GRANOLLERS
TRANSFERABILITY PACKAGE

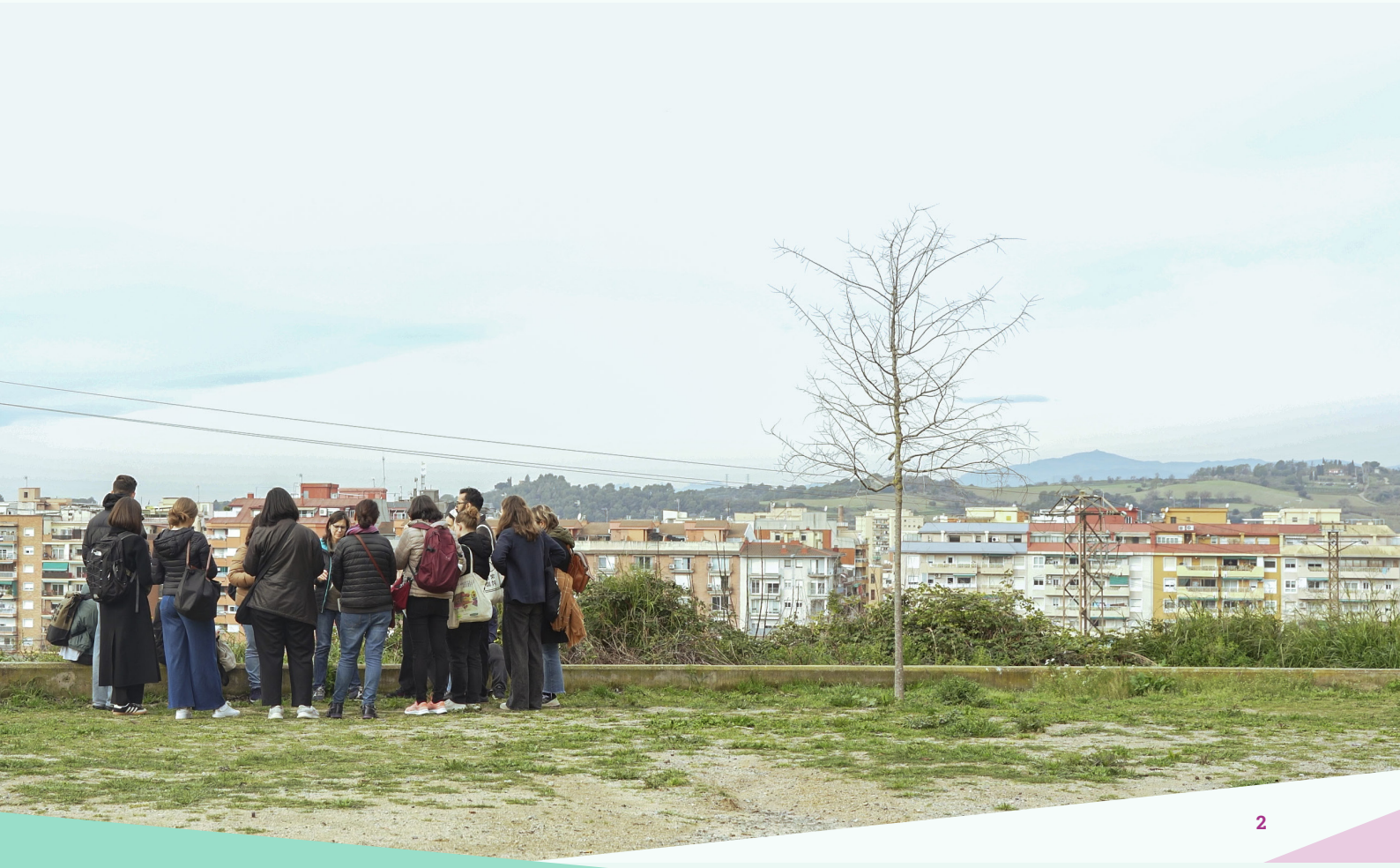
UP2030 UPSCALING PHASE

UP2030

EXECUTIVE SUMMARY

The purpose of this document is to transfer the knowledge and results acquired by the city of Granollers during the UP2030 project, so that the prototype developed can be replicated or scaled up both in other parts of the city and in other cities seeking innovative solutions for sustainable urban development. This 'transferability package' contains information about the scaling methodology designed in UP2030, defining the key concepts to be taken into account for its effective implementation in cities. The following sections of this document also provide a detailed account of how Granollers has implemented the methodology in its local context, along with the results obtained from the process:

- Definition of the objectives for the upscaling phase for the city, specifying which are the dimensions that will be addressed and the impact generated with the actions.
- List of barriers when it comes to upscaling and measures proposed to overcome these. Some of these measures could be recommendations obtained from the finance and governance tools.
- Definition of a plan for upscaling the prototype, collecting the next steps for design and implementation and assigning roles and responsibilities among the actors involved.
- Provide a list of guidance materials and resources to inform key stakeholders about the upscaling phase and the activities that need to be conducted.



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GLOSSARY

Replication: transfer of a tested or proven interventions or initiatives to a different location at the same scale, in order to repeat success elsewhere and achieve similar results.

Upscaling: ability to take a tested concept, pilot project or initiative, and expand it while maintaining efficiency, in terms of people served, revenues generated, or other similar targets.

Prototype: initiatives, plans, programs or solutions developed by cities during the UP2030 project.

Learning Action Alliance (LAA): knowledge exchange and co-creation platforms intended to support the communication, coordination, innovation, and dialogue between city stakeholders at multiple levels.

THE IMPORTANCE OF UPSCALING – UP2030 UPSCALING METHODOLOGY

In projects such as UP2030, it is essential to devise a strategy for sustaining the work carried out during the project and maximising its impact. Due to this reason, the UP2030 project built an **upscaling methodology** to provide cities with instrument and resources developed during the project, so that the prototypes developed during the project can be grown and adapted to other sectors, regions and countries, in order to accomplish the goals defined by each city. This process ensures that best practices are transferable and adaptable across different urban contexts.

The success of the replication or upscaling efforts is completely reliant on the institutional environment in which the actions will be implemented. Therefore, it is essential to create an "enabling environment", which is constituted primarily by:

Finance

Mechanisms for accessing financial, technical and political support.

Governance

Supportive policy, legal and regulatory frameworks and better policy coordination.

Capacity

Enhanced capacity across all levels of government.

The upscale methodology was structured in three phases:

1. PREPARATORY WORK

Setting the basis for upscaling

- Understand the local context, challenges and priorities of cities.
- Define the objectives for upscaling.
- Explore the available tools on governance and finance that support upscaling.

2. LAA WORKSHOP

Bringing local stakeholders to the process

- Set the scene, presenting the objective and defining the resources and capacities to move forward.
- Create readiness among the stakeholders at the local level.
- Design an initial implementation plan for upscaling actions.

3. FOLLOW-UP WORKSHOP

Refining the next steps

- Analyse the main insights and results obtained in the LAA workshop.
- Define next steps for the implementation of upscaling activities.
- Develop a transferability package, collecting information about objectives, opportunities, barriers, actions and resources needed for upscaling.

One of the key outcomes of this process is the transferability package, which is designed to serve as a guidance document for cities to assist them in transitioning from the planning phase to the implementation phase of upscaling activities. The transferability package is also designed to facilitate the communication of results with relevant stakeholders within the municipality, as well as with other local and regional governments seeking to learn from best practice.

INTRODUCTION OF THE CITY

The city of Granollers aims to design a healthy and sustainable urban model that puts people at the centre. For this purpose, the local government is committed to integrate green spaces, mobility and digital infrastructure to foster communities that are connected and respectful with nature and planetary boundaries. By applying advanced tools within a designated pilot sector of the city, Granollers has advanced the co-creation process, ultimately leading to the development of a prototype focused on the creation of climate-neutral, resilient and socially inclusive districts by identifying the right balance between grey and blue/green infrastructure while maintaining inclusivity and equity.

From vision to action

CITY'S VISION

- Design a healthy, climate-neutral and resilient urban model that puts people at the centre.
- Create neighbourhoods with opportunities for everyone, fostering the principles of spatial justice and diversification of economic models from proximity.
- Make neighbourhoods resilient to local climate vulnerabilities, achieving a balance between green, blue and grey infrastructures.
- Reach climate neutrality in neighbourhoods by implementing a systemic approach and coordination between plans and programs.

PROTOTYPE

Development of a set of guidelines for a greener city with opportunities for everyone

Granollers' adaptive pathway

Granollers has developed a "**Set of Guidelines for a Greener City with Opportunities for Everyone**" (in Catalan and English), which provides technical criteria and strategies to support equitable urban growth. Rooted in Granollers' vision by 2030 of a healthy, sustainable city that places people at the centre, the guidelines reflect priorities, including climate resilience to local vulnerabilities (heatwaves and pluvial flooding), decarbonization of city sectors, and enhanced accessibility and inclusion.

The prototype incorporates extensive co-creation with over 100 stakeholders from city departments, civil society, academia, and the general public. Granollers' guidelines will be directed to urban planners and city decision-makers, aiming to create a replicable framework for future developments. By synthesizing technical tools and community insight, the city delivers a structured, scalable method for achieving climate neutrality, resilience, and spatial justice.

The people and tools needed for developing the adaptive pathway:

- Aquatec: Leading the application of **RESCCUE** for assessing and prioritising flood adaptation strategies.
- Icatalist: Providing and guiding the **LAA methodology** applied in the co-creation process.
- TSPA: Developing and applying the **City Scan tool** to evaluate and compare low-carbon urban design scenarios.
- Vrije Universiteit Brussel (VUB) and Centre for Research & Technology Hellas (CERTH): Supporting engagement through **Neutrality Story Maps**.
- URLAB: Providing **expertise in resilience-oriented planning content**.

UPSCALING FOR GRANOLLERS

Granollers is leading a pilot to develop a set of guidelines for a future climate neutral, resilient and fair neighbourhood. The "set of guidelines" of the Granollers' prototype is an upscaling by itself of the results from the co-creation process implemented in Granollers (5 workshops on Needs-Challenges-Vision-Adaptative Pathways-Action), and also from the outcomes obtained by RESCCUE and City Scan tools, applied in a pilot sector of the city (new neighbourhood to be developed in Granollers).

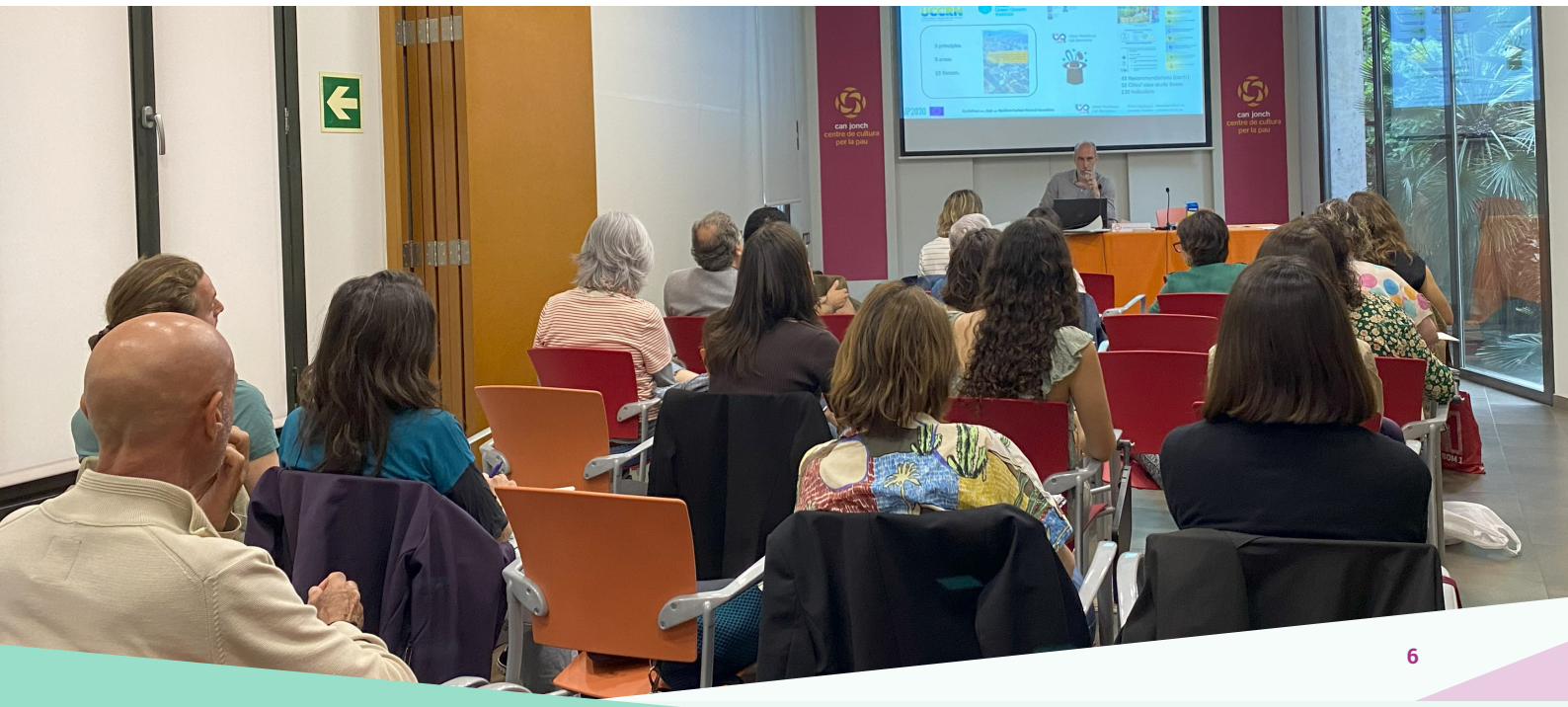
For the upscaling phase, the primary goal is to adapt the prototype to the specific context and needs of Granollers, ensuring its viability and usability as a "style guide" or "resource kit" for the Territory & Sustainability area team. This will serve as a practical reference throughout the various phases of new urban development plans, projects, and technical solutions. Additionally, there is the transferability of this "style guide" to other similar cities and institutions, to pave the way to climate neutrality, climate resilience and social justice in planning.

Granollers completed the three phases of the upscaling methodology between May and July 2025, with the workshop with local stakeholders being the central component of the methodology. This workshop focused mainly on governance and finance, two aspects that are essential to upscale the prototype at the city level and expand it to other municipalities as well. The workshop gathered representatives from Granollers city council with technical and decision-making profiles, together with external stakeholders and public institutions that showed interest in the use of the tools and the transferability or upscaling of the prototype in the future.

The following sections provide an overview of the main results achieved by Granollers in the upscaling phase, including the barriers and opportunities encountered together with local stakeholders, key decisions made, and a plan for next steps.

What are the barriers that need to be overcome with upscaling?

- **Integration of applied research and innovative solutions within the local context**, to ensure both their relevance and practical effectiveness.
- Low level of consensus and acceptance on the most urgent and important actions **among primary key target groups** – municipal technicians, urban planners, planners and decision policy-makers – who will engage with the prototype. **Citizen resistance needs to be addressed** as well, as some groups may not support proposed policies, leading to opposition.
- **Lack of understanding and agreement** on the key technical principles between urban planners and decision-makers.
- **Inclusion of financial considerations as a core recommendation** in the style guide, which would enable an initial appraisal of the feasibility and implementation potential of the proposed measures.



- **Lack of communication of complex concepts** – such as climate neutrality and resilience, social inclusion, and justice – **to the general public** in an accessible way. **Everyone needs to have access to the necessary knowledge**.

- **Low level of involvement of stakeholders and citizens**, so that proposed actions can become a reality. Best practices to address this issue include the UP2030 co-creation process itself, other municipal project ideation processes like CoCoNat25, or the follow-up committees of residents for public works.

- **Governance limits and needs**. It is necessary to define the boundaries of governance, make public policy more consistent and identify requirements beyond immediate deadlines. **Governance needs to go beyond participatory budgeting**.

What are the opportunities that have been found in the upscale phase?

- Gather feedback from a range of different participants and profiles in order to **validate the prototype's feasibility with municipal planners and decision-makers**.

- **Enhance the comprehension and dissemination of the content for the general public**, ensuring accessibility while addressing specific knowledge areas such as climate neutrality, resilience, etc. It will be important to **define clear strategies for communicating the guide and engaging additional stakeholders** for its success.

- **Guarantee flexibility in urban development, ensuring adaptability to both new projects and the revitalization of existing neighbourhoods**. This approach allows communities to address evolving environmental and social needs effectively.

- Encourage participatory governance to **create opportunities for inclusive decision-making**, fostering collaboration among stakeholders and ensuring a more democratic management approach.

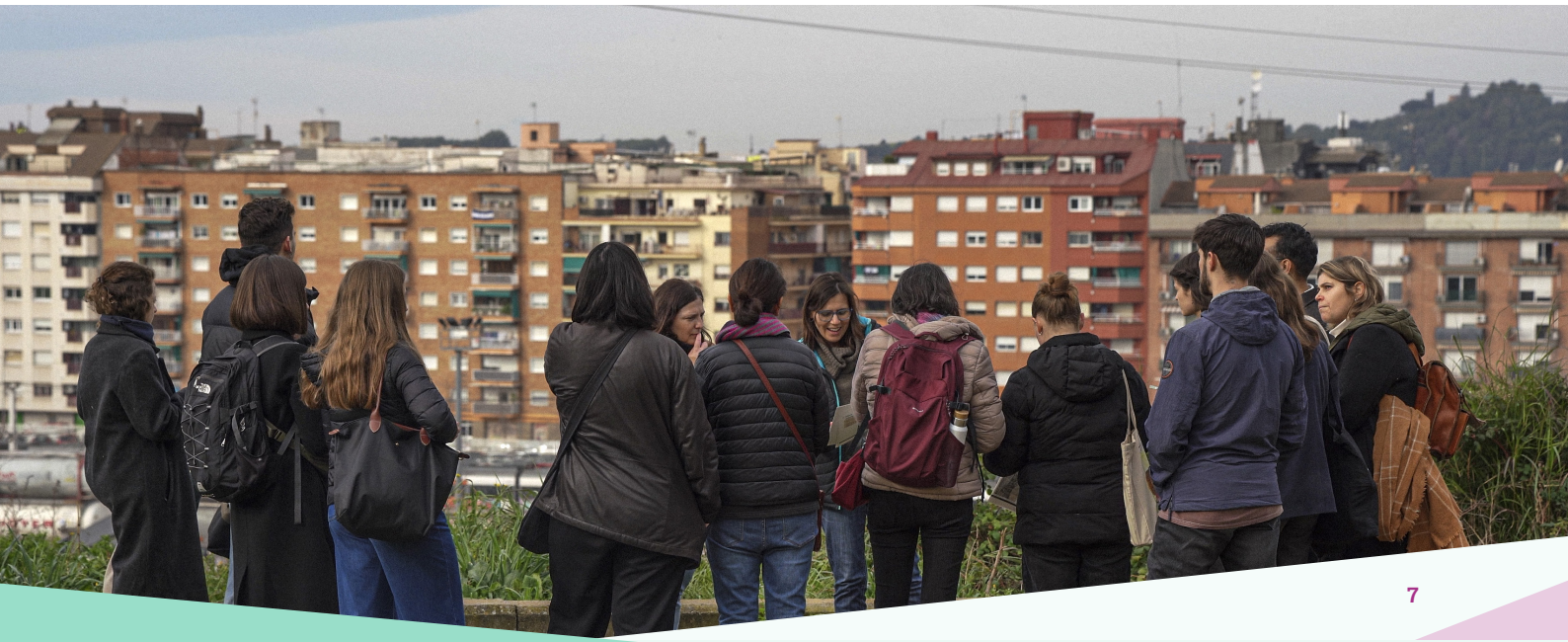
- **Introduce innovative ways to utilize urban spaces**, aiming to generate new opportunities and **promote the development of diverse urban hubs that respond to emerging societal needs**. The implementation of pioneering initiatives will serve as a testing ground for unlocking policies and exploring new urban development models, setting a precedent for future projects.

- **Leverage this legislative framework to drive the project forward**, aligning it with existing urban policies and reinforcing its long-term feasibility.

- **Make the transition from territorial-based governance to a more functional and integrated approach**. This shift will support the evolution from neighbourhood-focused management to a broader, interconnected urban ecosystem.

- **Encourage citizens to adopt a wider perspective beyond their immediate surroundings**, fostering a deeper understanding of urban inter-connectivity, enhancing long-term planning and sustainability efforts.

- **Explore funding opportunities and analyse the costs and benefits** of implementing or refraining from applying the prototype to obtain valuable insights for decision-making.



Enabling the environment: governance and finance

Governance and finance are essential components of an upscaling plan. During the first phase of the upscaling methodology (preparatory work), the city of Granollers went through the finance and governance aspects, taking as a reference the **tools** developed by the Global Green Growth Institute (GGGI) and adelphi, respectively, and explored how these resources could help them shape an enabling environment for their upscaling plan. The key findings obtained from this initial phase were then discussed with the stakeholders of the Learning Action Alliance. The main results of the discussion are detailed below.

Governance

The main efforts on governance were centred on identifying barriers and opportunities for implementing the prototype, designing communication and transferability actions to enhance understanding, and engaging stakeholders to ensure effective adoption.

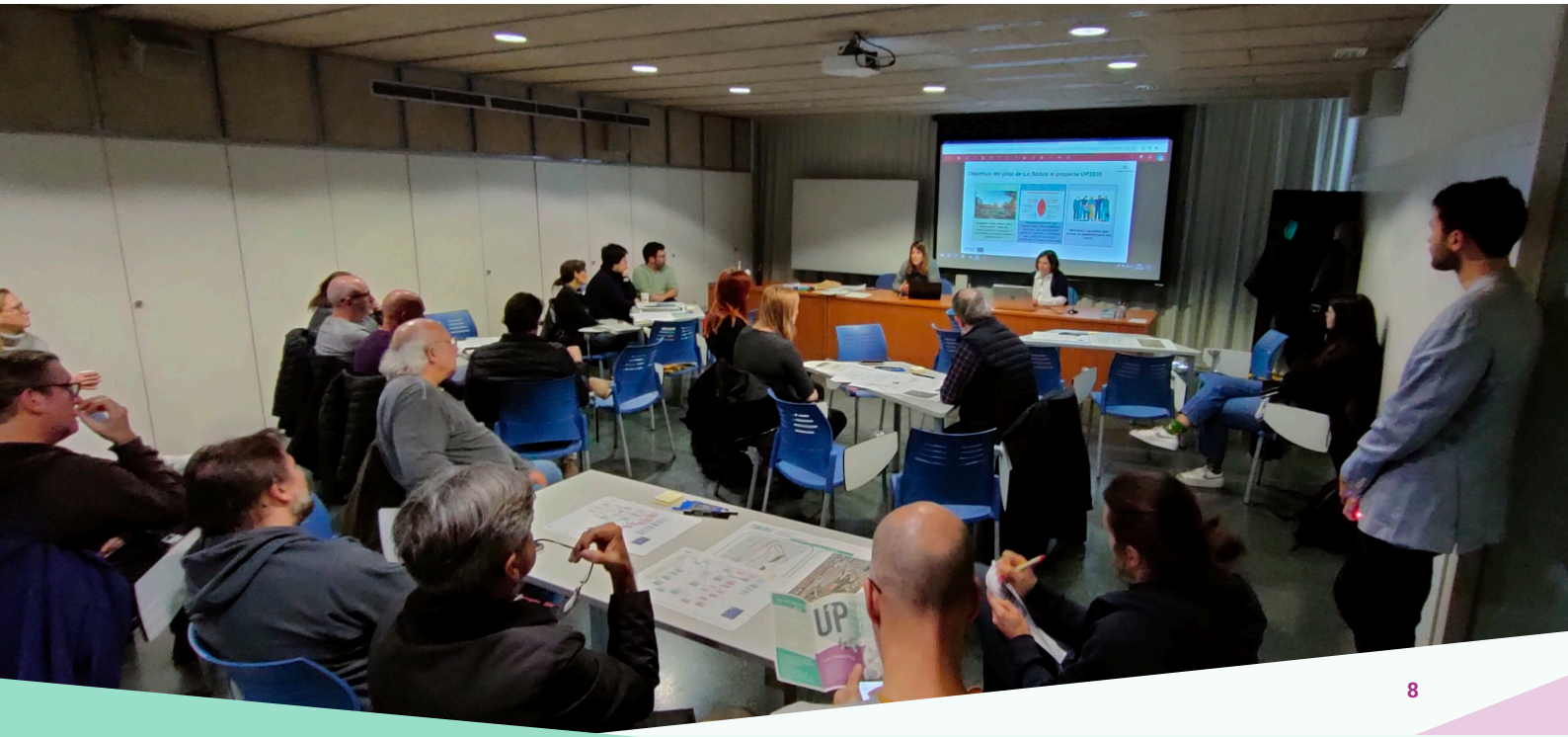
These are the key actions that need to be taken to build a solid governance structure for the prototype:

- Identify external stakeholders that can contribute to the process and clearly define their roles. This includes establishing alliances with ongoing project and maintaining engagement with key stakeholders such as LAA participants.
- Integrate the guide's recommendations into public tenders, ensuring that the established criteria are effectively applied.
- Disseminate knowledge through participatory bodies and citizen governance spaces to enhance collective awareness and engagement.
- Communicate the procedures and expected results in an inclusive way, endorsed by real-life applications of the guide's recommendations through practical examples.

Finance

Granollers included a dedicated session in their LAA workshop to collect recommendations on cost-benefit analysis and financing options for its set of guidelines, providing guidance on their application and integration into urban planning strategies of the future neighbourhoods of the city. Stakeholders have pointed out the following opportunities during the co-creation process:

- Identify Institutional Funding programs that support urban regeneration and public space development.
- Align municipal budget and fiscal strategies with local environmental and social priorities.
- Promote collaborative and participatory funding, strengthening community participation in funding initiatives and prioritizing citizen-driven projects.
- Explore European grants and programs focused on urban sustainability and innovation.
- Drive investments and economic revitalization, supporting investment programs that create economic and social impact.



Greening the city - Action plan for the next steps

July – September 2025

Organise an internal session with municipal decision-makers and planners, in order to present the final version of the guidelines and obtain their validation.

September – October 2025

Hyperdocument publication of "Set of Guidelines for a greener city with opportunities for everyone" (in Catalan and English), accessible from the UP2030 website and the Granollers and Participa webpages.

October 2025

Publish and distribute a post on Sostenible Newsletter (Barcelona Provincial Council).

November 2025

Edit a **postcard** with a QR code linking the Granoller's guidelines on the city council website, to be disseminated at the UP2030 final event on the 3rd of November, 2025, in Barcelona.

December 2025

Present a technical communication on the Granollers' guidelines at CONAMA Local 2025 edition. That will be part of the official publication of the national congress, **available here**.

December 2025 – June 2026

Implement the transferability package to similar cities/institutions.

End of 2025

Before June 2027

Present the "Guidelines for a greener city with opportunities for everyone" to the steering committee of city council, civil servants and external professionals.

Partners involved

- UP2030 Granollers' team
- Aquatec liaison
- City councilors and key decision-makers
- Local government bodies responsible for plans and rules approval
- Territory and Sustainability Directorate of Granollers city council
- Other municipal technicians

TOOLS' CONTRIBUTION TO THE PROTOTYPE AND POST-PROJECT USE

As mentioned in previous sections, Granollers aims for its prototype to have a lasting effect by adapting it to the specific context and needs of the city, so that it can be used in the future urban development plans, projects and technical solutions. The prototype has been developed with the support of certain tools; below is a detailed description of how Granollers will collaborate with the developers of these tools and how Granollers plans to use them in the future.

RESCCUE tool (Aquatec)

The **RESCCUE tool** supports decision-makers and urban planners on increasing the climate resilience of urban areas to climate hazards' effects. The implementation of the adaptation measures and strategies suggested by the tool will imply environmental, social and economic impact and benefits to these urban areas. The results of the tool's implementation have contributed to the development of the Granollers' prototype consisting of a set of guidelines and recommendations related mainly to the promotion of nature-based solutions as cost-efficient alternatives to reduce the impacts of climate hazards such as floods and heatwaves.

For future usage of the tool, Aquatec has transferred all the necessary knowledge about tools functionalities and applications (tutorials, etc.) to the technicians from Granollers that were involved in UP2030. The tool can be used at any time the city has to decide about alternative climate change adaptation measures (at different scales) and prioritise them according to a cost-benefit or multicriteria analysis.

City Scan tool (TSPA)

The **City Scan Tool** provides guidance on how to enhance the design and management of urban areas, offering resources and solutions addressing environmental, social and economic aspects. In UP2030, the outputs generated by the tool – specifically the four design scenarios and their comparative analysis for a pilot sector of the city to be developed– have been integrated into the city's planning process. The Set of Guidelines developed by Granollers consolidate lessons from the tool's application and are intended to guide future urban development strategies. In this way, the City Scan tool contributes indirectly to long-term planning through its scenario-based insights, even if it is not expected that the tool itself will be reused operationally by the city, as it currently requires specific technical expertise to operate. The tool is not designed for direct, independent application by municipalities without external support; the city was not trained to use the tool itself and, therefore, the involvement of TSPA is necessary for future applications and updates.

Neutrality Story Maps (VUB and CERTH)

By showcasing the work of the pilots and their prototypes in an accessible format with success stories, lessons learned and future strategies, **Neutrality Story Maps** allows other neighbourhoods in the city to learn and adopt similar climate neutrality strategies and approaches.

The tool has been embedded in the communication strategy for the project by Granollers, who is using the tool to communicate their activities in UP2030 to the general public in an accessible multimedia narrative format. The city expressed interest in using the platform for at least the next five years that will be freely accessible.

TRANSFERABILITY OF THE PROTOTYPE

Granollers is a good example for cities looking to develop projects or interventions linked to master planning and informed decision making. These projects can guide current municipal planning processes and transform the way local governments think and act. In UP2030, one of the objectives that has been defined in the upscale phase is to maximise the impact of the prototypes developed during the project, expanding them to other sectors, regions and countries.

To this end, it is extremely important to understand the characteristics of the context of the place where the prototypes are to be scaled up or replicated. To facilitate this process of transferring processes and results, the UP2030 project has developed four Urban Typologies with over 1000 provinces each in order to identify provinces, covering almost all of Europe, that have similarities based on different indicators that have been analysed. By grouping European regions with similar attributes, the Urban Typologies aims to foster targeted collaboration and encourage knowledge-sharing and communication for more effective solutions, especially between regions and cities sharing similar opportunities and challenges.

Four distinct typologies have been created:

- **Capacity for action**: Considers socio-economic factors and governance indicators.
- **Contributions to mitigation**: Focuses on sectoral emissions, carbon sequestration capacity and renewable energy potential.
- **Climate hazards**: Focuses on prevalent climate hazards and exposure.
- **Urban morphology**: Focuses on urban landscape and infrastructure characteristics such as urban density, land use types, etc.

For each typology, respectively, these are the clusters that correspond to the province in which Granollers is located (Barcelona), and hence which most closely resemble the province Barcelona:

CAPACITY FOR ACTION

Touristic Destinations

Spanning across Europe, with particular prominence along the Mediterranean coastlines of France and Spain, as well as the Alpine regions of Northern Italy and Austria, this cluster is characterised by **very high tourism activity** and a **large population size**. It boasts a **strong workforce and robust economy**, alongside an **average level of institutional trust and effectiveness**. The proportion of protected areas is relatively high, especially when compared to other clusters with similarly high levels of urbanisation.

CONTRIBUTIONS TO MITIGATION

High potential for renewables and lower CO_2 emissions

This cluster is characterized by **high to very high potential for all renewable energy sources** — photovoltaics, wind, and concentrated solar — making it one of the most versatile clusters for clean energy deployment. The spatial distribution across most countries in central, eastern Europe, and mediterranean is heterogeneous and patchwork-like. The population in this cluster has an **urbanization rate of 57% which is remarkably low** for the study area. **Forests and wetlands provide a moderate but significant carbon sinks** and need to be conserved to support climate mitigation alongside renewable energy development. **CO_2 emissions from all three sectors are all virtually identical to the study area averages** (relatively moderate in the building and vehicle sectors with 24% and 21% respectively) to low (industrial sector with 12%).

CLIMATE HAZARDS

Highest exposure to flooding in pockets of Europe

This cluster with multiple large capitals is **densely populated and highly urbanized**, and scattered across **heterogeneous landscapes**, including alpine, coastal, semi-arid Mediterranean, and secondary mountain ranges in **Central and Eastern Europe**. Its defining characteristic is the **very high exposure to pluvial, fluvial, and coastal flooding**, driven by diverse geographical, hydrological, and meteorological conditions. **High heat stress and high air pollution** (moderate risk according to WHO Air Quality Guideline (AQG) 2021) are additional critical hazards, while landslide and wildfire risks are moderate. The cluster faces **complex, multi-hazard challenges requiring integrated adaptation**. The cluster is closely related to the cluster "Heat hazard and air pollution in lowlands and basins in southern and eastern Europe" with respect to air pollution, heat stress and wildfire.

URBAN MORPHOLOGY

High-density urban centres with minimal open space

This cluster is found in the major metropolitan areas of Europe and is also widespread throughout Spain. It is characterised by a **very high population density** and an exceptionally **large proportion of densely built-up areas**—both significantly higher than in any other cluster. **Industrial and commercial zones occupy a substantial share** of the urban landscape. **Green spaces are limited**, while **impervious surfaces are extensive**. The terrain is relatively flat, with only a small proportion of the urban area situated on steep slopes.

For each of these four typologies, and for all clusters constituting the typologies, the following useful information is highlighted and can be explored: a short characterization, common challenges and opportunities in each cluster, as well as key areas for action and example measures and instruments therein.

In doing so, clusters can support urban planners and decision-makers in identifying strategic priorities, in addressing climate challenges more effectively, and with knowledge transfer between similar provinces, across Europe.

Granollers can serve as an example for other cities in these clusters, i.e. with these similar characteristics that are seeking to develop sustainable, climate-resilient and inclusive strategies for their local contexts. However, it should be noted that these typologies do not restrict the scope for replication and scaling up (i.e., the Granollers prototype is not only applicable in places classified within these four typologies), but rather help to identify places where the transfer of this package of Granollers is most likely to be successful. In addition, it goes without saying that these clusters cannot replace province or city case studies and not be used as such. The clusters are on a province level.

*To explore the typologies, use the **interactive map**.*

*The full list of indicators is also found in the **methodology section**.*

KEY MESSAGE FROM THE CITY

"The upscale phase was a strategic effort to expand the impact of the guide and to set forth a series of ambitious objectives. It aims to ensure that the outcomes of the UP2030 project will extend beyond its original scope, influencing future urban interventions at local, regional, and national scale."

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The local actions have been led by the municipality of Granollers and its liaison, Aquatec

All images: UP2030 Granollers team

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