

Systemic Integration of Transformative Technical and Nature-based Solutions to Improve Climate Neutrality of European Cities and Regions and tackle Climate Change: the URBreath Approach



Reflecting on Methods, Indicators and Tools for Inclusive and Climate Neutral Cities for Nature-Based Solutions

Date: 6 June 2025, 14:00 – 15:30

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Session Moderator: Inés Elvira, CINEA

For More Information [URBREATH.eu](https://urbreath.eu), [ReGreenation.eu](https://regreenation.eu), [GreenInCities.eu](https://greenincities.eu), [DivAirCity.eu](https://divaircity.eu)

Session Facilitator(s):

ReGreenation	Stephanie Patterson	Project Manager for Urban Regeneration in Europe	C40 Cities
ReGreenation	Júlia Susana Costa dos Reis	Geographer	Vila Franca de Xira
URBREATH	Marina Klitsi	Senior Project Manager	Athens Technology Center
URBREATH	Max Beijneveld	Policy Coordinator	Climate Alliance
GreenInCities	Chiara Farinea	GreenInCities Project Coordinator, Head of European Projects for the Advanced Architecture Group at IAAC	Institute for Advanced Architecture of Catalonia

GreenInCities	Andrea Conserva	GreenInCities Innovation Manager, European projects Senior Expert & Researcher for the Advanced Architecture Group at IAAC	Institute for Advanced Architecture of Catalonia
DivAirCity	Dr. Daniela Melandri	President and Executive Director of UniverCities, content and Vision Chair for DivAirCity	UniverCities

Session Overview

This session explored how cities across Europe are leveraging Nature-Based Solutions (NbS) to address climate change while fostering inclusion, biodiversity, and resilience. The session gathered representatives from four major Horizon Europe projects—**ReGreenation**, **URBREATH**, **GreenInCities**, and **DivAirCity**—to present methodologies, digital tools, indicators, and lessons learned from their on-the-ground interventions in over 30 European cities.

Key Themes and Topics

1. Definitions and Perceptions of NbS

- NbS were described as multi-beneficial interventions such as tree planting, riverfront restoration, and green rooftops that support climate adaptation, social cohesion, and urban regeneration.
- Emphasis was placed on the **integration of environmental, social, and cultural dimensions** in city design.

2. Impact Measurement & Indicators

- ReGreenation** uses over 200 KPIs to assess outcomes in “complete neighborhoods” (15-minute cities), integrating digital twins to track and forecast interventions.
- Alverca, Portugal** (ReGreenation) has 30 KPIs focused on cooling effects, biodiversity, and carbon storage.
- Barcelona** (GreenInCities) employs mixed methods (quantitative + qualitative) including biodiversity co-mapping and climate shelter metrics.

3. Digital Tools for Monitoring and Engagement

- **Digital twins** and **co-creation platforms** were key tools across projects (especially URBREATH and GreenInCities) to visualize data, engage citizens, and simulate climate impacts.
- **DivAirCity** developed a blockchain-enabled mobile app offering citizens real-time mobility and air quality information, connected to a reward system and marketplace.

4. Inclusivity & Co-Creation Approaches

- **DivAirCity** centers its work on intersectional inclusion, based on 6 UN-defined categories of vulnerability. Participation happened “in the time, space, and pace” of communities.
- Methods included in-situ conversations with underrepresented groups (e.g. women outside schools) and participatory design with non-human considerations (e.g. bird migration spaces in Barcelona).
- Emphasis on data equity: the absence of data (“no data”) on vulnerable communities was flagged as a barrier to inclusive planning.

5. Challenges and Barriers

- **Political and financial limitations**, expectation management, and trade-offs (e.g. loss of parking spaces) emerged as key barriers.
- Participatory processes can be **emotionally charged and require active facilitation** to mediate conflicting interests.

6. Climate Risks and Context-Specific Solutions

- NbS are being tailored to address **heat risks, flooding, and polluted snow** (e.g., Tallinn).
- In cold climates (e.g., Helsinki, Sofia), greenhouses, geothermal heating, and seasonal engagement strategies help maintain year-round ecological activity.

City Examples and Innovations

Alverca (Portugal) – ReGreeneration

- Tree planting, green rooftops, rainwater reuse, and riverfront adaptation.
- Digital tools and KPIs monitor urban heat reduction and biodiversity goals.

Athens (Greece) – URBREATH

- Digital twins and co-creation tools to visualize NbS and enable public input on planning and monitoring.

Barcelona (Spain) – *GreenInCities*

- Participatory ecosystem mapping with citizens.
- Focus on non-human welfare, biodiversity connectivity, and reuse of site materials.

Multiple Cities – *DivAirCity*

- Engagement through micro-interactions in daily life (e.g., school drop-off).
- App with blockchain-backed rewards and inclusive mobility data.
- Unexpected outcomes included **reduction in criminality** in target areas.

Quotes to Remember

“Let go of the illusion of control. Talk about values, not facts.”

– Max Beijneveld, URBREATH

“Nature is not something extra—it is a tool to make our cities safer and stronger.”

– Marina Klitsi, URBREATH

“Access cities through what we don’t have before what we do—data gaps reveal societal gaps.”

– Daniela Melandri, DivAirCity

“Empathy is important—for humans and non-humans alike.”

– Andrea Conserva, GreenInCities

Closing Takeaways

- **Integration is key:** Cities must combine **nature, digital tools, and people-centered design** to achieve climate neutrality and inclusivity.
- **Inclusion requires effort:** Success lies in **meeting people where they are**, both literally and emotionally.
- **Technology as enabler, not driver:** Digital tools must empower—not overshadow—local voices and needs.
- **Social transformation is possible:** NbS can shift both environmental conditions and social dynamics, such as crime and public trust.

Disclaimer

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