NET ZERO CITIES



# Mid-term progress report on Twinning

## Deliverable D5.5

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## Disclaimer

# Abbreviations and acronyms

| Acronym | Description |
|---|---|
| TLP | Twinning Learning Programme |

# Summary

The Climate-neutral and Smart Cities Mission aims to share valuable insights and innovative strategies for rapid decarbonisation across Europe. To achieve this, it is essential that the lessons learned from the Pilot Cities programme—spanning urban mobility, the built environment, energy systems, and more—are shared with peer cities across the continent.

To facilitate this, we created the Twinning Learning Programme, a two-year initiative that supports the exchange of knowledge between Pilot and Twin Cities. Through tailored workshops, site visits, and collective learning sessions, participating cities are empowered to learn from each other's experiences in transforming their urban environments towards climate neutrality. This programme is designed to foster lasting relationships between cities across Europe, encouraging future collaboration in pursuit of ambitious climate goals.

As the Twinning Learning Programme nears its conclusion, the work achieved so far highlights both the significant progress made and the challenges still ahead for the Twin Cities. The completion of the first two modules and ongoing exchanges have already led to meaningful advancements in understanding, adapting, and preparing to replicate sustainable practices from the Pilot Cities. The programme has been instrumental in promoting collaboration, knowledge sharing, and cross-city learning, all of which are essential to driving climate action forward.

However, the Replicability assessment points out that while Twin Cities demonstrate strong political support and readiness, they continue to face challenges related to regulatory frameworks, financial limitations, interdepartmental collaboration, and market readiness. These barriers need sustained attention and strategic solutions, particularly to align local efforts with broader national and EU policies. The replication of successful practices will depend on the cities' ability to overcome these structural and resource-related obstacles, ensuring the right conditions for successful implementation.

The positive feedback from participants, coupled with insights from the Replicability assessment, indicates a solid foundation for replication and a clear path ahead. To maintain momentum, Climate-neutral and Smart Cities Mission should focus on deepening practical collaboration between cities and offer guidance on securing long-term financial support. Additionally, strengthening the capacity of municipalities to scale these practices—and, where possible, ensuring that the necessary resources are available to Twin Cities—will be key to achieving the overarching goal of climate neutrality.

Ultimately, the success of the Twinning Learning Programme will be measured by its ability to drive lasting change through knowledge exchange and pave the way for scaling best practices in peer cities. While challenges remain on the path to replication, the commitment of the Twin Cities, supported by the Climate-neutral and Smart Cities Mission, provides a strong foundation for achieving tangible, scalable outcomes. As the programme enters its final phase, the lessons learned and relationships established will continue to serve as crucial assets as cities advance toward their sustainable, climate-positive futures.



This project has received funding from the H2020 Research and Innovation Programme under the grant agreement n°101036519.

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# Introduction

The Climate-neutral and Smart Cities Mission wants to spread the learnings and innovative approaches to rapid decarbonisation across Europe. To do so it is crucial that the learnings of Pilot cities programme on urban mobility, built environment, energy systems and many others are transferred to peer cities across the continent.

For this, we designed the Twinning Learning Programme. A two-year programme that facilitates the transfer of knowledge from Pilot Cities to Twin Cities and vice versa. Through tailored workshops, site-visits and collective sense making sessions the participating Twin and Pilot cities are empowered to learn from each other experiences to transform their cities to climate neutrality. With this programme we aim to build lasting relationship between cities across Europe enabling fruitful future collaboration to work towards ambitious climate neutrality goals. In September 2023, this first cohort of 40 Twin Cities were selected to join the Twinning Learning Programme and matched to 25 Pilot activities.

During the programme three Twin Cities (Dublin, Kharkiv and Or Yehuda) dropped out. Dublin due to lack of internal capacity to continue participating in the programme and Kharkiv and Or Yehuda due the demands of war. For this reason, Liberec, the Pilot City matched with the latter Twin Cities was paired to Malmo and Wiesbaden based on the similar focus of their climate activities.

This deliverable is a report on the progress that the remaining 37 Twin Cities are making in the structured Twinning Learning Programme (TLP) and is connected to T5.2.5. In which Climate Alliance, with the support of EuroCities, implements the Learning Programme. For a more in depth understanding of what this Learning Programme entails, please refer to D5.3 Structured Twinning Learning Programme.

In the final year of the TLP, monitoring of the Twin cities 'progress in achieving their objectives and moving towards concrete outputs is undertaken six-monthly. This is the first of those two evaluations (January 2025).The main input for this Mid-term progress report was the Interim assessment and evaluation that included the Replicability assessment, as completed by all Twin Cities, and the evaluation of the Twinning Learning Programme, completed by all cities, in November 2024.

At the end of the first cohort of the Twinning Learning Programme, EuroCities will perform a final evaluation (June 2025). The main input for the final progress report on Twinning will be the Replication plan, the final deliverable of the programme, as completed by all Twin Cities.



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# Progress overview

After completing the first two modules of the Roadmap, we can assess the progress made by the Twin Cities in replicating their chosen practices. The Twinning Learning Programme is structured into three learning modules, each with a specific learning objective for the cities (see Figure 1 below).

Module I establishes the foundation for a meaningful thematic exchange over a two year period, focusing on the concrete practices that each city wishes to learn from one another. Modules II and III involve the stepwise application of the knowledge gained through both online and in-person exchanges. This culminates in the creation of the Replication plans, which Twin Cities are expected to submit by the end of the Learning Programme in May 2025.

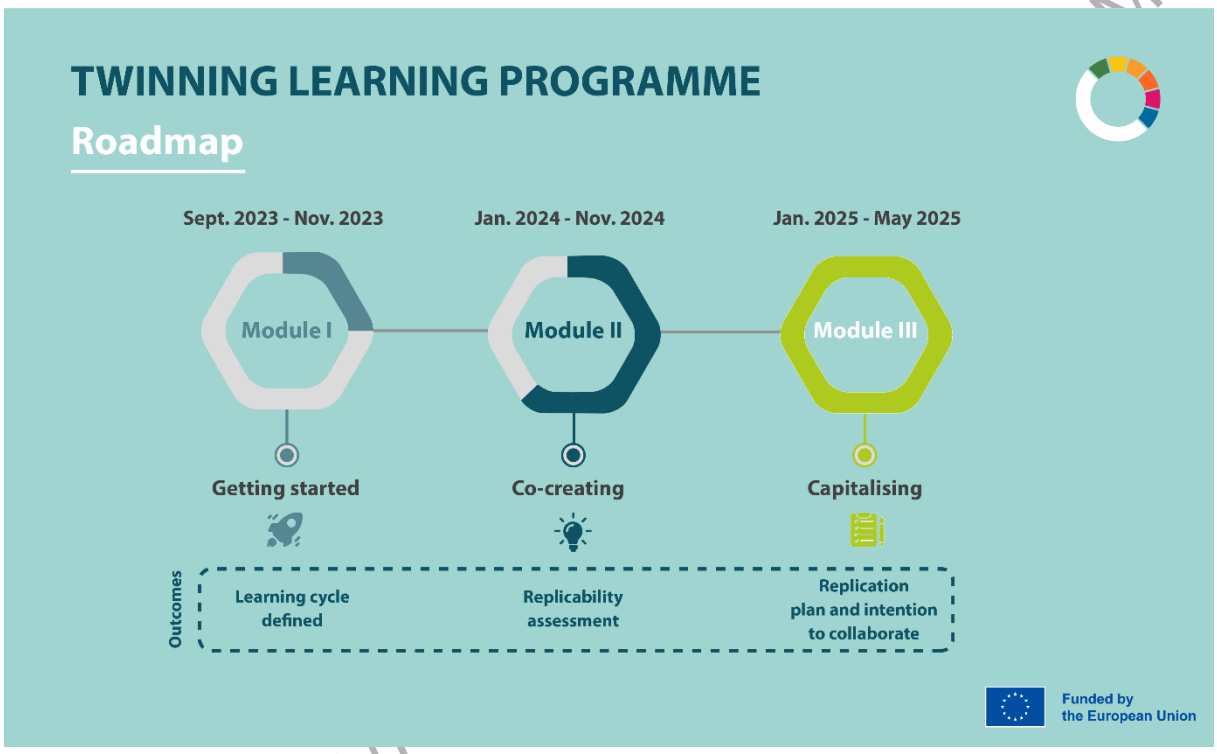


Figure 1: Roadmap of the Twinning Learning Programme (Cohort I)



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# Overview of good practices

All Pilot Cities indicated in their applications to what Emission domain their activities contributed too and likewise Twin Cities expressed to replicate the activities within these emission domains. As we made progress within the Twinning Learning Programme we acknowledged that Twins, even if they were coupled to the same Pilot activity, chose different aspects of the pilot activity to replicate. Especially the first site visits to the Pilots gave a much better understanding of the activities that the Twins were able to replicate. For this reason, we though it more insightful to understand under what thematic area (a combination of emission domain and levers of change) their practices to replicate would fall rather than only the emission domains. Below in figure 2 can be found the overview of activities all Twin Cities chose to replicate.

**Some key insights:**

- All thematic areas are reflected within the activities to replicate by the Twin Cities
- With most activities to fall under the Built environment (6), Mobility and transport (5) and Energy systems (4)


**Figure 2: Overview of the activities to replicate by Twin Cities according to thematic area**[1]

[1] The entries indeed sum up to 38, as two city representatives of the Twin City Lorqui separately completed the Replicability assessment. One chose Built Environment and the other Adaptation as thematic area for the practice to replicate. This has a negligible effect on above key insights and the analysis of the results of the Replicability assessment to follow in the next chapter.

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# Replicability assessment

After finishing Module II in November 2024, the Twin Cities have thoroughly deepened their understanding of the good practice to be replicated. At this point, the Twin Cities have therefore all the information required to assess to what extent the practice is replicable in its own city context as it is or that the practice needs to be adapted. This we evaluated with the Replicability assessment, the final deliverable of Module II, and a method to find out if and how they can effectively reproduce the good practice in a different setting.

## Methodology

In this assessment, Twin cities were asked to assess aspects of their municipalities' readiness to replicate the selected good practice by reviewing the following nine statements:

1. There is **political support** of the municipality leadership
2. Current **regulatory framework** incentivizes the good practice
3. The municipality has a **strong collaborative culture** in place
4. The municipality has an **open governance structure**
5. The municipality has a state of the art **technological infrastructure**
6. The municipality has **relevant expertise** in house to implement the good practice
7. The municipality has **enough capacity** to implement the good practice
8. **Funds** for the replication activity are secured
9. The **market is mature** and many different companies are ready to help out

By selecting a number from one to five, indicating:

I you fully disagree with the statement

II you partly disagree with the statement

III you are neutral regarding the statement

IV you partly agree with the statement

V you fully agree with the statement

## Analysis

In our analysis of the results of the Replicability assessment, we pay particular attention to what is working well, but also what challenges Twin Cities experience in replicating the practices of the Pilot activities.

## Political support

*The municipality is fully engaged towards the fight against climate change with the adoption since 2021 of a yearly climate budget with objectives for each municipal delegation.*

- Luca Fayoux-Cinelli, Deputy director of Issy-les-Moulineaux

There is significant political support for replicating climate-related practices across various cities, though the nature and extent of this support vary. This is not surprising as most cities joined the programme with explicit support of their political leadership. In many Twin Cities, there is strong political commitment to climate action. For example, cities like Oulu, Jyväskylä, and Eskişehir have seen clear backing from



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municipal leaders and councils, who have approved action plans, policies, and ambitious climate targets, such as climate neutrality goals. This indicates a broad alignment between local political leaders and environmental objectives.

In several cities, the mayor and senior officials play an essential role in driving climate initiatives and practises Twin Cities aim to replicate. In Paleo Faliro and Riga, for instance, the mayor's support is central to the push for climate action, with specific departments or advisors dedicated to advancing sustainability efforts. The leadership's engagement ensures that climate action remains a top priority within the municipality.

Moreover, cities such as Lund, Belfast, and Würzburg demonstrate that there is a general political will to collaborate with businesses and civil society. The city councils in these places are actively supporting climate strategies, showing alignment with broader national and international frameworks on sustainability. In some cases, like in Cologne and Brussels, local governments have specifically committed to advancing initiatives, even if financial or resource limitations are present.

Even when elections took place during the Twinning Learning Programme, for example in Greece. It is good to see that even with a change of the political leadership city representatives experience a continuous support to participate in the Twinning Learning Programme. Overall, political support for replicating climate practices is robust in many Twin cities. While there are variations in the scope and depth of support, the leadership in these cities shows a clear commitment to achieving sustainability goals, with municipal councils and mayors playing critical roles in steering climate agendas forward and practices that the Twin Cities intend to replicate.


**Figure 3: Assessment of the political support by Twin Cities to replicate the good practice**

## Regulatory framework

*There are no hinders that would inhibit the implementation of the chosen activities. However, climate action has rather weak or sporadic legislative basis in Finnish legislation, which may cause delays or weaker commitment to the climate action in municipalities.*

- Päiva Pitaninen, Environmental Director of The City of Jyväskylä

The regulatory framework across the Twin Cities is generally supportive of efforts to replicate good practices, though there are notable variations and challenges. On the positive side, local regulations in some cities incentivize green actions, such as initiatives to reduce traffic and promote sustainability. In municipalities like Taurage, there are no regulatory barriers to replicating innovations like the Climate Challenges app, and frameworks such as green procurement and climate protection concepts provide motivation for climate-related actions.

However, at the national and EU levels, regulatory frameworks often lag behind in supporting emerging good practices. For instance, the EU and national regulations (e.g. Turkey and Portugal) sometimes fail to adequately support new, innovative approaches such as energy-efficient building renovations or energy communities. Nevertheless, there is also EU regulation in place that already stimulates the creation of good practices, such as one-stop-shops in German cities. In countries like Greece, the regulatory framework for Climate Neutrality and energy efficiency remains unclear, despite some



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progress on funding and strategic plans. This lack of clarity creates challenges for local governments in implementing these initiatives effectively.

Additionally, certain regulatory frameworks are seen as inflexible or outdated. In the UK and parts of France, regulations designed for fossil fuel-based systems hinder the adoption of renewable technologies and low-carbon solutions. For example, restrictions on heat pumps, solar installations, and other renewable technologies in conservation areas limit the ability to implement these practices in historic settings. Similarly, challenges in implementing agrivoltaics or waste management practices arise due to unclear or restrictive regulations.

While some regions offer a foundation for action, many frameworks need adjustments to better accommodate emerging good practices. For instance, the regulatory framework for carbon budgets in Braga is too rigid, complicating the integration of broader sustainability goals. In other areas, like waste management or low-carbon energy systems, outdated regulations impede progress. Furthermore, economic and political factors, such as the economic situation in Greece or political instability in Bulgaria, also create barriers to implementing climate actions at the local level.

Despite these challenges, the regulatory landscape is evolving. Some cities have identified areas where processes can be streamlined and implementation can be made faster and more efficient. However, there is still significant room for improvement in aligning local initiatives with broader national and EU policies. In conclusion, while there is considerable regulatory support for replicating good practices, substantial work is still needed to ensure that the frameworks are flexible, up-to-date, and supportive of sustainable, climate-positive practices.


**Figure 4: Assessment of the regulatory framework on the Twin Cities practices**

## Cross-departmental collaboration

*There is cross-departmental collaborations in place in the area of environmental and social sustainability in the form of networked forums. There are also cross-departmental collaborations in project-funded activities, policy implementation etc. However, there is not a strong collaborative culture in general as the majority of the work is still carried out in departmental silos.*

- Madeleine Wahlund, Project leader in climate transition of the City of Lund

Cross-departmental collaboration in cities varies widely in its extent and effectiveness. In some municipalities, there is a strong collaborative culture, especially in areas such as climate action and energy efficiency. Departments like urban planning, energy, and climate teams work closely together to address complex challenges, ensuring coordinated efforts. For example, in Finland, a strong collaborative culture exists, although there is room for improvement in replicating successful practices. Similarly, cities like Braga and Viladecans have developed dedicated frameworks and models to enhance integration across departments, recognizing the importance of shared responsibility for sustainability initiatives.

In other cities, the culture of collaboration is more moderate. While some departments engage actively in collaborative projects, the extent of cooperation varies. For example, in cities like Riga, some departments, such as the Real Estate Department, are reluctant to collaborate due to resource limitations, whereas others, like the energy agency, are more open. These cities are working towards



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improving coordination, particularly in climate action and policy implementation, although the consistency and integration of efforts still need strengthening.

Governance systems and frameworks have been established in some cities to facilitate collaboration. For example, Viladecans uses the MIA model, and Mytilene conducts monthly project monitoring through the Urban Agenda, while others are still evolving these systems. However, challenges such as resource gaps, particularly after structural changes or turnover, can hinder the full potential of cross-departmental efforts.

Some municipalities are still grappling with challenges in breaking down historical silos. While there is an awareness of the need for cross-departmental collaboration, it remains a complex process in these cities. For instance, in cities like Mytilene, personal relationships within small teams help bridge gaps, but widespread collaboration is still in development. Additionally, cities like Braga and Riga are making efforts to integrate departments more effectively, but these changes are slow and often complicated by legacy structures.

Overall, while there is growing awareness of the need for cross-departmental collaboration, especially in sustainability and climate action, many cities still face significant challenges in ensuring consistent and seamless cooperation. The transition from siloed operations to integrated efforts requires time, resources, and a willingness to change long-established practices, and while progress is being made, there is still much work to be done in fostering stronger collaboration across departments.


**Figure 5: Assessment of the culture of collaboration in Twin Cities**

## Stakeholder engagement

*Even if the Municipality has an open governance structure, with many open consultations taking place, the stakeholder's engagement is low. That is why the second pilot solution chosen is the "Citizen engagement and communication Plan"*

Luca Fayoux-Cinelli, Deputy director of Issy-les-Moulineaux

Several Twin Cities emphasize a strong culture of collaboration with citizens, civil society, businesses, and academia. In Finland, there is a legal framework supporting openness, while cities like Lund (Sweden) and Issy-les-Moulineaux (France) engage citizens through living labs and collaborative projects. Similarly, municipalities in Germany and Spain have transparent governance structures and active stakeholder participation.

Municipalities utilize multiple communication channels to engage stakeholders, such as emails, apps (e.g., CityX), online consultations, workshops, and citizen assemblies. Some cities, like Lund and Braga, provide open data, which is critical for fostering engagement in policy and climate-related initiatives. Municipalities like Belfast and Viladecans leverage stakeholder representation in projects, with platforms that involve a wide range of organizations. The Belfast Retrofit Hub, for example, includes diverse stakeholders, including the NI Consumer Council.

A growing trend is the use of digital tools and platforms like ZenCity and CityX to gauge public opinion and enhance participation. The introduction of citizen assemblies, as seen in some cities' NZC plans, demonstrates an effort to directly involve citizens in decision-making for long-term sustainability goals.



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Despite strong frameworks, many municipalities report challenges in fostering deeper, more inclusive engagement. This includes difficulties in reaching passive or skeptical stakeholders, such as residents or smaller businesses who may not be as informed or open to engagement. Municipalities, like Lund and others note that engagement in sustainability efforts needs to extend beyond already involved groups to include broader community participation. Examples include municipalities struggling with sustainable mobility (e.g., Lund) or involving stakeholders in climate-related initiatives (e.g., Penteli, Greece). Some municipalities, such as the one in Gabrovo, acknowledge that stakeholder engagement is still evolving and requires further expansion to ensure effective participation.

Several municipalities face structural or political barriers to improving engagement. In some cases, such as in certain parts of Spain, there is reliance on the trust between government bodies and citizens, with engagement varying based on political preferences. Furthermore, municipalities like Penteli lack a formal strategy or regular consultation processes, hindering systematic engagement.

In summary, while stakeholder engagement is considered essential in many municipalities, there is a clear recognition that efforts must be broadened, deepened, and made more inclusive. Strategic use of digital tools, transparent governance structures, and increased collaboration with a diverse range of stakeholders, including passive groups, are crucial to overcoming existing challenges.


**Figure 6: Assessment of the governance structure in Twin Cities**

## Technological infrastructure

*Technological infrastructure is well funded and supports key initiatives, but additional investment is needed to ensure scalability and future readiness.*

- Tiago Lopez, Senior technician of the City of Matosinhos

The Twin Cities are at varying stages of technological infrastructure development, with some leading in innovation and others working to address gaps and future needs.

Iceland is noted for being a front-runner in technological infrastructure, particularly in supporting the recycling of construction materials. Similarly, Lund's infrastructure is considered state-of-the-art, especially in the area of climate action, where they utilize advanced tools such as digital twins, ClimateView, and ArcGIS. Issy-les-Moulineaux and Grand Paris Seine Ouest have long been pioneers in open data platforms, though Grand Paris Seine Ouest faces challenges in harmonizing data for broad usability.

While many municipalities, including Tallinn, Würzburg, and Braga, have solid technological foundations, they are in the process of upgrading their systems. This includes introducing GIS systems, implementing smart city technologies, and enhancing climate-monitoring systems such as air and noise sensors. Additionally, some municipalities are experimenting with smart cards to collect consumer data, which helps promote sustainable consumption and alternative mobility options.

Some cities, like Viladecans and Penteli, are focusing on modernizing their infrastructure and improving digitalization efforts, though some still face limitations in data collection, monitoring, and the capacity to support advanced climate or energy initiatives. Challenges persist in some areas, particularly with outdated systems, limited funding for IT infrastructure, and insufficient technical capacity to support advanced projects.



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In general, municipalities recognize the need for more investment in their technological infrastructure to ensure scalability, future readiness, and the ability to meet climate and energy goals. While many cities are making strides toward modernization, addressing infrastructure gaps and ensuring that systems can evolve to meet future demands remain key priorities.

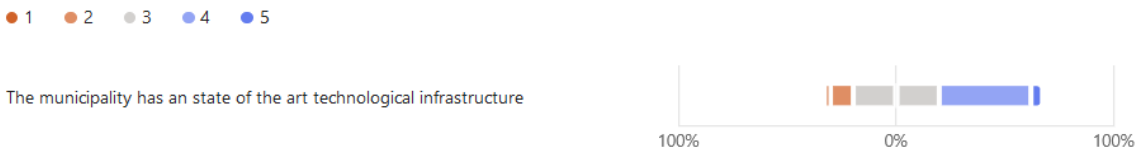


**Figure 7: Assessment of the technological infrastructure in Twin Cities**

## Capabilities

*The Municipality has skilled experts capable of handling replication efforts, who possess strong knowledge of climate change. Hiring external specialists as needed can fill any gaps in expertise, ensuring comprehensive project execution.*

- Ivana Dubravec, Spatial planning advisor of the Municipality of Križevci

The Twin Cities possess a strong foundation of in-house expertise, particularly in climate change, energy efficiency, renewable energy, and public engagement. Many municipalities have skilled professionals and teams capable of replicating best practices from pilot cities. However, gaps in certain areas, such as climate finance, innovative financing models, or technical capacities, may require external specialists or consultants to ensure comprehensive execution.

Some cities, such as Oulu and Vilnius, have in-house capabilities but face challenges in time, resources, and expertise availability. For example, Oulu has the right expertise, but constraints on time and resources hinder their full utilization. Similarly, while Vilnius has a strong communication and IT team, certain technical areas such as agrivoltaics or cooling paint technologies require additional expertise.

Collaboration is key across departments, with many municipalities emphasizing the importance of strengthening inter-departmental cooperation and engaging external stakeholders. Additionally, some cities, like Lund and Braga, report a solid foundation in place, but still require capacity-building, recruitment, or intensified collaboration to fully implement best practices. As many cities face challenges in technical resources and human capacity, strategic hiring or partnerships with other local authorities or organizations will be necessary for successful replication.

Ultimately, while many Twin Cities have the necessary expertise and experience, increasing collaboration and addressing specific gaps in skills, resources, and infrastructure will be essential to replicate and scale best practices from Pilot Cities effectively.

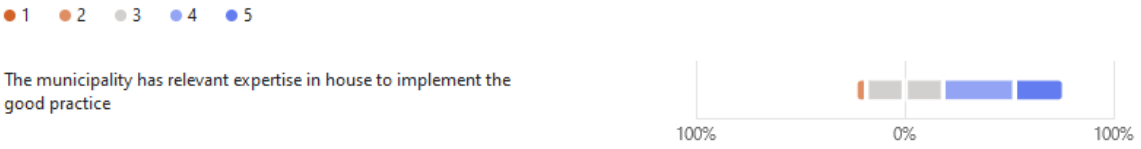


**Figure 8: Assessment of the capabilities of the municipalities to implement the good practice**



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## Capacity

*The good practice can be implemented within the Climate Department. Nevertheless, additional departments need to be involved, and their capacities must be considered early on.*

- Annett Rohmer, Climate Adaptation manager of City of Würzburg

Cities demonstrate varying degrees of capacity to replicate the practices of Pilot Cities, with capacity often dependent on specific interventions and available resources. Cities like Lund and Vari-Voula-Vouliagmeni report having the necessary knowledge and material but struggle with resource constraints, particularly funding and human resources, which can delay or limit the scale of replication efforts.

In Grand Paris Seine Ouest, there is optimism about replication, contingent on political support, budget availability, and prioritization of resources. However, economic strains due to external factors, such as the global economic downturn, complicate recruitment and hinder capacity building. Similarly, Braga and Vari-Voula-Vouliagmeni both highlight the challenge of limited financial resources, requiring careful resource allocation to meet ambitious goals.

Cities like Braga and Lund emphasize the need for additional human resources, especially in departments that are critical to managing growing projects and initiatives. While these municipalities have established teams and frameworks in place to support best practices, staffing shortages, especially with the loss of experienced personnel, could delay progress. Overall, most municipalities are committed to enhancing their capacity through skill development, knowledge exchange, and securing the necessary financial and human resources for long-term success.


**Figure 9: Assessment of the capacity of the municipality to implement the good practice**

## Finance

*While internal resources are allocated and sufficient for initial steps, additional funding sources need to be identified to ensure long-term sustainability and full replication.*

- Marina Sulvado, project manager of the municipality of Fundão

The Twin Cities face significant challenges in replicating good practices from pilot cities, primarily due to funding and financial resource limitations. Many municipalities, such as Braga and Uppsala, have not secured the necessary funds for replication, citing the absence of available budgets or proposals. Even when financial resources exist, they are often limited, requiring cities to explore additional funding sources like national tenders, regional funds, or European grants. For example, the City of Slavonski Brod in Croatia has secured non-refundable grants for renewable energy projects, but other initiatives still need additional financial support.

While pilot projects may receive funding for specific activities or small-scale initiatives, larger-scale replication efforts often lack the required resources. Co-investment with local businesses or external financial support is a key strategy for overcoming this challenge. Some cities also face regulatory difficulties, such as in Uppsala, where national regulations limit access to financial incentives for energy



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projects when capital contributions exceed certain thresholds. In the UK and Republic of Ireland, evolving legal frameworks for climate action and retrofit create additional barriers.

In conclusion, the Twin Cities are facing significant challenges in replicating good practices from pilot cities due to the lack of available funding, limited resources, regulatory barriers, and the need for better strategic planning and partnerships. To overcome these obstacles, it will be crucial to secure both immediate and long-term financial support, explore co-financing opportunities, and engage with national and regional programs to ensure that replication efforts are adequately funded and sustainable. As Twin Cities state that without secure and sustained financial support, replication of practices from Pilot activities remain difficult.


**Figure 10: Assessment of the availability of funds for the good practice**

## Market Maturity

*There are companies and businesses that might be willing to help with these actions, but it is necessary to further energize the market and push to generate innovative developments, technological and financial solutions within the broad rehabilitation sector.*

- Javier Frades, Project manager of the Municipality of Soria

All Twin cities are generally open and willing to collaborate on sustainability and climate-related initiatives, with many companies expressing a strong interest in supporting these efforts. However, the readiness to fully replicate the good practices from pilot cities is influenced by varying levels of market maturity across different regions. While companies are keen to engage when there is a clear mutual benefit, the market is still in development in several key areas such as energy efficiency, climate adaptation, and circular economy.

In some regions, like Croatia and Greece, there is emerging interest in these sectors, but the market structures and technical solutions needed to support large-scale implementation are not yet fully established. While markets for energy efficiency technologies, such as photovoltaics, are more mature, others, like agrivoltaics or nature-based solutions, are still in early stages. Regions like Croatia rely on public tenders to drive projects, but there is a need for more innovation and advanced solutions to push these markets forward. Similarly, in areas like Spain, where niche solutions such as cooling paints are not yet in demand, creating awareness and generating interest is key to growing the market. This gap between demand and the availability of developed solutions or expertise presents a challenge to scaling these initiatives.

To address these challenges, several regions emphasize the need for strong support mechanisms, including government incentives, public awareness campaigns, and targeted education to catalyze market development. For example, in cities like Issy-les-Moulineaux, there are existing partnerships with businesses in data management, with plans to expand these collaborations into broader climate-related projects. Additionally, fostering innovation through financial and technical support is seen as essential to overcoming the current limitations.

Although the market for sustainability solutions is not yet fully mature, there is significant potential for growth. Many regions are seeing increasing interest in sustainable practices, and successful projects in other cities, such as “Klimaveedel Cologne,” a smart cities platform for developing projects together with the citizens, businesses and associations, demonstrate that the demand for climate-related solutions is



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real and growing. With the right incentives, policies, and collaboration between businesses, governments, and citizens, these markets can accelerate their development and drive large-scale adoption of sustainable technologies and practices. Ultimately, the readiness for replication exists, but the challenge is to create the conditions necessary for these markets to mature and thrive.

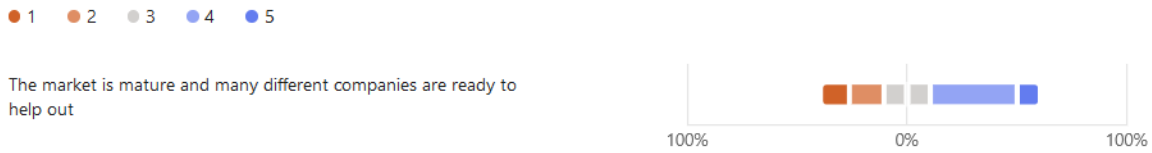


**Figure 11: Assessment of Twin Cities local market maturity**



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# Evaluation of the Twinning Learning Programme

Next to the Replicability assessment, both Twin and Pilot Cities participating in the Twinning Learning Programme evaluated the programme up to this point.

## Methodology

In this evaluation, cities answered several questions, by either indicating this on a scale from 1 to 5, in the following questions:

- How satisfied are you with the Twinning Learning Programme (TLP) so far?
- How clear are the objectives of the TLP?
- How easy has it been to fulfil the requirements of the TLP (e.g., participate in meetings and workshops or prepare deliverables)?

Or by answering below question with “less”, “fine as it is”, or “more”:

- Would you like to have more or less interaction with your Twin(s)/Pilot?

Or by replying to below question with either “yes” or “no”:

- Would you recommend the TLP to other cities?

In all above questions, there was room for cities to elaborate on their answer, also in the final one:

- Any other suggestions on how we could improve the TLP?

## Analysis

We analyzed their answers and distilled this to some key findings.

**Knowledge Exchange and Learning Opportunities**: Participants found the exchange of ideas, experiences, and best practices highly valuable. Site visits, in particular, were praised for offering real-world insights into successful projects, helping cities adapt these practices to their own contexts. The structured visits and exchanges helped enhance learning and provided inspiration for new initiatives.

**Impact of Site Visits**: Physical site visits were considered a highlight, providing cities with a concrete understanding of practices and challenges faced by their twin cities. This allowed for meaningful exchanges and a clearer understanding of how different solutions could be adapted to their own contexts.

**Collaborative Environment**: The TLP fostered strong collaboration among cities, providing a platform for mutual learning, peer support, and expert guidance. Many participants highlighted the benefits of engaging with cities facing similar challenges, and the value of expert facilitators in driving productive discussions.

**Personal and Professional Growth**: Many participants expressed satisfaction with the professional development opportunities offered by the programme, noting how it expanded their perspectives, helped identify gaps, and encouraged innovative thinking. The hands-on, interactive nature of the visits and exchanges made the learning process more concrete.



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Figure 12: A majority of cities would recommend the Twinning Learning Programme

**Cultural and Contextual Differences**: While the exchange was enriching, some participants noted the challenges in replicating solutions due to significant differences in the contexts, resources, and policies of the cities involved. Nonetheless, the shared challenges of sustainable mobility, energy transition, and climate change provided a common ground for fruitful dialogue.

**Strengthening International Relationships**: Several participants emphasized the programme's role in strengthening international ties and increasing the visibility of cities in the broader European context. The ability to build relationships with cities facing similar issues was considered essential for advancing climate neutrality goals.

**Motivation and Inspiration**: The programme was seen as a source of motivation, helping participants to push forward climate actions and implement innovative ideas in their own cities. The networking aspect was particularly praised for fostering new relationships and partnerships that could support future climate-related initiatives.

**Practical and Feasible**: The TLP was considered to be a practical and feasible way for cities to learn from one another. It was highlighted as a low-demand activity with high impact, offering cities concrete tools, solutions, and the chance to reflect on their own projects. The structured approach and facilitation made it easy for cities to participate and gain value from the experience.

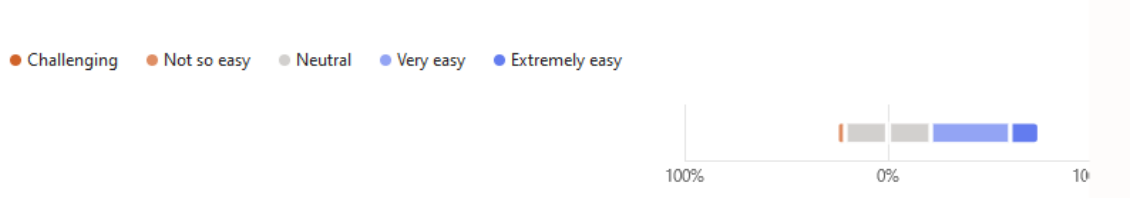


Figure 13: Most cities found it easy to fulfil the requirements of the programme

**Organizational and Logistical Feedback:** The programme was generally well-organized, with participants appreciating the clarity in structure and the coordination from facilitators. However, there were some concerns regarding the lack of clarity on the roles and responsibilities of Pilot cities, and the desire for more funding to facilitate additional exchanges and deeper engagements.

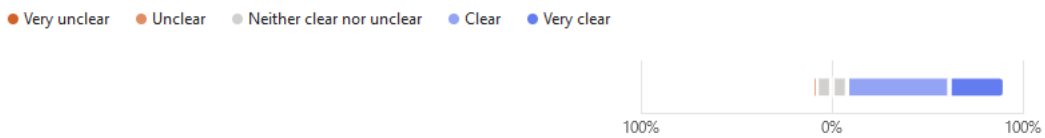


Figure 14: Almost all cities evaluated the objectives of the TLP as clear or very clear



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**Satisfaction and Areas for Improvement**: Overall, participants expressed strong satisfaction with the programme, especially the opportunity to build relationships with other cities. Some participants suggested that more focused, practical collaboration on replicable projects would increase the impact of the programme. Additionally, some cities hoped for more time and resources to fully capitalize on the potential of the programme.


**Figure 15: A majority of cities expressed the desire to have more interaction in the TLP**

**Impact on Replication and Scalability**: Some cities pointed out that while the exchanges were valuable, the replication of solutions might be difficult due to geographic, cultural, or economic differences. However, the opportunity to brainstorm with other cities and explore new approaches was still seen as beneficial.

In summary, the TLP is highly valued for fostering collaboration, knowledge exchange, and professional development. Also the Twinning Learning Programme is generally recommended by participants for its ability to facilitate valuable exchanges, strengthen city networks, and inspire new ideas for climate action. However, there are suggestions for improving city pairings and enhancing the practical applicability of the knowledge shared and are calls for more clarity around the role of Pilot Cities, more focused engagement on practical outcomes, and increased resources to facilitate deeper exchanges.



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# Conclusion

As the Twinning Learning Programme progresses toward its conclusion, the work done thus far highlights both the significant strides and the challenges that lie ahead for the Twin Cities. The completion of the first two modules and the ongoing exchanges have already resulted in meaningful progress in understanding, adapting, and preparing to replicate sustainable practices from the Pilot Cities. The programme has proven effective in fostering collaboration, knowledge sharing, and cross-city learning, which are critical components in advancing climate action.

However, the Replicability assessment underscores that while Twin Cities show strong political support and readiness, challenges related to regulatory frameworks, financial constraints, cross-departmental collaboration, and market maturity persist. These barriers require ongoing attention and strategic interventions, especially to align local efforts with broader national and EU policies. The replication of practices will depend on the cities' ability to address these structural and resource-based limitations, ensuring that the necessary conditions for successful implementation are in place.

The positive feedback from participants, combined with the insights from the Replicability assessment, demonstrates that there is both a strong foundation for replication and a clear path forward. To build on this momentum, Climate-neutral and Smart Cities Mission will need to focus on deepening practical collaboration between cities and providing guidance on how to secure long-term financial support. In addition, to keep on strengthening the capacity of municipalities to scale the practices and if possible ensure the availability of the right resources for Twin Cities will be key to achieving the overarching goal of climate neutrality.

Ultimately, the success of the Twinning Learning Programme lies in its ability to create lasting change through knowledge exchange and the scaling of best practices. While the path to replication may not be without its challenges, the commitment of the Twin Cities, combined with the continued support of Climate-neutral and Smart Cities Mission, offers a strong basis for ensuring that these efforts will lead to tangible, scalable outcomes. As the programme enters its final phase, the lessons learned and the relationships built will serve as a vital resource for cities as they continue their journey towards sustainable and climate-positive futures.



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