



Replicating nature-based solutions to revitalise post-industrial landscapes

Why this policy brief?

Why now?

The European Parliament, Council, and Commission recently reached an agreement on the EU Nature Restoration Law (NRL). This is a great chance to set the law on the right track and ensure it can successfully tackle the devastating impacts of climate change and biodiversity decline. The NRL regulation is an integral part of the Biodiversity Strategy for 2030¹ and will support the EU to reach its international commitments, in particular the UN Kunming-Montreal Global Biodiversity Framework² (GBF) agreed at the 2022 UN Convention on Biological Diversity³ (CBD COP15).

The impacts of climate change and biodiversity loss are clearly felt across Europe. Efforts to adapt to, halt and mitigate these crises are thus becoming increasingly important. As part

of the European Green Deal⁴, the EU Strategy on Adaptation to Climate Change⁵, adopted in 2021, has defined ambitious targets to address the growing need for action.

The implementation of nature-based solutions⁶ (NBS) on large scales is synergistic with the two frameworks - especially in the urban and post-industrial context, as NBS provide measurable economic benefits to citizens and entrepreneurs. They can increase climate resilience and contribute to multiple Green Deal adaptation objectives as well as GBF target areas. The NBS blue-green (as opposed to grey) infrastructures are multipurpose, 'no regret' solutions⁷, simultaneously provide environmental, social and economic benefits and help build climate resilience while increasing biodiversity at the same time.



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¹ https://environment.ec.europa.eu/strategy/biodiversity-strategy-2030_en

² www.cbd.int/gbf

³ www.cbd.int/meetings/COP-15

⁴ https://commission.europa.eu/strategy-and-policy/priorities-2019-2024/european-green-deal/climate-action-and-green-deal_en

⁵ https://climate.ec.europa.eu/eu-action/adaptation-climate-change/eu-adaptation-strategy_en

⁶ www.iucn.org/our-work/nature-based-solutions

⁷ No-regret actions are cost-effective now and under a range of future climate scenarios and do not involve hard trade-offs with other policy objectives. www.climateexchange.org.uk/research/projects/examples-of-no-regret-low-regret-and-win-win-adaptation-actions

Who should read this?

The European Parliament, Council, and Key target audiences include civil society, policymakers, academia, and the private sector from both within and outside of the proGREG project cities (Dortmund, Turin, and Zagreb as well as Cascais, Cluj-Napoca, Ningbo, Piraeus and Zenica).

This policy brief is directed towards:

- ✦ **Policymakers** at local and regional levels who are tasked with implementing legislation issued by the European Commission or by national authorities;
- ✦ **Practitioners** working directly in nature conservation, ecology, or cross-cutting fields (e.g. urban, spatial or land use planning, landscape architecture, climate mitigation and adaptation, energy, agriculture);
- ✦ **European Commission officials** with remit and interests in environment, nature conservation, biodiversity, urban policies, or nature-based solutions (e.g. Directorates General ENV, CLIMA, RTD or even GROW, AGRI, DG REGIO and ENER).

What is the connection to cities?

The Horizon 2020 Mission on Adaptation to Climate Change⁸ focuses on supporting EU regions, cities and local authorities in their efforts to build resilience against the impacts of climate change. The Mission contributes to putting the EU's adaptation strategy into practice by helping the regions to:

- ✦ better understand climate risks they are facing in the future;
- ✦ develop pathways to be better prepared and cope with the changing climate;
- ✦ test and deploy on the ground innovative solutions needed to build resilience.

As part of the Biodiversity Strategy to bring nature back to cities and reward community action, the Commission called on European towns and cities of at least 20,000 inhabitants to '... develop ambitious **Urban Greening Plans**' including 'measures to create biodiverse and accessible urban forests, parks and gardens; urban farms; green roofs and walls; tree-lined streets; urban meadows; and urban hedges.' Such urban green spaces provide a wide range of benefits for people and the planet such as vital space for physical and mental wellbeing and a very important habitat for nature, including birds and pollinators. They also help reduce air, water and noise pollution,

protect from flooding, droughts and heat waves and much more.

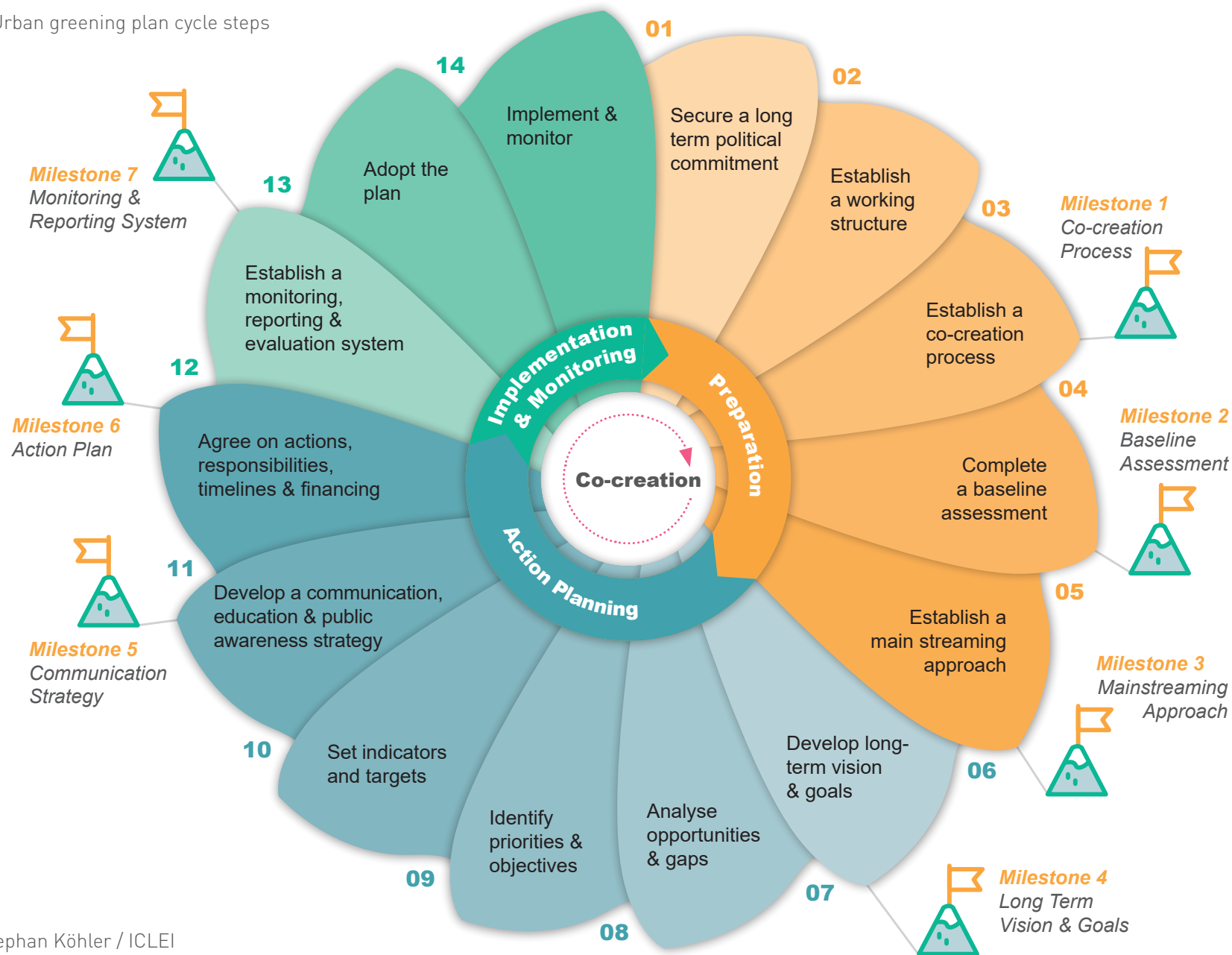
Nature-based solutions are promising options for re-greening a city or community: can be small in scale, flexible in installation and/or implementation and **easily transferred to and repeated** in other locations, sites, or cities. **Urban Greening Plans** as a unifying framework for climate-resilient, biodiversity-positive urban planning present a unique opportunity for the systematic integration of urban green infrastructures in urban planning across Europe. Figure 1 shows how the Urban Greening Plan cycle process is broken down in 10 overarching steps.

The **Urban Greening Platform**⁹ (UGP) aims to provide guidance and knowledge to support towns and cities in enhancing and restoring their urban nature and biodiversity, along with links to other relevant European Commission initiatives and policies.

⁸ https://research-and-innovation.ec.europa.eu/funding/funding-opportunities/funding-programmes-and-open-calls/horizon-europe/eu-missions-horizon-europe/adaptation-climate-change_en

⁹ https://environment.ec.europa.eu/topics/urban-environment/urban-greening-platform_en

Figure 1: Urban greening plan cycle steps



Source: Stephan Köhler / ICLEI

About proGlgreg

ProGlgreg was funded by the European Commission under the Horizon 2020 programme from June 2018 until November 2023. ProGlgreg stands for 'productive Green Infrastructure for post-industrial urban regeneration': nature for renewal. ProGlgreg puts to practise the above mentioned policy goals as NBS in post-industrial areas are one of the above mentioned policies' main building blocks.

The mentioned **Urban Greening Plan Guidance** aims to support local authorities to develop their own Urban Greening Plan to advance measures that bring nature back into the city. While the UGP provides the guiding principles for green planning, it is largely the responsibility of cities to define their greening implementation journey. In this context, the overarching ambition is to support cities to operationalise the planning process for greening and renaturing and initiate its implementation.

The project's NBS implementation successes are leading project partners and **Frontrunner Cities** (FRC) Turin, Zagreb and Dortmund to transfer insights, suggestions and lessons learnt to other cities and communities to re-

develop and regenerate post-industrial sites through urban greening activities and the implementation of NBS. The proGlgreg NBS are flexible as they can be used as additions to the existing green infrastructure and meet the needs and demands of end users when implemented together with local stakeholders. The NBS are designed to provide a multitude of benefits contributing to the overall socio-economic regeneration of urban and post-industrial areas.

ProGlgreg's tried and tested solutions in the FRC are adapted in local strategies (Urban Plans) in the **Follower Cities** (FC) that have closely followed the successes (Cascais, Cluj-Napoca, Piraeus and Zenica), enabling the creation of more comprehensive and integrated approaches through learning from the FRCs. This knowledge transfer has been captured and documented within a replication framework and process to support others to utilise the implemented NBS.

Global cities working together: this Policy Brief focuses exemplary on Cascais (Portugal) and Zenica (Bosnia and Herzegovina), closely following the progress in the Living Labs and engaging in city-to-city exchange to **replicate NBS**.



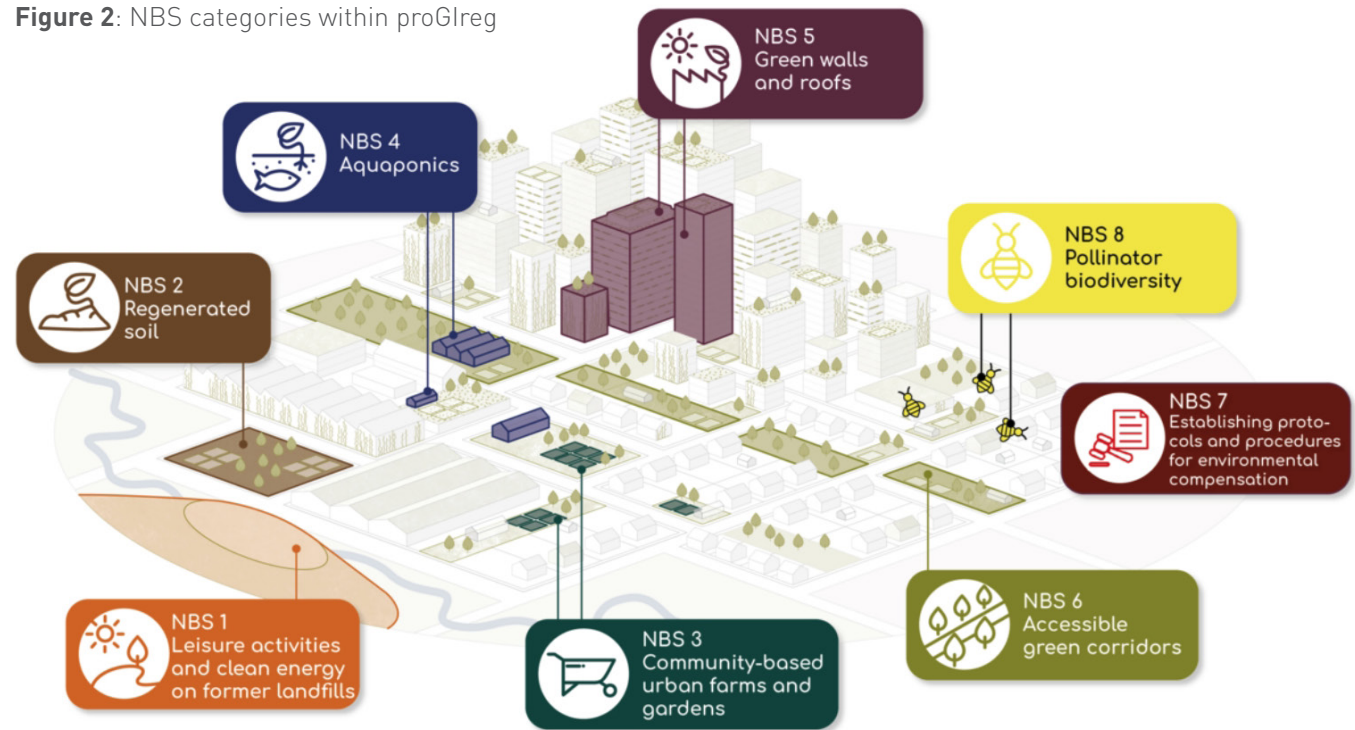
How can cities and regions replicate nature-based solutions?

ProGReg deploys the eight different NBS embedded into Living Labs (LL), working with the local stakeholder landscape to create ownership and locally rooted solutions (see Figure 2).

Follower City Urban Plans for replicating & adapting nature-based solutions - what does this mean for local and regional governments and authorities? For a more visual impression, please see below in Figure 4 and 5 the maps of the Urban Plans for Cascais and Zenica: an overview of the plans developed by the Follower Cities after a series of replication workshops.

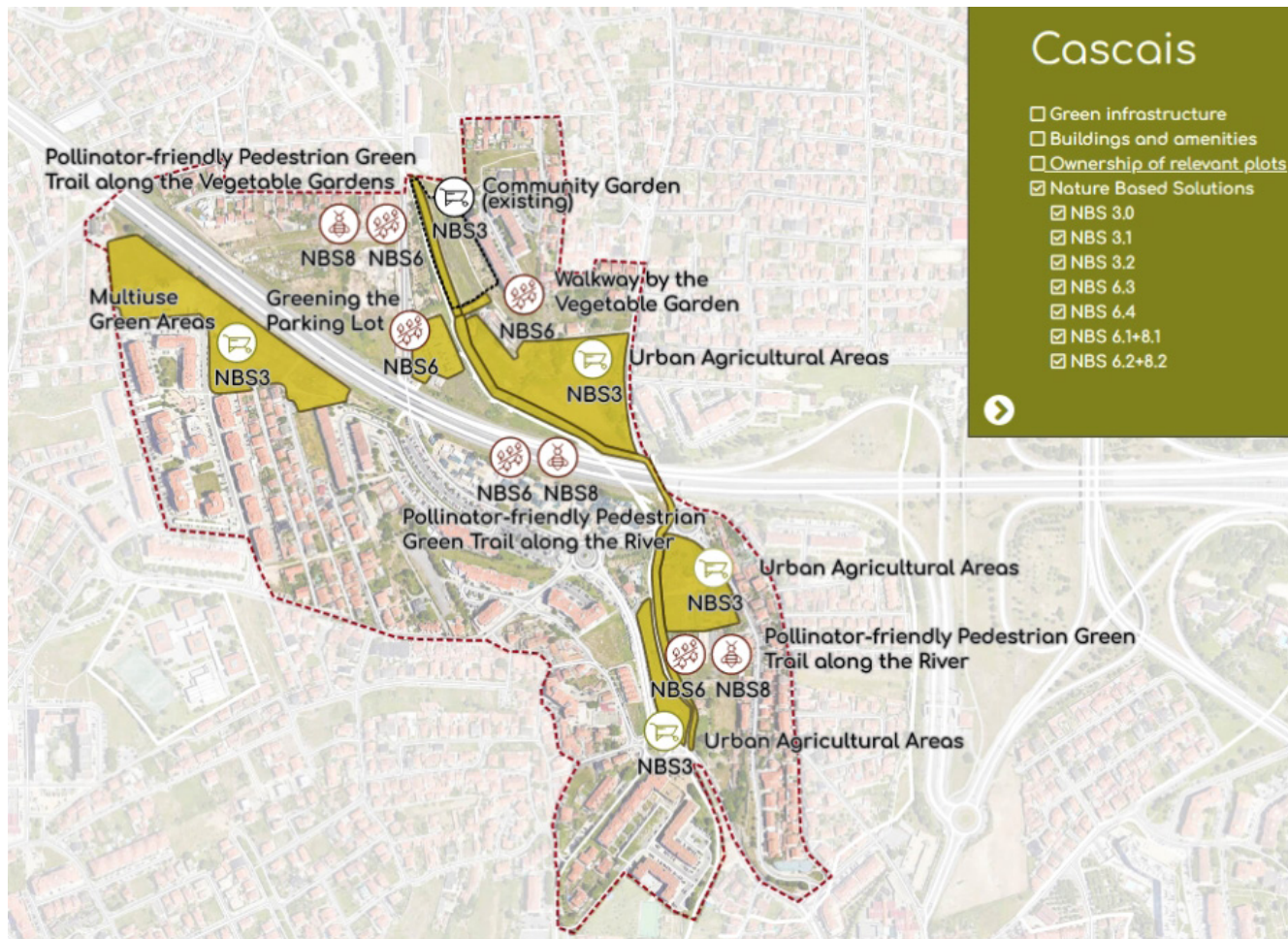
The key goal of the workshops was a successful training for the replication of NBS for the FCs. The participating cities engaged in the analysis of several **categories** and **contributing factors**: generic, institutional, environmental, financial/investment, policy framework and social determinants. Next, the participants compiled these factors with categories ranging from 'Awareness raising & result dissemination' to 'Visibility for the city/municipality' - to name only a few examples of more than 20 criteria in total. A detailed analysis of the identified **challenges**, **enablers**, **stakeholders**, **barriers** & **success factors** will be presented in a **follow-up policy brief**, which will focus more on the way leading to the replication of NBS.

Figure 2: NBS categories within proGReg



Source: RWTH Institute of Landscape Architecture

Cascais



<https://progireg.eu/cascais/urban-plan>

- ★ Brejos Community Garden
- ★ Multi-use green areas
- ★ Urban agricultural areas
- ★ Pollinator friendly green trail
- ★ Pollinator friendly pedestrian trail
- ★ Greening the parking lot
- ★ Walkway by the vegetable garden



Figure 3: Urban Plan Cascais

Zenica

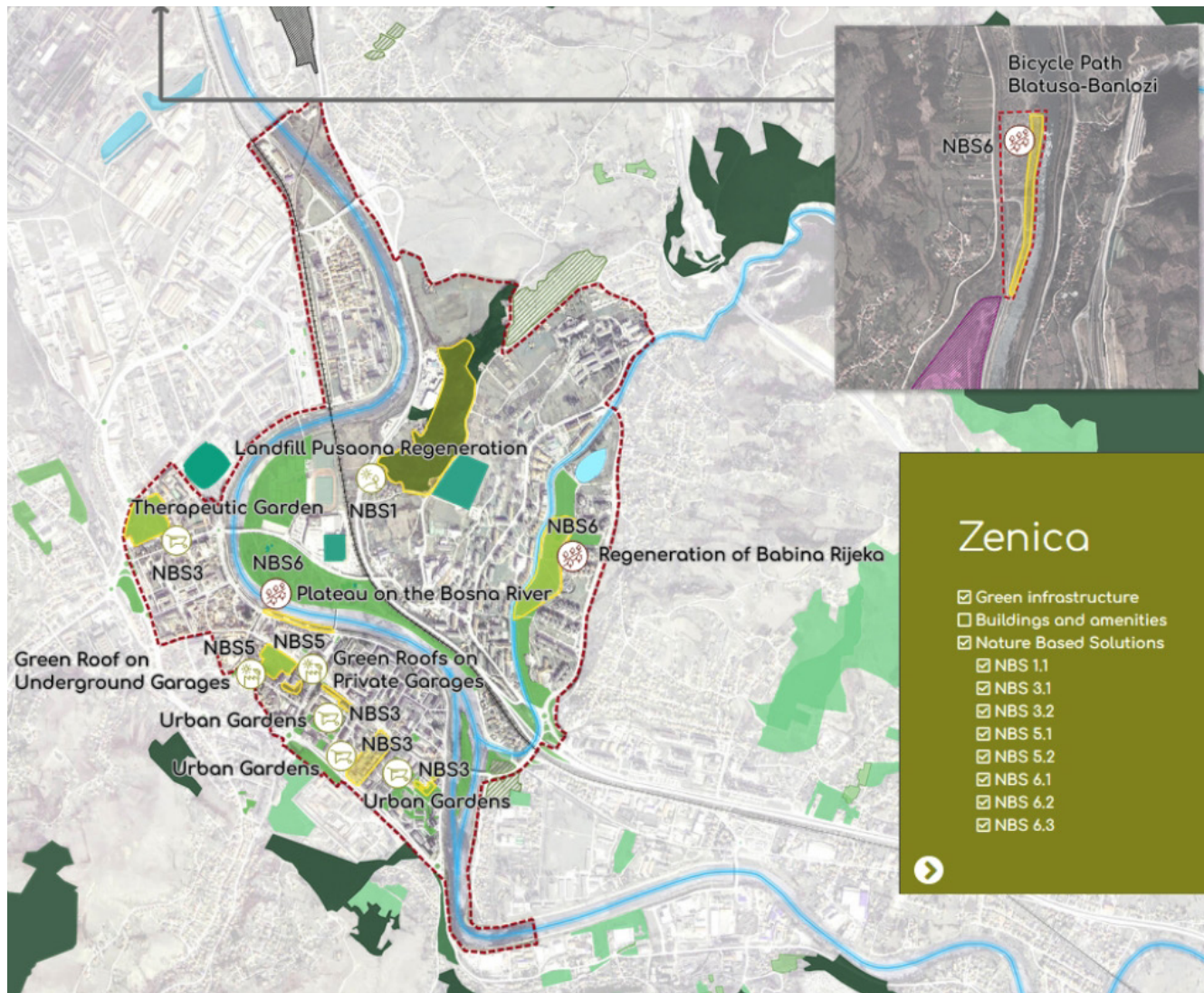


Figure 4: Urban Plan Zenica

<https://progireg.eu/zenica/urban-plan>

- ✳ Landfill Crkvicko Brdo
- ✳ Therapeutic Garden
- ✳ Urban Gardens
- ✳ Green Roof on Underground Parking
- ✳ Green Roofs on private garages
- ✳ Bicycle Path Blatusa Banlozi
- ✳ Regeneration of Babina Rijeka
- ✳ Plateaus on the River Bosna



The way forward & recommendations

To successfully deliver on European and global policies and targets, NBS need to create impacts at scale¹⁰. There is a strong call for conceptualising NBS as systemic interventions, i.e. integral elements to healthy and resilient ecosystems and adopting a multi-scale planning approach (urban, peri-urban, landscape).¹¹ The path forward is from replication to scaling up nature-based solutions to unleash their full potential - as highlighted recently at the European Urban Resilience Forum 2023 (EURESFO) in Cascais.

What is the difference between scalability and replicability? The scalability of NBS may be defined as their ability to increase in size, scope or range, while the replicability of NBS refers to the ability to be duplicated in another location or time (which always means adapting solutions to the local context). Scaling of NBS can have four dimensions: scaling out, scaling up, scaling deep, and cross-cutting approaches.

Policy Recommendations for NBS scaling up and replication:

- ✦ Scaling up of NBS means to also scale-up co-design and co-creation with citizens and with local enterprises or social start-ups as a critical success factor.
- ✦ Fostering effective exchange of knowledge and experiences across districts, cities and regions develops and increases trust in NBS performance and co-benefit maximisation.
- ✦ Conducting cost-benefit analyses and detailed monitoring at district and Living Lab levels informs decision-making and planning processes.
- ✦ Creating local demand for NBS encourages public engagement and raises awareness among citizens and stakeholders.
- ✦ Securing follow-up funding (beyond a pilot project) and resources for the scaling up of NBS and their maintenance needs to take place through detailed planning, including local stakeholders in the co-creation of knowledge and empowering populations for NBS acceptance.

- ✦ Strengthening NBS in sustainable urban development can be a response to growing societal challenges, e.g. for climate change adaptation or in local or regional resilience strategies.

Operationalising will be highly contextual. Each city's urban fabric, climate risk profile, environmental diagnostics, socio-demographic conditions, and urban development strategy has to be assessed to maximise the opportunities (and address barriers) for greening/renaturing. In particular, the future ambition is to ensure spatial continuity and ecological connectivity in planning for green infrastructure systems, i.e. support cities to move away from a project by project NBS intervention approach, towards a cross-scalar nature-centred strategy.

¹⁰ www.eionet.europa.eu/etcs/etc-ca/products/etc-ca-products/etc-ca-report-2-22-understanding-the-scaling-potential-of-nature-based-solutions/@download/file/Understanding%20the%20scaling%20potential%20of%20Nature-based%20Solutions.pdf

¹¹ <https://iclei-europe.org/publications-tools/?c=search&uid=iLn4nemY>

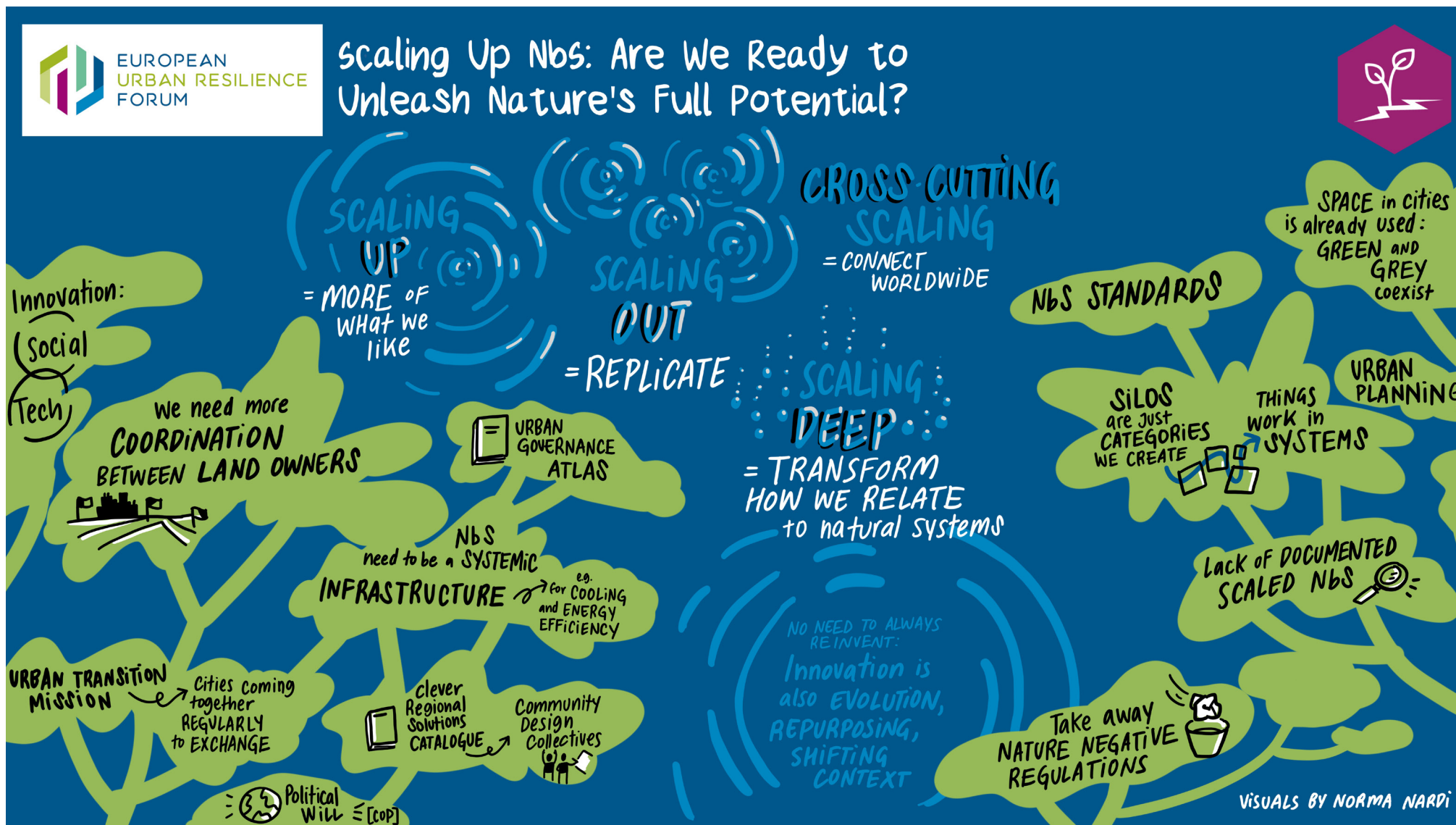


Figure 5: European Urban Resilience Forum 2023 (EURESFO) in Cascais

Source: Norma Nardi

Who to thank?

Many thanks to the proGReg implementing partner organisations, including cities, NGOs, research institutions and businesses. The successful implementation of the proGReg project would not have been possible without their valuable support.



Partners



Stadt Dortmund



<https://progireg.eu/the-project>



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