WORK SESSION

PUBLIC POLICY FOR DECARBONIZATION

THE CONTRIBUTION OF CITIES TO CARBON NEUTRALITY AND SUSTAINABLE DEVELOPMENT GOALS

Main Conclusions

January, 2025

INDEX

1. INTRODUCTION

On November 19, 2024, the event "Public Policy for Decarbonization – The Contribution of Cities to Carbon Neutrality and Sustainable Development Goals" took place at the Secretariat-General for the Environment.

This event gathered the promoters of projects co-financed by the Environmental Fund - Notice no. 4218/2017 – Living Labs for Decarbonization, and by the EEA Grants 2014-2021 Environment Program - Notice #4 – Pilot Projects for Living Labs for Decarbonization and Climate Change Mitigation. The event brought together a total of seventeen projects, of which eight were co-financed by the Environmental Fund and seven by the EEA Grants Environment Program.

The goals were to share experiences among the various funded projects, promote dialogue, reflect on their implementation and results, and focus on innovative solutions to make cities more sustainable and provide a higher quality of life for their residents, considering the various challenges and pressures of today, particularly those associated with climate change.

Participants of the projects were distributed among thematic work sessions organized around five priority areas:

Session 1 – Governance, Collaboration, and Engagement

Session 2 – Environment, Energy, Mobility, and Buildings

Session 3 – Platforms, Connectivity, and Data Management

Session 4 – Replication and Scalability

Session 5 – Contribution to Sustainable Development Goals

The event stood out for its dynamic and participatory nature, adopting the "World Café" methodology as a tool for knowledge sharing and collaborative construction.

This document compiles the main conclusions and recommendations resulting from the work sessions and the final debate. The ideas presented here reflect the commitment and collective vision of the participants, providing guidelines for the preparation of future calls on this theme and for the design and development of projects aimed at accelerating the transition to carbon neutrality and reinforcing the role of cities as engines of sustainability.

2. SESSION'S MAIN RESULTS

Below are the main conclusions of each work session. Funded projects will be briefly referred to as Living Labs projects.

2.1 SESSION 1: GOVERNANCE, ENGAGEMENT, AND COLLABORATION

Living Labs projects demonstrated the importance of well-structured governance models based on consensual decisions and active collaboration among partners.

The involvement of multiple stakeholders, such as municipal councils, private companies, NGOs, and universities, brought diverse competencies but also revealed weaknesses, particularly in

communication and continuity of partnerships. The latter aspect requires close involvement by the municipality, which is the only entity capable of ensuring continuity.

The most successful cases were observed where there was frequent coordination among partners since the beginning of the projects. However, challenges such as staff turnover, especially project managers, and difficulties in aligning different visions hindered some results.

Community involvement varied among projects. Despite efforts to engage the local population, particularly in pilot project areas, many initiatives faced low participation and/or resistance, partly due to the pandemic but also due to gaps in communication and mobilization. Projects adopting more educational and interactive approaches, such as workshops and school activities, achieved better results, highlighting the importance of co-creation and awareness-raising to enhance the impact of Living Labs.

On the other hand, collaboration among municipalities and other entities emerged as a cross-cutting challenge. Despite good practices, such as inter-municipal dialogue in Loures and Cascais, the lack of consistent networks and continuous exchange of experiences hindered the replication of successful solutions. This scenario underscores the need to foster stronger collaborative networks to support future initiatives.

Key outcomes of this work session include:

- The creation of a formal governance structure with regular meetings that promote active collaboration among partners is beneficial.
- Municipal council involvement and frequent, informative communication are crucial for project continuity.
- The COVID-19 pandemic complicated communication and community involvement, but adaptation to remote modes maintained progress.
- Community involvement was generally limited, with some municipalities attempting strategies such as workshops school collaborations.

2.2 SESSION 2: ENVIRONMENT, ENERGY, MOBILITY, AND BUILDINGS

Living Labs projects achieved significant results in energy, mobility, and environment areas, demonstrating their potential to promote more sustainable urban solutions.

Initiatives in the energy sector, such as the creation of Renewable Energy Communities (RECs) and the installation of photovoltaic solar systems, stood out for their impact on reducing emissions. However, licensing difficulties for RECs compromised expected results by delaying full infrastructure utilization.

Mobility projects, including on-demand electric vehicles, expanded bike lanes, and intelligent parking systems, showed concrete benefits for the population and the environment. The on-demand transportation vehicle project exceeded expectations and is being expanded.

Implementation of some initiatives was hindered by structural and technological challenges. The pandemic significantly delayed execution processes due to construction delays and material/equipment shortages, impacting expected results.

Obsolete equipment and technological integration difficulties limited the reach of several projects (e.g., smart irrigation, consumption monitoring). Population resistance, and sometimes ineffective, communication compromised adherence to sustainable practices like as waste separation.

Building-related results were less evident, reflecting the complexity of introducing innovative solutions in historical heritage or existing infrastructures. However, technologies like BIM (Building Information Modelling) points to promising solutions for future interventions.

Key outcomes of this work session include:

- Overall project balance is positive across all domains, though more time could have enhanced results.
- Energy and mobility domains achieved more significant results, while building-related outcomes were less visible.
- Sustainable mobility projects, such as on-demand transportation vehicles and bike lanes, exceeded expectations.
- Waste separation communication was less effective than expected, likely due to ineffective communication with the target audience.

2.3 SESSION 3: PLATFORMS, CONNECTIVITY, AND DATA MANAGEMENT

Digital platforms and advanced technologies played a central role in Living Labs projects, enabling the monitoring and optimization of urban resources. Smart irrigation systems and energy efficiency sensors exemplify technology's potential in promoting sustainability.

However, platform integration proved to be a significant challenge, with many projects facing difficulties to centralize data from different sources and technologies across different municipal departments/teams. This limitation reduced efficiency and hindered result communication.

Resistance to technology adoption, both among the population and within municipal structures, was another significant barrier. Limited digital literacy, particularly among older populations, and bureaucratic rigidity complicated the full implementation of proposed solutions.

Despite these challenges, Living Labs projects demonstrated that strategic data use and gradual community involvement can advance toward more connected and efficient urban management.

Key outcomes of this work session include:

- Digital platforms integration is essential to for connectivity and efficient data management among project partners and within municipalities.
- Data management tools facilitated collaboration and information sharing, though system interoperability improvements are needed.
- User training and capacity-building are crucial to maximize the effectiveness of implemented tools.
- Data analysis helped identify process improvement areas, but lack of standardization can limit result comparability.
- Transparent data management is crucial for building trust among partners and the community.

2.4 SESSION 4: REPLICATION AND SCALABILITY

Replication and scalability were key themes in Living Labs projects, with several initiatives demonstrating adaptability to other contexts or regions. Examples such as the expansion of Renewable Energy Communities (RECs), the replication of intelligent lighting systems, and the expansion of bike lanes show how initially local solutions can scale up, benefiting a larger number of people. However, replication often required adjustments due to financial, legal, and structural limitations, emphasizing the need for greater flexibility in management models.

Scalability was more feasible in contexts where good practices were documented and shared among municipalities. However, the lack of human and financial resources, coupled with heavy bureaucracy, remains a significant barrier to extending the impact of these initiatives.

Key outcomes of this work session include:

- Project replication in other municipalities is viable but requires specific adaptations to local realities.
- Scalability of implemented solutions depends on resource mobilization and continuous stakeholder involvement.
- Successful examples in one municipality can serve as models for others, but must be contextualized to meet local needs.
- Support from local authorities is crucial for expanding and sustaining initiatives over time.
- Sharing best practices and lessons learned among municipalities facilitates replication and increases intervention effectiveness.

2.5 SESSION 5: SDG

Projects represented in this work session shared actions and measures around central themes for decarbonization, encompassing sustainable mobility, energy efficiency, circular economy, technology, and social inclusion.

Sustainable mobility stood out with solutions such as electric bicycles, shared transportation, and other forms of electric mobility, demonstrating that these measures are effective in reducing emissions and making cities more accessible, functional, and with better air quality and living conditions.

Energy efficiency and renewable energies were also highly relevant areas, with notable initiatives such as photovoltaic solar systems, energy sharing among communities, and intelligent lighting systems that enable significant energy savings.

In the circular economy, innovative examples of material reuse and upcycling practices emerged, promoting a more sustainable approach to waste management.

Environmental education was identified by participants as a key piece for the success of projects, with several pedagogical initiatives aimed at raising awareness in schools and communities about the importance of adopting sustainable practices in daily life.

On the other hand, the use of technology, such as sensors and digital platforms, reinforced the importance of monitoring air quality, energy efficiency, and other aspects for better management of urban utilities/resources.

Finally, project representatives expressed concern with social inclusion, engaging local communities and addressing specific needs. This effort underscores the role of cities as spaces for social equity, where decarbonization must go hand-in-hand with social justice and population well-being.

Living Labs projects demonstrated different impacts on the SDGs, as highlighted below.

SDGs with significant contributions from the projects:

- **SDG 4.** Quality Education: Through pedagogical actions that raised awareness in communities and schools about sustainability.

- **SDG 7.** Affordable and Clean Energy: With the implementation of solutions such as solar panels and renewable energy communities.

- **SDG 11.** Sustainable Cities and Communities: Promoting more efficient and sustainable urban management.

- **SDG 12.** Responsible Consumption and Production: Through the circular economy and innovative material reuse practices.

- **SDG 13.** Climate Action: Reducing emissions through electric mobility, energy efficiency, and other interventions.

Secondary SDGs with moderate contributions from the projects:

- **SDG 6.** Clean Water and Sanitation.

- **SDG 9.** Industry, Innovation, and Infrastructure.

- **SDGs 14 and 15.** Life Below Water and Life on Land.

Relevant SDGs with limited contributions from the projects:

- **SDG 3.** Good Health and Well-being.

- **SDG 5.** Gender Equality.

- **SDG 8.** Decent Work and Economic Growth.

- **SDG 10.** Reduced Inequalities.

As noted, this session had a distinct dynamic compared to the others, as in addition to the questions posed to participants—as in other sessions—additional exercises were included, such as choosing a city from a set of city photographs that reflects a sustainable city for each participant and explaining why.

In general terms, it was considered that a sustainable city is one that balances environmental, social, and economic pillars, promoting quality of life without compromising natural resources. This concept goes beyond technological or environmental solutions, integrating measures that

ensure population well-being, such as efficient public transportation, bike lanes, green spaces, and decent housing. These cities invest in policies that encourage conscious consumption and local production, reducing the carbon footprint and creating harmony between urban and rural areas.

To achieve this balance, community involvement was deemed essential, aiming for integration into decision-making processes and creating incentives to adopt sustainable lifestyles. Examples such as community gardens and neighbourhood workshops show that collaboration and engagement can transform urban spaces into more sustainable, collaborative, and balanced neighbourhoods, functioning as true ecosystems.

In this context, it is noteworthy that while technology is an important ally in developing more sustainable cities, they should not depend exclusively on technological solutions, maintaining a focus on simplicity and citizen participation.

3. MAIN CONCLUSIONS AND RECOMMENDATIONS FOR FUTURE CALLS AND PROJECTS FOR LIVING LABS FOR DECARBONIZATION

Living Labs for Decarbonization projects faced significant challenges from development to completion. Despite these difficulties, the projects underscored the importance of building sustainable approaches from the outset, promoting stable partnerships, and learning from encountered limitations. It was commonly mentioned that the funding for these types of projects through the two launched notices was very positive, enabling, in many cases, a set of initiatives that exceeded the scope of the proposed and funded project. In this sense, the opening of new Calls for funding such projects in the near future was also considered highly relevant to ensure the continuity of implemented measures and the scalability of projects.

The scalability and continuity of some measures beyond project funding were highlighted as common difficulties among the various projects, as many initiatives failed to go beyond the pilot phase, and others faced limitations. This situation indicates the need for more robust models to ensure the expansion of tested solutions and their integration into long-term public policies.

Collaboration and communication among stakeholders were also mentioned as significant limitations. In some cases, weak interaction among team partners and ineffective communication with the local community compromised the impact of some engagement initiatives.

The results achieved by the projects were limited concerning some SDGs, highlighting the need for greater attention and intervention in certain areas to balance contributions to the SDGs.

Considering the contributions of the various work sessions, the main recommendations and ideas for designing future Calls are summarized below to maximize the impact of funded projects and new projects:

- **Promote Replication and Scalability**: Encourage the expansion of successful projects/measures/actions by creating portfolios of best practices to guide other municipalities. However, it is essential to ensure the adaptation of solutions to the contexts and realities of each location/region through specific assessments.

- **Ensure Continuity**: Launch a second phase of funding for promising projects, allowing their expansion to new areas and/or consolidation of existing implemented actions/initiatives.

- **Flexibilize Approaches**: Allow municipalities to define the most relevant intervention areas for their local needs, particularly in less developed regions, as an alternative to predefined intervention areas in the Call that are uniformly applied to all regions.

- **Foster Partnerships**: Promote collaboration among municipalities of different sizes, leveraging the experience of larger cities to benefit smaller ones. This collaboration is particularly relevant in neighbouring municipalities. It was also noted that encouraging the development of collaborative networks between companies and municipalities is crucial.

- **Rethink Geographic Scale**: Expand the geographic scale of projects by considering a consortium of neighbouring municipalities to optimize cross-cutting solutions, such as in mobility. This aspect is intrinsically linked to the recommendations in points 3 and 4.

- **Align Funding with Impact**: Direct resources to initiatives with greater potential to contribute to the SDGs, differentiating funding levels according to the project stage (pilot, replication, or scale).

- **Support Innovation with Evaluation**: Encourage the experimentation of new pilot projects, but with clear evaluation strategies and continuity plans in case the initiatives are effective.

By implementing these measures, future Calls can create more tangible and lasting impacts, contributing to the development of sustainable cities.