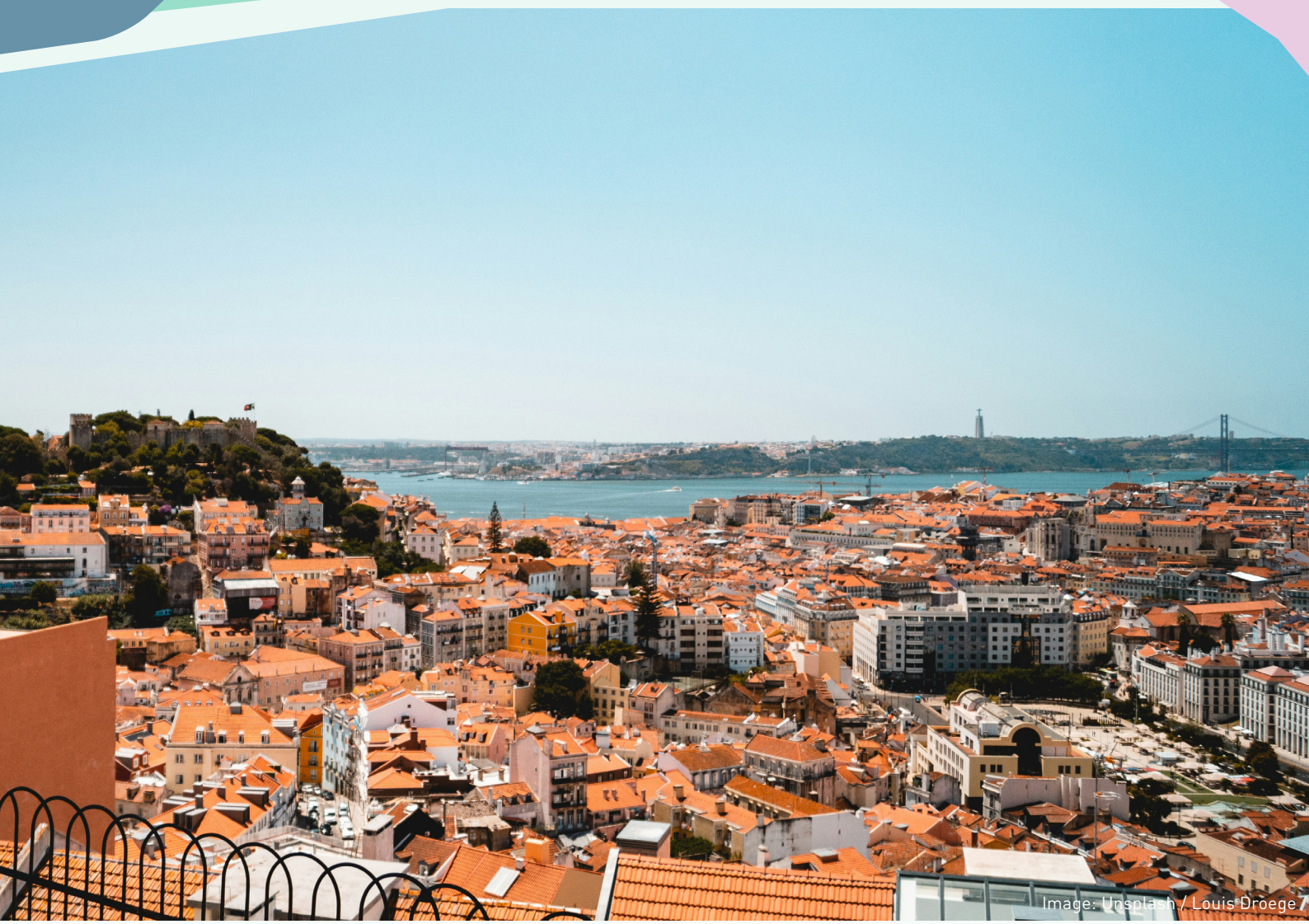


Image: Unsplash / Louis Droege /

LISBON
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 Lisbon 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 considered for its effective implementation in cities. The following sections of this document also provide a detailed account of how Lisbon 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.

Image: Unsplash / Andreas Brucker

TABLE OF CONTENTS

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 has 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, to accomplish the goals defined by each city. This process ensures that best practices are transferable and adaptable across different urban contexts 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, to accomplish the goals defined by each city.

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.

A key outcome of this process is the **transferability package**, a guidance document designed to assist cities in transitioning from the planning phase to the implementation phase of upscaling activities. It 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 practices, and the public.

INTRODUCTION OF THE CITY

Every day in Lisbon, hundreds of thousands of people travel to work, study, or simply enjoy the city's various services and attractions. By implementing green infrastructure and renewing recreational areas, Lisbon is improving the provision of high-quality multi-functional green and public spaces, promote healthier lifestyles, and accomplish climate neutrality targets. In UP2030, Lisbon has aimed to respond to the challenge of measuring the benefits of climate neutrality, adaptation and social inclusion actions by integrating intelligent systems in their digital decision-support platform and implementing actions, all of them aligned with its Climate City Contract 2030. This approach has been tested and validated at the parish of Alvalade, characterised by significant climate vulnerabilities and social inequalities.

From vision to action

CITY'S VISION	PROTOTYPE
Become a sustainable, resilient, inclusive and climate-neutral city by 2030, conducting the following actions: ✪ Ensure a fair and inclusive transition by addressing social justice issues, reducing inequalities and alleviating energy poverty. ✪ Achieve an 80% reduction in GHG emissions by 2030. ✪ Increase city resilience against extreme climate events.	StepUP_LxALL for Alvalade

Lisbon's adaptive pathway

StepUP_LxALL prototype combines water and energy efficiency upgrades, nature-based solutions (NbS), environment, waste and mobility measures, and digital tools for circularity, resilience, and environmental monitoring. Lisbon has centred the prototype around four pilot locations: the São Miguel Rugby Club, the Coruchéus Library, the Alvalade Market, and the National Civil Engineering Laboratory. The prototype contributes directly to Lisbon's climate neutrality ambitions and sets a model for neighbourhood-scale transformation. By integrating digital innovation, infrastructure resilience, and social equity, StepUP_LxALL advances urban sustainability while preserving cultural identity and fostering shared responsibility.

The people and tools needed for developing the adaptive pathway:

- **Lisbon Municipality (CML): Climate Neutral and Sustainable events and diagnostic StepUP_LxALL.**
- **National Laboratory for Civil Engineering (LNEC): Resilience assessments (RAF-ICARIA), water smart tools (B-WaterSmart)**, tools for **measurements in the urban water cycle**, and **hydraulic modelling.**
- **Alvalade Parish (pilot).**
- **São Miguel Rugby Club (pilot).**
- **Coruchéus Library (pilot).**
- **Alvalade Market (pilot).**
- **Lisboa E-Nova – Energy monitoring and solar photovoltaic assessments.**
- **Vrije Universiteit Brussel (VUB) and Centre for Research & Technology Hellas (CERTH): Neutrality Story Maps.**
- **ADENE: Climate Ready Certification (B-WaterSmart).**
- **ETH Zurich: Circular Urban Planning Tool.**
- **Fondazione LINKS: Air quality forecasting.**

UPSCALING FOR LISBON

Based on the UP2030 methodology, Lisbon designed a climate neutral and sustainable prototype for the four pilot areas. As part of those ongoing efforts in the city, a prototype report documents the actions considered for Alvalade parish, including community involvement. This report was designed not only for the pilot sites but also to serve as a scalable model that can be applied to other locations within the parish, buildings and facilities, e.g., hospitals and cemeteries.

The main aim identified in Lisbon for scaling up actions is to establish clear guidelines, rules and protocols for climate-neutral, resilient and inclusive neighbourhoods, which can be applicable in other areas of Alvalade, in other parishes in Lisbon, or other cities. The upscaling plans and activities developed are aligned with the city's overall strategies, e.g., Lisbon's Climate City Contract 2030 and the strategic planning options on the medium to long-term (GOP – Grandes Opções do Plano, in Portuguese) and CDP 2024 (Carbon Disclose Project reporting), targeting both parish- and city-scale objectives.

For this purpose, it is essential to ensure proper coordination between the actors involved, by engaging with local partners and community. The workshops promoted by the municipality of Lisbon with the stakeholders of the local LAA were a good first step in this direction. The first meeting gathered 44 people representing different departments and organisations. The LAA workshops allowed to share the achievements, identify gaps in the approach to strengthen future planning (e.g., initially aspects related to the biodiversity were not included in the prototype and it was one of the new points brought to the upscaling workshop) and foster collaboration among local stakeholders. Regarding the latter, cooperation protocols between the city and different actors were established, so that successful strategies can be replicated in other sites. Some of these protocols were already signed, e.g., between the Lisbon City Council, the Alvalade Parish and the São Miguel Rugby Club, and others can be formalised in the future through agreements or commitments signed by key stakeholders; for example, Santa Maria Hospital.

The following sections provide an overview of the main results achieved by Lisbon 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?

- **Lack of collaboration among key stakeholders**, being necessary to get the commitment of everyone, without exception.
- **Lack of sustainable finance and procurement sources**. The municipal budget allocated to climate adaptation and sustainability needs to be strengthened by combining different sources of funding.
- **Limitations** imposed by the municipality or preferences of the site managers themselves, which restrict the feasibility or implementation of certain actions.
- Despite the local elections held on October 2025, **planned actions and procedures are expected to be developed**, in alignment with the vision, strategy and actions developed during the UP2030 project. These are likely to be adopted by the elected administration as included in the GOP 2026-2028.

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

- **Extend the work** that has been done in the four pilot areas **to other collective facilities**, such as cemeteries and hospitals.
- **Expand the impact** of the work done in Alvalade **to other areas of the city** and potentially t**o other cities and regions**.
- **Value co-benefits**, with emphasis on the adaptation sector, including solutions related to biodiversity, air quality, noise, pests, etc., aligned with carbon neutrality, climate resilience and social justice.
- **Strengthen the collaboration and synergies between public and private actors, technical experts and scientific community**, and share responsibilities among them.
- **Promote alignment between projects and the municipal strategy**. For instance, the actions included in Lisbon's Climate City Contract 2030 and Lisbon Climate neutral and Sustainable events guidance, which was tested and validated in Alvalade.
- **Reinforce the local community power by involving them in decision-making processes**. A **trusting relationship** between the municipality and the final beneficiaries is essential for ensuring successful collaboration.
- Explore **event and dissemination opportunity to present and share the StepUP_LxALL** prototype and the results obtained.
- **Creation of a joint information and awareness program**, involving the municipality and Alvalade parish. This could lead to development of joint projects based on the principles of carbon-neutral, climate resilient and just neighbourhoods.
- **Formalise the collaboration between different stakeholders** through cooperation agreements and protocols.
- **Continually improving the Alvalade prototype** by adding new aspects (e.g., biodiversity, sustainable tourism, culture/urban art) that might have not been considered on the initial version. Assessment of the benefits achieved to **involve other parishes and stakeholders** in this path.
- **Give continuity to the project** by connecting it with other local, regional and European projects.
- **Improve the green infrastructure** that proofed to be vulnerable and exposed to extraordinary weather conditions during storm "Martinho", resulting in the fall of numerous trees in March 2025.

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 Lisbon 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

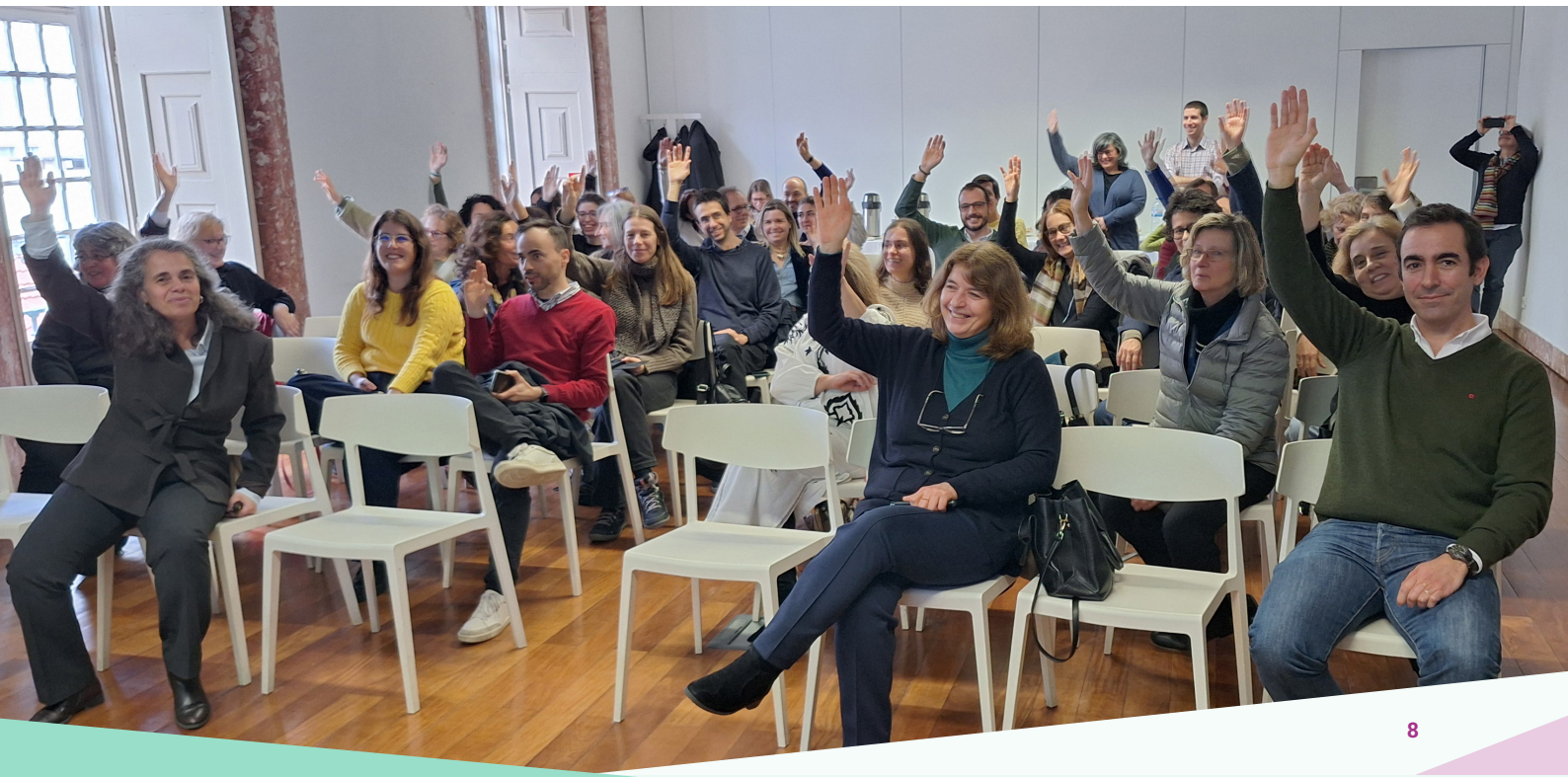
Lisbon's efforts in terms of carbon neutrality, climate resilience and just transitions including environmental sustainability require overcoming silos, bringing all the relevant actors to the same page and working as a team. To this aim, as mentioned before, protocols and agreements were signed with actors that have already been involved and with others that will be involved in the future, using as a reference the guidelines set out in Lisbon's Climate City Contract 2030. In addition, engagement activities with beneficiaries were planned and carried out since the beginning of the project, to communicate them the benefits of the interventions and foster their acceptance to the project.

Furthermore, since the city has already a consolidated municipal strategy in place, it was mandatory from the beginning to align the activities of UP2030 with this strategy, to be successful. Currently, the UP2030 project is part of the financial policy instrument of the GOP 2026-2028 and the Climate City Contract 2030 Action and Commitment Plans. In parallel to this, other tools currently underway in the municipality have been used in the project, such as the emissions inventory, legislations, CDP report, sustainable development goal (SDG) tool, local regulations, certifications and protocols. With these, it was possible to proceed with specific actions in the Lisbon pilot of Alvalade.

Finance

Lisbon has identified the finance and procurement solutions as one of the main priorities for scaling up the activities and ensuring the continuity of the prototype. The current municipal budget needs to be strengthened following the principles of equity and sustainability and for this the Lisbon City Council will explore and promote synergies between different funding sources.

As the project idea tested in Alvalade is aligned with the objectives of the Climate City Contract, the city will explore the tools that have been collected and made available in the NetZeroCities project, which support cities taking action to reach climate neutrality by 2030. On the other hand, Lisbon will explore the possibility to use the UP2030 finance tools developed by GGGI, which was already useful for brainstorming on different actions that the city could pursue in the upcoming months. Whichever tool is used, it is important to consider that they need to be complementary to the resources that Lisbon already has, to ensure that they are helpful for the city.



Greening the city - Action plan for the next steps

From July 2025 onwards (c.a.)
Activities for community involvement

From July 2025 onwards (continued action (c.a.))
Training and information and awareness campaigns (Sharing environmentally sustainable behaviour messages and increase citizens engagement and commitments)

From July 2025 onwards (c.a.)
Communication and dissemination activities with city departments, districts, pilot areas and external partners

From July 2025
Reinforce investment

From September 2025
Collaboration protocol signature with Santa Maria Hospital

From July 2025
Integration of the environmental index and the sustainability criteria, to update the municipal regulation of the Master Plan

From July 2025
Air quality, noise, biodiversity campaigns / tools

From September 2025
NBS plantations in pilot areas

From July 2025
Waste and circularity, and mobility/transport interventions

From July 2025
Development of new digital tools, products and new policies

From July 2025
Climate scenarios and inventory emissions

From October 2025
Sustainable Tourism and Events (Intelligent decision support system)

From October 2025 onwards (c.a.)
Urban Art Mural

From October 2025
Water solutions efficiency (physical implementations

From October 2025
Implementation of Solar Panels to enhance energy systems

November 2025
Replication of Futuro urban art mural at Santa Maria Hospital; Cities in Action - Shaping just, resilient, and climate-neutral urban planning

From December 2025
UP2030 publication for municipalities and leaders; Christmas markets

2025 - 2026
Markets with Life Alvalade

End of 2025

From 2026
Replanting of large trees - Build back better after Tempestade Martinho – Alvalade; Reinforcement of NBS, with plantations - Coruchéus Library; Air quality campaign

Partners involved

- Lisbon Municipality
- LNEC
- Alvalade parish
- Santa Maria Hospital
- Clube de Rugby São Miguel
- LEN
- Private and public sectors
- Research centres
- National Agencies
- Alvalade Market
- Lisbon Climate City Contract 2030
- City networks and European initiatives/projects
- Other sectors of the city
- Other parishes
- CRSM

TOOLS' CONTRIBUTION TO THE PROTOTYPE AND POST-PROJECT USE

The prototype's tools for the Lisbon case are designed to ensure long-term sustainability and successful post-project integration through strategic alignment, dedicated financial planning, focus on local operational capacity, and plans for upscaling and replication.

- **Reinforcing Existing Systems**: The LNEC RAF App contributes to sustainability by reinforcing the support to a decision system already used by the city. The work done by LNEC provides a study available for the city's decision-making processes.
- **Promoting Circularity Policies**: The LNEC water smartness tools and the ETH circular planning tool are hoped to be used to direct policies regarding circularity in the water cycle and in the built environment, respectively, providing precise guidelines when more refined data is available.

The design and accessibility of the tools contribute significantly to their continued use after the project concludes:

LNEC Tools

The tools (Resilience assessments (RAF-ICARIA), water smart tools (B-WaterSmart), **tools for measurements in the urban water cycle**, and **hydraulic modelling**) are designed so that local authorities can operate them alone. Since the tools use is costless if the required data is available, this enhances long-term viability. Local stakeholders have received sufficient training or materials to continue using the tools. Short courses can be easily organized upon request after the project to support usage. The tools support better decision-making by providing relevant information on the effects of measures on climate resilience using purpose-made indicators.

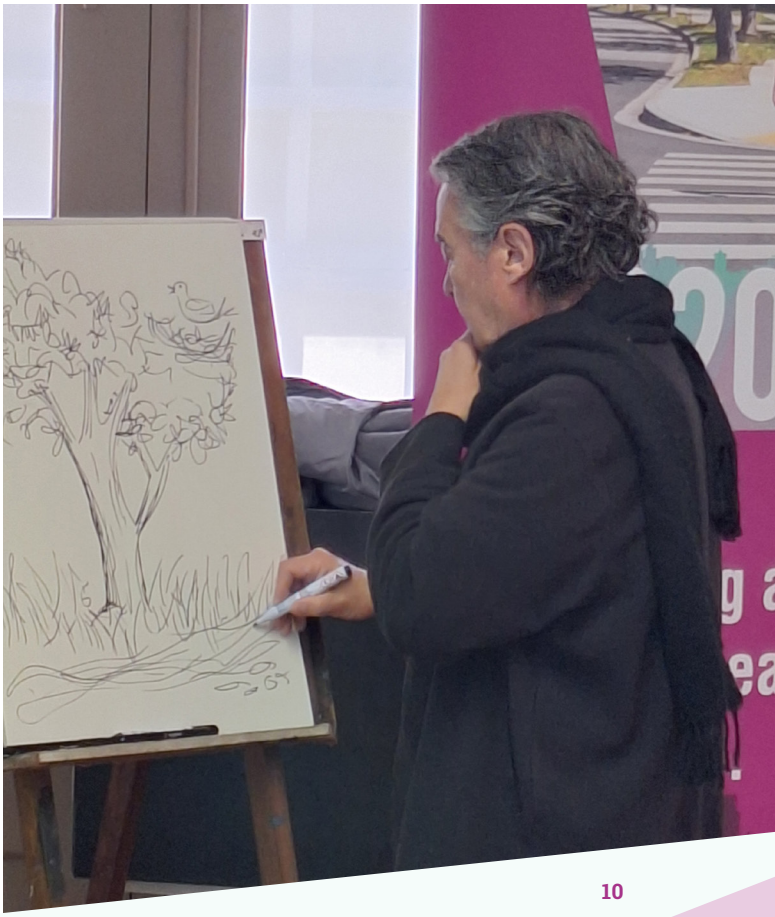
Circular Urban Planning Tool (ETH Zurich)

The Circular Urban Planning Tool is a standalone plugin in QGIS and can be used independently. Technical support is envisioned, including answering questions from tool users. The tool promotes circularity, which, if applied long-term, will have environmental (reducing GHG emissions and resource consumption) and economic impacts (identifying supply chains to develop an efficient circular economy).

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 and is available to be used following UP2030 to communicate with the public in an accessible multimedia narrative format.



TRANSFERABILITY OF THE PROTOTYPE

Lisbon is a good example for cities looking to develop technical studies and analyses that use data and engagement techniques, to be tested at a pilot scale physical implementation. 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 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 Lisbon is located (Lisbon Metropolitan Area), and hence which most closely resemble the Lisbon Metropolitan Area:

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

Very high renewable energy potentials and very low sectoral emissions in southern Europe

This cluster is largely contiguous along the Mediterranean coast, spanning Spain, Italy, and Greece. It is characterized by **very high potential for photovoltaic and CSP** (highest compared to the other clusters), and **very high wind energy potential**, making it the only cluster with very high potential across all three renewable sources. It has the **lowest CO_2 average emissions in buildings, vehicles, and industry** across study area, combined with a **moderate urbanization rate of 65%**. It features a **low share of forests and wetlands**. This cluster has the lowest share of forest and wetlands and lowest sectoral emissions in the study area that make it distinct from the previous cluster. Both clusters have a very high wind power development potential in comparison with other clusters.

CLIMATE HAZARDS

Complex hazard situation requires integrated planning and governance in low mountains in central Europe

This cluster is located in **low mountain regions of Central Europe** — primarily in Germany, France, Belgium, Luxembourg, and Spain). It faces **moderate climate hazards**, with **low exposure to floods and sea-level rise** (due to its **inland, mountainous topography**), but **higher exposure to drought, heat stress, and landslides. PM2.5 air pollution is moderate** (Moderate to low risk according to WHO Air Quality Guideline 2021), while wildfire risk is moderate. The cluster hosts **55 million people** and displays a **moderate urbanization rate (68%)**.

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.

Lisbon 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 Lisbon 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 Lisbon 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 actions implemented across the parish and the four pilot sites in Alvalade demonstrate significant potential for city-wide expansion, clearly showcasing how targeted interventions can generate measurable environmental, social, and operational benefits. Building on this success, the Lisbon Municipality aims to define clear and comprehensive guidelines for what constitutes a climate-neutral neighbourhood, ensuring that the lessons learned, methodologies tested, and solutions developed can be systematically replicated and scaled up throughout Lisbon."

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The local actions have been led by the Municipality of Lisbon (CML), its third-party Lisboa E-Nova and its liaison, the National Laboratory for Civil Engineering (LNEC).

All images: UP2030 Lisbon team

This document has been produced thanks to the work of the entire UP2030 consortium:

Funded by the European Union

Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or the European Climate, Infrastructure and Environment Executive Agency (CINEA). Neither the European Union nor the granting authority can be held responsible for them. This project has received funding from the Horizon Innovation Actions under the grant agreement n° 101096405.

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