project scoping, planning, and knowledge sharing among municipalities. The hybrid format was well received, and participants valued the open exchange of experiences. This report summarizes each session; highlights lessons learned and outlines next steps.

In 2025 three additional COP sessions focused on advanced topics: communication strategies and climate conversations, including techniques for handling resistance and fostering engagement. Data-driven working, with practical guidance on data collection, analysis, and GDPR (General Data Protection Regulation) compliance. And finally, a round-up on reviewing progress on internal/external governance, financing and monitoring.

Figure 9. Municipalities involved in the AT LAST Project pilot in the region of Flanders, Belgium (to date December 2025). Temse and Holsbeek carried out preparatory work but did not continue in the Community of Practice trajectory.

Baseline context of the Belgian pilot municipalities

Bonheiden

15,641 inhabitants in 2025

SECAP Status & Planning

Bonheiden participates in the AT LAST Community of Practice and reports annually through the Local Energy and Climate Pact (LEKP). The municipality works with a SECAP-aligned climate approach but has not yet published a fully formalised standalone SECAP. Its work focuses on mitigation (PV cooperatives, building renovation) and early-stage adaptation actions.

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Key Climate Actions

- Citizen-cooperative PV and solar rollout as part of local renewable energy generation.
- Expertise in heat networks (district heating) development, strengthening local low-carbon supply.
- Strong Local Energy and Climate Pact (LEKP) reporting to the Flemish government with detailed neighbourhood-renovation documentation.

Notable Strengths

- High citizen involvement through cooperatives.
- Early exploration of heat networks for future low-carbon heating.

Challenges (shared across the cohort)

- Staff capacity constraints
- Limited expertise in climate finance
- Uncertain and shifting regional/national policy

Knokke-Heist

32,996 inhabitants in 2024

SECAP Status & Planning

Knokke-Heist works with SECAP-aligned measures and participates in AT LAST. The municipality includes climate-related commitments in its LEKP reporting and integrates climate topics into spatial planning and coastal resilience strategies.

The SECAP was developed with the multiregional network partner WVI.

Key Climate Actions

- Blue-green mapping to identify flood paths, cooling routes and ecological corridors.
- Strong communication and sensitisation practice, aligned with the communication guidelines of Hove and Kontich (see below), focusing on clear, accessible climate messaging.
- Stakeholder engagement processes, supporting participatory planning and multi-actor governance.

Notable Strengths

- Excellent outreach and communication culture.
- Strong integration of climate themes with public space and mobility planning.

Challenges

- Seasonal population dynamics increase the complexity of climate adaptation.
- Need for sustained staff resources to anchor long-term climate governance.

Ostend (72,586 inhabitants in 2024)

SECAP Status & Planning

Ostend has a formal climate-mitigation policy plan and is one of the strongest performing municipalities in the AT LAST cohort. The city combines mitigation, adaptation and social policy in an integrated governance approach.

Key Climate Actions

- Strong internal governance capacity, cross-departmental climate coordination.
- Mimosa district: a recognised circular-economy neighbourhood, used as a best practice example.

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- Centrumwijk (City Centre Climate Transition District): ongoing development of a social-spatial vision to prepare the district for the energy and climate transition, focusing on adaptive public space, energy efficiency and social cohesion. Tender publicly available on VVSG-website.
- Climate roundtables for citizens
- Robust LEKP reporting and systematic monitoring.

Notable Strengths

- Clear long-term vision and strong political support.
- Ability to scale neighbourhood-oriented climate programmes.

Challenges

- High adaptation needs due to coastal exposure.
- Complex balance between climate neutrality and broader socio-economic obligations.

Hove
8,366 inhabitants in 2024

Hove does not publish a standalone SECAP, but it incorporates climate and sustainability work through:

- Local spatial planning and environmental policy (City monitor data)
- Participation in regional governance and mobility planning (administrative ties via Kontich canton)
- Climate roundtables for citizens

The municipality is known for strong communication practices that inspired the “clear and accessible climate communication guidelines” referenced earlier in the AT LAST context.

The SECAP was developed with the multiregional network partner IGEAN and the Province of Antwerp.

Kontich
21,801 inhabitants in 2024

Kontich has a fully approved SECAP, validated by the municipal council on 19 September 2022.

Core elements include a 40% CO_2 reduction target by 2030 (baseline 2011) and a climate-resilience objective aligned with the Covenant of Mayors 2030, which Kontich signed on 19 October 2020.

The SECAP was developed with the multiregional network partner IGEAN and the Province of Antwerp.

Key Climate Actions

Shared (**Hove** + **Kontich**)

- Clear, accessible climate communication — Hove and Kontich are recognised regionally for model communication guidelines, used as an example in AT LAST conversations.
- Green-blue spatial planning (rainwater infiltration, trees, linked open spaces).
- Focus on sustainable mobility (cycling, walking, electric mobility).
- Climate-conscious renovation culture with strong emphasis on insulation and behavioural change.

Hove (specifics)

- High median household income and strong local capacity for residential retrofits.
- Increasing attention to biodiversity, open-space preservation and heat-stress mitigation, reflected indirectly in the City monitor indicators (green space, mobility, satisfaction).

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- Excellent communication culture supportive of climate outreach.

Kontich (specifics)

- 7 strategic pillars in its SECAP (e.g., climate-neutral organisation, climate-friendly mobility, green-blue networks, local renewable power, circular consumption).
- Strong emphasis on local renewable energy, including solar rollout on large rooftops and cooperative models.
- Clear ambition to make neighbourhoods climate-neutral and climate-resilient by 2030.
- Integrated approach linking mobility, spatial quality, energy and circular economy.

Strengths

Hove

- Very high socio-economic profile, enabling ambitious renovation and climate investment.
- Strong administrative clarity and communication—an asset for public climate awareness.

Kontich

- Fully approved SECAP with clear goals and a coherent set of climate pillars.
- Demonstrated capacity for multi-year planning
- Strong alignment with EU Covenant of Mayors.

Shared Challenges

- Limited staff capacity for long-term climate governance.
- Need for deeper climate finance literacy to accelerate implementation.
- Policy uncertainty around Flemish/National energy frameworks.
- Ensuring citizen engagement at scale, beyond early adopters.
- Translating communication leadership into measurable behaviour change.

Temse

31,271 inhabitants in 2024

SECAP Status & Planning

Temse carried out pre-study work related to SECAP themes but did not proceed as a full pilot municipality. Climate action is integrated into LEKP commitments, spatial planning and preliminary feasibility studies.

Key Climate Actions

- Feasibility studies on energy efficiency and neighbourhood-renovation pathways.
- Participation in the AT LAST Community of Practice during early stages.
- Explorations of renewable energy planning, building stock analysis and governance needs.

Notable Strengths

- Strong preparatory research that can be activated when political or financial windows open.
- Good alignment with regional climate objectives.

Challenges

- No full SECAP implementation structure yet.
- Limited staff capacity for follow-through after pre-studies.

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Holsbeek
10,207 inhabitants in 2024

SECAP Status & Planning

Holsbeek carried out pre-studies but did not continue as a pilot in the AT LAST trajectory. It engages in LEKP reporting and local climate projects, with growing interest in renewable energy cooperatives and biodiversity-based adaptation.

Key Climate Actions

- Study work on energy efficiency and spatial adaptation, including water-management analysis.
- Early climate-governance exploration through local working groups.
- Interest in cooperative energy models aligned with regional examples.

Notable Strengths

- Strong environmental identity with green and rural assets.
- Good citizen engagement potential.

Challenges

- Limited administrative capacity for multi-year climate programming.
- Need for clearer financial and implementation pathways.

Shared Challenges Across All Five Municipalities

- Climate finance knowledge is limited, and municipalities face the same need for capacity-building as other Flemish local governments. AT LAST-style training remains critical to help translate ambitions into investable projects.
- Staff capacity remains the biggest structural barrier. Policy officers still struggle with the workload tied to climate planning, monitoring, and neighbourhood-level project rollout.
- Policy uncertainty — particularly around Flemish and EU regulatory timing for energy, mobility, and spatial planning — complicates long-term SECAP implementation for all municipalities.
- Fragmented data systems hinder integrated SECAP monitoring
- Need for communication clarity, where Hove and Kontich offer transferable good practices (see above)

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Highlights

Figure 10. Consortium partners meeting in Ostende, Belgium to discuss Positive Energy Districts

During the final COP session in Ostende, the city presented its ambitious neighbourhood improvement trajectory, which includes the development of a future PED (Positive Energy District). As part of the program, participants joined a city walk through the designated area. Municipal officers used an interactive map to illustrate where the main construction sites and interventions will take place. This visual approach helped clarify the planning logic and demonstrated how different projects—such as heating connections, street redesigns, and green space creation—will be integrated into the district's long-term vision.

Quote Ostend:

"By pooling and sharing knowledge, we work more efficiently and improve the quality of our plans."

Quote Knokke-Heist:

"AT LAST helps us take targeted actions, monitor progress, and evaluate results. This makes our policy more efficient and more effective."

Quote Kontich:

"Each municipality organises such a project differently, and thanks to the Community of Practice we can learn from other municipalities. This helps us discover what works and what doesn't. In addition, the community increases the visibility of our neighbourhood renovation projects, allowing us to immediately put this information into practice."

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Sessions Summaries

Session 1 – Kick-off and Project Scoping
Participants introduced themselves and their proposed projects. Overview of the e-learning platform and relevant frameworks for project scoping. Outcome: Drafting of initial project notes as the first step in project setup. Follow-up: COP leaders provided feedback on project notes and referred participants to resources on the e-learning platform.

Session 2 – Project Timing and Planning
Preparatory case study on project planning. Workshop: Participants created and presented project timelines, followed by peer discussion. Outcome: Improved understanding of planning and scheduling techniques.

Session 3 – Communication and Engagement (from COP3 notes)
Discussed building effective communication strategies (content, channels, format, target audience). Shared examples of successful and less effective approaches. Explored techniques for handling resistance and fostering engagement (LSD method: Listen – Summarize – Probe).

Session 4 – Data-Driven Working (from COP4 notes)
Tools and methods for data collection and analysis (e.g., Power BI, Excel, GDPR considerations). Importance of clear objectives and breaking down large datasets. Participants shared experiences with surveys and citizen engagement.

Session 5 – Round-Up and Governance (from COP5 notes)
Reviewed internal and external governance, financing, and monitoring. Discussed barriers such as time constraints and staff changes. Highlighted the value of feedback and peer learning during COP sessions.

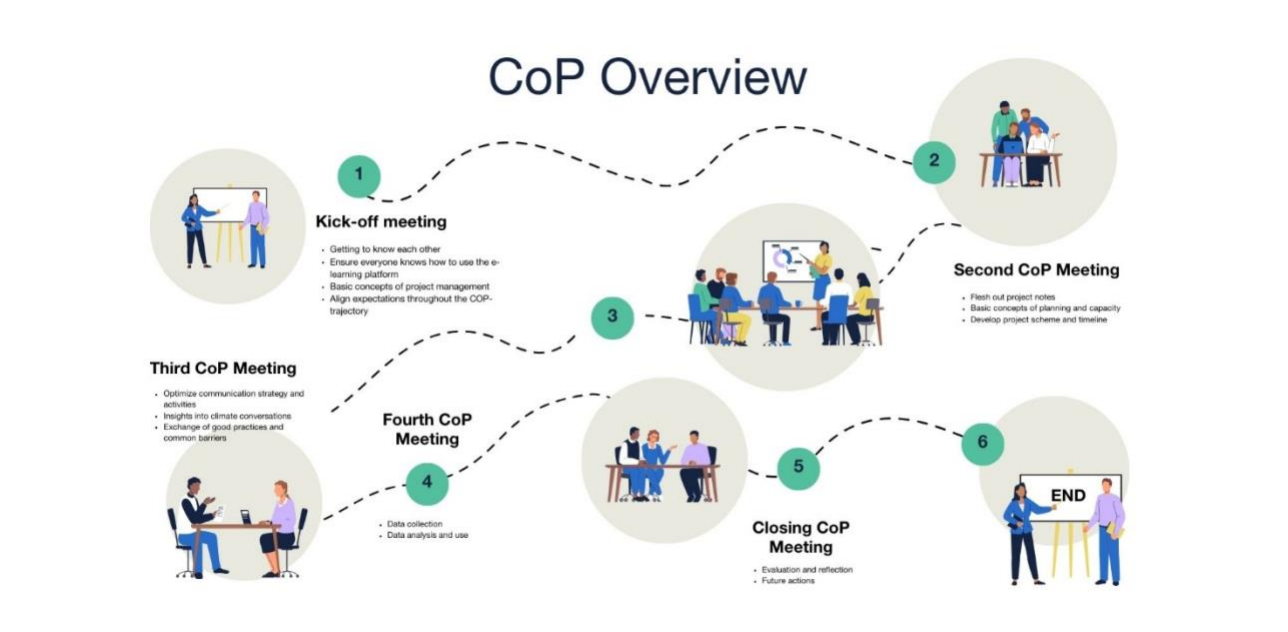

Figure 11. Timeline of the establishment and development of a new Community of Practice, using the example of AT LAST pilot country Belgium as a model. Infographic by REVOLVE.

Main lessons learned

Figure 12. Wim De Geest (VVSG), Belgium Pilot Focal Point for the AT LAST project, gives a presentation to his consortium colleagues. Photo: REVOLVE

Drawing on the implementation and facilitation of the activities, several lessons emerged that are relevant for future COPs and capacity building initiatives. These lessons reflect both what worked well in practice and where structural constraints continue to affect engagement and impact at municipal level:

Hybrid format works well:
Participants appreciate flexibility and accessibility.

Peer feedback is highly valued:
Open and honest discussions helped refine project ideas.

Communication matters:
Avoid jargon, use relatable language, and set realistic expectations.

Data is powerful but underused:
Municipalities need better tools and strategies for data analysis and reporting.

Governance challenges persist:
Time constraints and staff turnover hinder progress;
clear milestones and internal coordination are essential.

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Limited uptake of e-learning:
Time pressure reduced engagement with online modules;
practical exchanges compensated for this gap.

Recommendations for the future

Future COPs would benefit from maintaining a strong focus on practical, peer-based work. Exercises around project scoping, timing, and planning clearly supported participants in structuring their ideas and translating them into actionable steps. Peer feedback and discussion played a central role in refining project concepts and creating a shared learning environment, while communication-focused sessions helped municipalities reflect on how they engage citizens and stakeholders in a realistic and transparent way.

Based on these observations, the following recommendations are proposed for future editions:

- Continue using **hybrid formats** to balance accessibility with in-person interaction, especially for practical exercises and site visits.
- Strengthen peer learning by allocating sufficient time for **feedback, discussion, and exchange of experiences** between municipalities.
- Keep communication guidance practical, focusing on **clear language, realistic messaging, and concrete tools** for handling resistance and engagement.
- Support **data-driven working** with simple, purpose-driven tools and clearer guidance on how to use data for decision-making and reporting.
- Address governance constraints by encouraging **early planning, clear milestones, and internal coordination** to manage time pressure and staff changes.
- Complement e-learning with live, practice-oriented sessions, as **direct exchange** proved more effective under time constraints.
- Together, these recommendations point toward COP formats that are grounded in **real municipal practice**, flexible in delivery, and focused on supporting officials in turning plans into concrete action.

Results from Sweden

Context

In Sweden, AT LAST activities were embedded within existing national and municipal collaboration structures, notably **Viable Cities**, rather than establishing a new Community of Practice. Swedish municipalities already participated in multiple forums for climate governance, peer learning, and strategic planning. The AT LAST approach therefore focused on **targeted municipal activities**, responding to specific gaps identified by cities in relation to climate spending visibility, climate investment planning, consumption-based mitigation, and adaptation assessment.

Activities were carried out with **Helsingborg, Falkenberg, Kristianstad, Malmö, and Mariestad.** While the scope and maturity of work varied across municipalities, together these activities generated concrete analytical outputs, early-stage design processes, and structured feedback on data, governance, and implementation challenges faced by local authorities.

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Figure 13. Municipalities involved in the AT LAST Project pilot in the region of Sweden (to date December 2025).

Baseline Context of Swedish Pilot Municipalities

The Swedish pilot involved Helsingborg, Malmö, Kristianstad, Falkenberg, and Mariestad. These municipalities differ significantly in size, administrative capacity, and sectoral exposure, but all operate within Sweden's highly decentralised municipal governance system, where local authorities hold strong autonomy over planning, infrastructure, and public services.

Municipality	Population (approximate)
Malmö	~365,000 (municipal population) — third-largest city in Sweden
Helsingborg	~151,000
Kristianstad	~41,000
Falkenberg	~28,700 (urban locality) / ~47,000 (municipality)
Mariestad	~16,600 (urban locality) / ~24,800 (municipality).

Table 2. Swedish municipalities and their approximate population

Climate and Energy Planning Frameworks

All participating municipalities have adopted local climate or energy strategies and are signatories to broader national and European frameworks (e.g., Covenant of Mayors and/or national climate roadmaps). Swedish municipalities typically integrate climate mitigation, adaptation, and biodiversity objectives into comprehensive municipal plans rather than standalone SECAP documents.

Key Climate Action Challenges Identified

- Translating ambitious climate neutrality targets into concrete, costed investment plans
- Limited visibility of how municipal budgets and procurement align with climate goals
- Sectoral concentration of emissions (especially transport, heating, and industry)

- Data gaps for adaptation and land-use related measures
- Coordination challenges between finance, procurement, and sustainability departments

The Swedish pilot therefore focused less on basic capacity-building and more on strengthening the financial, analytical, and governance foundations required to operationalise already ambitious climate targets.

Highlights

Environmental Spending Classification (**Helsingborg, Falkenberg, Kristianstad** – In Progress)

Several Swedish municipalities highlighted a common challenge: while climate and environmental objectives are well articulated in strategies and plans, it remains difficult to understand **how municipal spending aligns with these objectives.** Procurement and accounts data are typically organised by administrative or accounting logic, not by environmental purpose, limiting their usefulness for climate budgeting and decision-making.

To address this, work is underway with **Helsingborg, Falkenberg, and Kristianstad to design an European Sustainability Reporting Standards (ESRS)-aligned environmental spending classification approach**, focusing on the Environmental standards (E1–E5). The aim is not to produce full ESRS reporting, but to explore whether ESRS logic can be used as a **structuring framework** for understanding municipal spending.

Activities and process

Figure 14. A panoramic view of Helsingborg's waterfront, where the marina's sailboats line the harbor and modern buildings stretch

- **Helsingborg** initiated the work in November 2024 and shared initial datasets in May 2025. Early exchanges focused on understanding existing financial structures, procurement categories, and internal workflows.
- **Falkenberg** and **Kristianstad** expressed interest during 2024–2025 and will join Helsingborg in a joint design workshop on 27 January 2026, marking the first collective co-design moment across the three municipalities.
- To date, the work has concentrated on needs assessment and feasibility rather than implementation.

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Across the three municipalities, recurring issues were identified

- limited ability to distinguish **mitigation and adaptation** spending in existing financial data;
- procurement descriptions that are too broad to clearly indicate environmental relevance;
- fragmented cost structures across departments, complicating aggregation and comparison;
- absence of a shared analytical framework connecting sustainability and finance teams.

Current status

A **preliminary, basic prototype** of the environmental spending tool is planned for **late February 2026**, following the January design workshop. At this stage, the work remains exploratory and iterative, with further refinement expected based on municipal feedback.

Malmö – Climate Investment Planning and Financing Analysis

Figure 15. Consortium partners during a field visit in Malmo, Sweden. May 2025. Photo: REVOLVE

In Malmö, AT LAST activities focused on **analysing climate investment needs and financing conditions**, rather than developing a digital tool. The work was conducted by **Stockholm Environment Institute (SEI)** in collaboration with Malmö's Environmental Department and is documented in **the financial Impact of Malmö's Climate Investment Plan (2025).**

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Scope of the analysis

The analysis examined what it would take financially for Malmö to achieve **climate neutrality by 2030**, moving beyond target-setting to assess concrete investment requirements. The work combined emissions pathway analysis with sectoral investment assessment and financial feasibility considerations.

Key results

- Malmö's emissions have already declined substantially, but further reductions of **70–85% compared to 1990** levels are required to meet climate neutrality goals.
- Approximately **90% of remaining emissions** are concentrated in road transport, district heating (including waste incineration), and industry.
- Achieving the necessary reductions would require **additional climate investments of approximately SEK 8.7–11.9 billion by 2030**, equivalent to around 1% of local GDP.

Priority investment areas identified include transport electrification, carbon capture and storage at major point sources, waste and plastics separation, cycling and public transport infrastructure, energy efficiency in buildings, and emissions-free construction equipment.

Financing considerations

The analysis showed that while Malmö municipality itself has strong financial capacity, **investment barriers are unevenly distributed.** Households, Small and Midsize Enterprise (SMEs), and certain industrial actors face greater challenges related to upfront costs, risk exposure, and access to finance. In several cases, barriers were found to be administrative or regulatory rather than purely financial.

Mariestad

Testing Adaptation Measures and Indicators

Mariestad participated in AT LAST through **working group meetings** together with Uppsala, focused on testing a new version of an adaptation-oriented dashboard.

Activities undertaken

- Agricultural and land-use adaptation measures were reviewed based on a **desktop study and literature review**, rather than a municipality-specific pilot.
- Mariestad provided feedback on the relevance and feasibility of proposed measures.
- Local representatives highlighted rewetting as an important adaptation measure in the municipal context. However, due to limited operational data, rewetting could not be included in the dashboard at this stage.
- As a result, development focused on measures for which reliable and comparable data are currently available.

This process helped clarify the limits of data availability for adaptation indicators, particularly for smaller municipalities and land-use-related measures.

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Summary of Results Across the Swedish Activities

Figure 16. Consortium partners group photo in Helsingborg, May 2025. Photo: REVOLVE

Across all Swedish activities, the work resulted in:

- a clearer understanding of **structural and data-related barriers** to linking climate ambition with budgeting and investment decisions;
- increased awareness of the need for **standardised analytical frameworks** to interpret environmental spending;
- concrete estimates of **investment needs and financing challenges** at city level;
- practical insights into the **data requirements and limitations** associated with adaptation indicators.

Taken together, the Swedish results illustrate both the potential, and the constraints municipalities face when translating climate targets into financial planning, investment strategies, and operational tools.

Main lessons learned

Helsingborg, Kristianstad, Falkenberg
Environmental Spending & ESRS Logic

Based on the exchanges and case discussions with Helsingborg, Kristianstad and Falkenberg, several concrete lessons emerged on how municipalities approach environmental spending and how this can be aligned with ESRS logic. These insights highlight both methodological gaps and practical opportunities when linking financial data, procurement practices and climate objectives at local level:

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	Municipalities lack a clear overview of how procurement and accounts data relate to climate and environmental objectives, despite having strong climate strategies.
	ESRS environmental themes (E1–E5) provide a useful structuring logic for discussing environmental spending, even without full ESRS reporting.
	Distinguishing mitigation and adaptation within financial data is difficult, as activities are often embedded within the same projects or budget lines.
	Procurement descriptions and cost structures vary significantly across departments, limiting consistency and comparability.
	Early discussions alone triggered valuable cross-department dialogue between finance, procurement, and sustainability teams, even before any tool was deployed.

Malmö
Climate Investment and Financing Analysis

The following lessons were drawn from the analysis of climate neutrality pathways and their investment implications at municipal level. They underline the importance of connecting emissions data with financial planning in order to support more strategic, targeted and effective climate action:

- Translating climate neutrality targets into concrete investment needs clarifies the scale, urgency, and prioritisation of action.
- A small number of sectors account for most emissions, making targeted investment more effective than broad, unfocused measures.
- Municipal financial capacity is generally strong, but major investment barriers exist for households, SMEs, and some industrial actors.
- Many obstacles to climate investment are administrative or regulatory rather than purely financial.
- Linking emissions reduction potential with financial analysis improves decision-making and sequencing of measures.

Mariestad
Adaptation and Agricultural Measures

The following lessons emerged from our work on adaptation and agricultural measures, highlighting how data availability and analytical capacity shape what can be tracked, monitored, and implemented at municipal level. These insights emphasize the need for iterative testing and tailored approaches to make tools practical and actionable:

- Data availability strongly determines which adaptation, and agricultural measures can be operationalised in dashboards.
- Some locally important measures, such as rewetting, are difficult to include due to limited or inconsistent data.
- Smaller municipalities face greater constraints in data availability and analytical capacity.
- Iterative testing with municipalities helps identify which indicators are realistic at different stages of tool development.

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Taking into consideration the lessons learned across environmental spending, climate investment planning, and adaptation dashboards, the following recommendations outline practical ways to improve future approaches. They focus on making tools and methods accessible, actionable, and relevant for municipalities, while supporting meaningful collaboration across departments and stakeholders:

For Environmental Spending and ESRS-Based Approaches

- Start with simple, transparent classifications that municipalities can understand and refine over time.
- Use ESRS logic as a voluntary analytical framework, not as a compliance requirement.
- Combine technical tool development with facilitated cross-department discussions.
- Clearly document assumptions and data limitations in any spending analysis.

For Climate Investment Planning (Malmö-type Analyses)

- Complement climate action plans with explicit investment and financing assessments.
- Prioritise measures based on both emissions impact and financial feasibility.
- Develop targeted support mechanisms for non-municipal actors (households, SMEs, industry).
- Address administrative and regulatory barriers as part of climate implementation strategies.

For Adaptation and Agricultural Dashboards

- Build dashboards around measures with reliable and comparable data first.
- Treat high-priority but data-poor measures (e.g. rewetting) as future extensions rather than immediate inclusions.
- Adopt an incremental approach that allows indicators to evolve as data improves.
- Ensure tools remain usable for municipalities with limited data capacity.

Cross-Cutting Recommendations

- Design tools and methods to be scalable and adaptable across municipalities of different sizes.
- Allow iterative development rather than aiming for full coverage from the outset.
- Prioritise usability and governance relevance over analytical complexity.
- Support learning-by-doing through pilot testing and feedback loops.

These recommendations aim to guide municipalities and project teams toward approaches that are practical, flexible, and impactful, ensuring that both technical and governance challenges are addressed while fostering meaningful local engagement and continuous improvement.

Continuation and Legacy in the Swedish Context

Unlike in other pilot countries, AT LAST activities in Sweden were embedded within existing national collaboration platforms such as Viable Cities and other climate governance networks. This increases the likelihood that the knowledge, tools, and approaches developed during the project will continue beyond its formal end.

Several legacy pathways can be identified:

- **Environmental Spending Classification Work**: The joint workshop model between Helsingborg, Kristianstad, and Falkenberg establishes a replicable format that can be extended to additional municipalities. The ESRS-based analytical logic can continue evolving within municipal finance-sustainability dialogues, even without formal reporting requirements.

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- **Climate Investment Planning (Malmö)**: The investment pathway analysis provides a template methodology that can be applied in other Swedish municipalities seeking to quantify financing needs for climate neutrality.
- **Adaptation Dashboard Testing (Mariestad)**: The iterative testing approach clarified realistic data requirements and can inform future national indicator development processes.

More broadly, the Swedish pilot demonstrated that strengthening internal governance dialogue — particularly between finance, procurement, and sustainability units — may be one of the most durable impacts of the project. These institutional conversations are likely to persist independently of project funding, embedding climate considerations more deeply into ordinary municipal decision-making.

The AT LAST Academy

The AT LAST Academy was developed as a core component of the project's capacity-building strategy, complementing the physical Communities of Practices (CoPs). The Academy provides an accessible, modular e-learning environment designed to strengthen the skills of local climate and energy practitioners, particularly in small and medium-sized municipalities. It aims not only to disseminate knowledge, but also to create continuity between in-person exchanges and self-paced online learning.

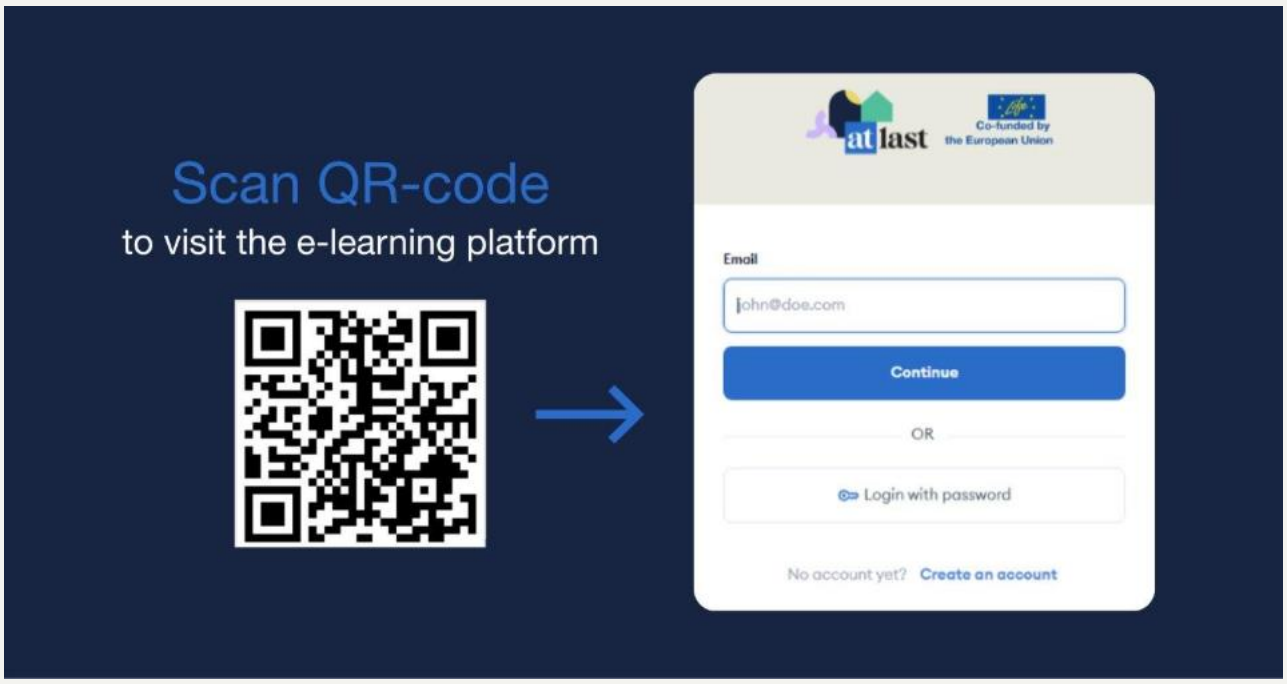

Figure 17. Promotional QR code that gives access to the AT LAST e-learning platform

The AT LAST Academy consists of both courses and an online forum for user engagement. Figure 6 shows the structure of the e-learning platform. There are four main programmes (Financing, Governance, Positive Energy Districts, and Leading a Community of Practice). Each programme consists of three types of courses: a 101-course (*basic concepts and definitions for beginners),* a more strategic course aimed at decision makers, and a practical, more hand-on course.[1] To encourage maximal knowledge retention and interactivity in an online context, several different formats are used, for instance textual and visual explanations, interactive images, templates etc. https://aessenergy.it/wp-content/uploads/2024/06/AT_LAST_Deliverable_4.1_v3.pdfhttps://aessenergy.it/wp-content/uploads/2025/12/AT_LAST_Deliverable_4.2.pdf

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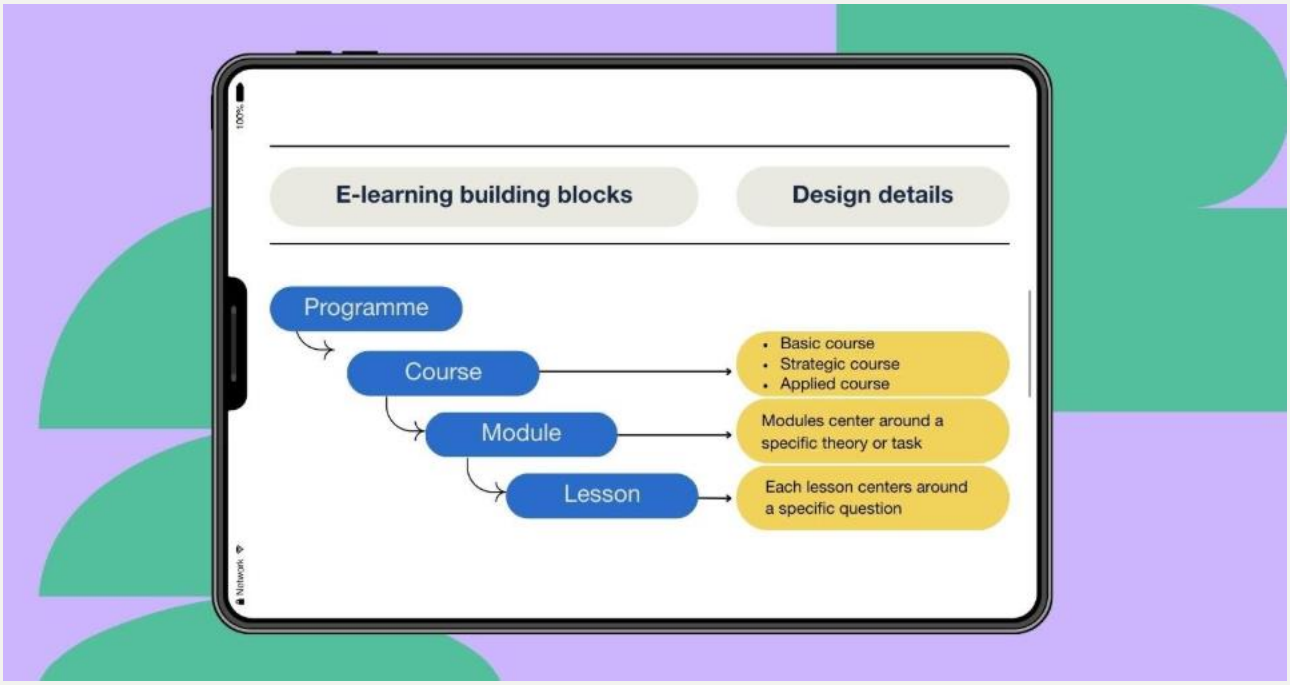

Figure 18. Structure of the e-learning platform

Main lessons learned

Learning Design & Platform Usability

One of the strongest insights from the AT LAST Academy is that navigation clarity and content structuring are critical. Users appreciated the breadth of information but reported that too much content can become a barrier. This reflects a wider trend in adult digital learning: busy practitioners need clear pathways, not encyclopaedias. Additionally, the project demonstrated that format matters as much as substance. Short, focused learning objects (especially 1–3-minute videos, interactive diagrams, and case-based visuals) generated the highest engagement. Long text pages or dense theoretical explanations were less likely to be consulted unless recommended explicitly by a CoP leader.

Another key lesson is that online learning is most effective when embedded in structured, real-life interactions. Engagement consistently rose when CoP leaders pointed users to specific modules before or after meetings. This shows that the Academy should not be viewed as a stand-alone tool, but as an amplifier of offline processes—helping participants arrive at sessions with a shared understanding, and supporting follow-up reflection afterwards.

Leadership Commitment Drives Engagement

Engagement varied significantly between countries. The main explanatory variable was not local context, but the comfort, commitment, and consistency of CoP leaders in using the platform. Leaders who regularly integrated assignments, shared links, and demonstrated platform value saw exponentially higher participation. Conversely, in countries where the platform was not embedded into CoP workflows, online usage remained limited. This underscores the importance of capacity-building for facilitators, not just end-users.

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Users Prefer Practical, Action-Oriented Content

Across analytics and survey data, participants showed a strong preference for finance, governance, and practical PED content. They tended to consume content that:

- answered “how do I do this in practice?”
- provided templates or checklists
- illustrated real municipal examples
- clarified complex terminology in simple language

Abstract theory was rarely accessed unless made directly relevant through CoP discussions, the need for theoretical information will likely decline with the increase of AI in the workplace. Increasingly people are using AI to get answers to basic information on several subtopics, reducing the need of general theory or definitions to be explained.

The Handbook for Local Energy and Climate Planning

Executive Overview

Purpose

A practical implementation guide supporting municipalities in moving from climate plans to concrete, financed, and governable action.

Scope

Draws on experiences from Belgium, Italy, the Netherlands, and Sweden to reflect diverse governance, legal, and financial contexts across Europe.

What It Provides

Implementation Guidance

- Mitigation and adaptation pathways
- Integrated planning approaches

Financing Insights

- Public–private partnerships
- Revolving and blended finance models
- Budget alignment strategies

Governance Tools

- Cross-department coordination
- Multi-level policy alignment
- Stakeholder and citizen engagement approaches

Real-World Cases

- Tested municipal practices
- Lessons from pilot regions
- Transferable implementation formats

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Methodological Foundation

Built on:

- Literature review
- Municipal climate plan analysis
- Financial framework assessment
- Stakeholder interviews

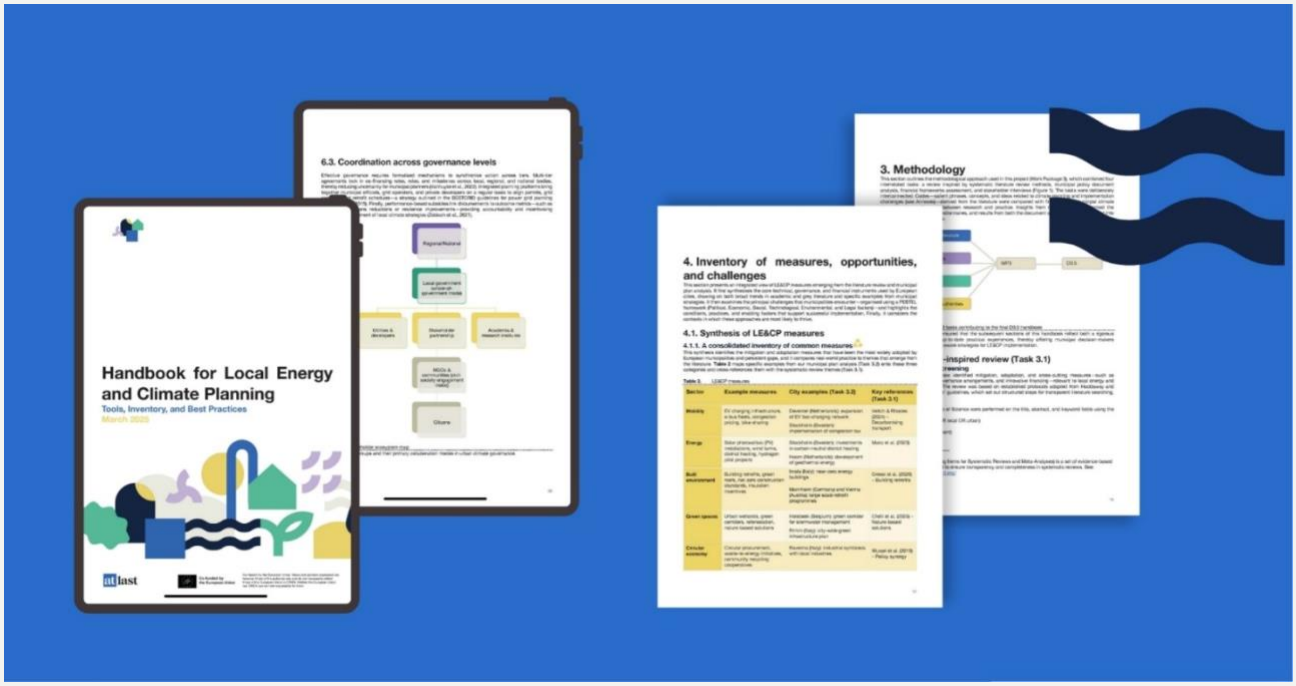
Ensuring evidence-based and practice-oriented guidance.

Core Takeaways

- Integration of mitigation, adaptation, and biodiversity increases efficiency.
- Governance alignment is as critical as technical design.
- Financial diversification strengthens implementation capacity.
- Peer learning and replication accelerate progress.

Each country's climate challenges — whether managing increasing rainfall and coastal threats in Sweden, retrofitting ageing building stock in Belgium, balancing flood protection with community energy initiatives in the Netherlands, or addressing coastal floodi<ng and drought in Italy —intersect with distinct governance frameworks and varying degrees of financial autonomy. This diversity in legal and fiscal settings crucially influences how municipalities design and implement local energy and climate plans. Understanding these structural nuances is vital for adapting and scaling the best practices presented in the subsequent sections of this handbook.

The AT LAST Handbook for Local Energy and Climate Planning consolidates insights from the analysis project partners made of examples of local energy and climate planning from across Europe, offering a living resource for municipal decision-makers.



The handbook presents an **integrated inventory of tools, practices, and financial frameworks for Local Energy and Climate Plans (LE&CPs)**, aiming to guide local authorities in accelerating their climate and energy transitions. It offers:

- Modules for Mitigation, Adaptation, and Integrated Planning

- Case Studies and Best Practices showing how municipalities address funding gaps and stakeholder engagement
- Insights into Effective Financing, including green public–private partnerships, and revolving funds
- Lessons Learned on Governance, highlighting cross-department collaboration, multi-level policy alignment, and citizen co-financing

The handbook was developed using a methodology that integrated four interrelated tasks: a systematic literature review, analysis of municipal policy documents, assessment of financial frameworks, and stakeholder interviews. Key concepts from the literature were compared with municipal climate plans to assess alignment between research and practice. Findings from the plans informed interview design, and insights from both documents and interviews shaped the final financial gap analysis. This approach ensures the handbook blends theoretical rigour with practical experience, offering municipal decision-makers evidence-based, context-sensitive strategies for implementing LE&CPs.

By consolidating evidence from cities from four European countries —Belgium, Italy, the Netherlands, and Sweden— this handbook showcases the shared challenges local authorities face, such as:

- Budget constraints: Municipalities often rely on a mix of short-term grants and limited local funds, leading to uncertainty and potentially to stalled projects.
- Departmental silos: Climate initiatives can be stifled when environment, finance, and transport departments operate independently rather than collaboratively.
- Complex governance: Multi-tier structures (e.g. those dependent on municipal, regional, and federal funding) can hinder clarity over who funds or oversees each phase of a climate project.

The handbook highlights key findings like the fact that integration —particularly the alignment of mitigation, adaptation, and biodiversity goals— substantially enhances project efficiency and public buy-in. And also, that governance and collaboration emerge as equally vital, as cross-department committees accelerate policy alignment and stakeholder acceptance.

Given the AT LAST Handbook finding, municipalities can strengthen local energy and climate planning implementation through several interlinked pathways:

- Refine and scale pilot initiatives
- Diversify financial instruments
- Diversify financial instruments
- Collaborate beyond municipal boundaries

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4. Conclusion

AT LAST´s final project report brings together the practical work, exchanges, and reflections carried out throughout the project´s activities, with a clear focus on supporting municipalities in moving from climate ambition to implementation. It documents not only what was done, but how local administrations engage with planning, investment, governance, data, and communication when translating SECAP objectives into concrete action. Across the different sections, a consistent picture emerges of municipalities that are motivated and knowledgeable, yet operating under real constraints of time, capacity, and coordination.

One of the main contributions of this report is its emphasis on **practice-based learning**. The Communities of Practice demonstrated that municipalities benefit most from formats that allow them to work on their own projects while learning from peers facing similar challenges. Site visits, hands-on workshops, and structured peer feedback helped participants clarify their project logic, improve planning and timing, and reflect more critically on communication and engagement strategies. These elements proved particularly valuable in bridging the gap between strategic plans and day-to-day decision-making.

The work on environmental spending, **climate investment planning**, and **data-driven tools** further highlighted the importance of linking technical analysis with governance realities. Municipalities often have strong climate strategies, but limited visibility on how budgets, procurement, and financial decisions connect to climate and environmental objectives. The use of frameworks such as investment pathway analyses, and dashboards showed that even simplified approaches can trigger meaningful internal discussions and improve coordination between departments and across organisations. At the same time, the report clearly shows that data availability and analytical capacity vary widely, especially for smaller municipalities, and that tools must be adaptable to these differences.

Governance challenges remain a recurring theme: time pressure, staff turnover, and fragmented responsibilities continue to affect continuity and implementation. However, the experiences documented here also show that **clear milestones, realistic expectations, and early internal alignment can mitigate some of these barriers**. Equally important is the role of communication, both internally and externally. Clear language, concrete examples, and honest discussion of trade-offs proved more effective than technical jargon or overly ambitious narratives.

Overall, this final report provides a grounded account of what supports municipalities in advancing climate action in practice. It does not offer a single model or solution, but rather a set of tested approaches, lessons, and recommendations that can be adapted to different local contexts. **The insights gathered here can inform future project phases and support municipalities as they continue to turn plans into measurable progress on the ground.**

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Towards Climate-Neutral and Resilient Cities

Accelerating the Transition of Local Authorities through Support and Training

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