



WP 6 Exploitation and Business Plan

# **Deliverable D6.6: Collaborative Funding schemes**

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List of Acronyms	
<b>ADEME</b>	Agence de la Transition Écologique (France)
<b>BID</b>	Business Improvement District
<b>BIA</b>	Business Improvement Area (Hamburg equivalent of BID)
<b>CEB</b>	Council of Europe Development Bank
<b>CINEA</b>	European Climate, Infrastructure and Environment Executive Agency
<b>CSRD</b>	Corporate Sustainability Reporting Directive
<b>CRCF</b>	EU Carbon Removals Certification Framework
<b>CSR</b>	Corporate Social Responsibility
<b>DC Water</b>	District of Columbia Water and Sewer Authority (Washington D.C.)
<b>EASME</b>	Executive Agency for SMEs (former EU agency)
<b>ECO</b>	EcoTree (consortium partner)
<b>EEA</b>	European Environment Agency
<b>EGNSS</b>	European Global Navigation Satellite Systems
<b>EIB</b>	European Investment Bank
<b>ELENA</b>	European Local Energy Assistance (EIB facility)
<b>ERDF</b>	European Regional Development Fund
<b>ESRS</b>	European Sustainability Reporting Standards
<b>EU GBS / EuGBS</b>	EU Green Bond Standard
<b>FI-Compass</b>	EU platform on financial instruments (EC/EIB)
<b>GIC</b>	Green Infrastructure Consortium (UK)
<b>GLOLAB / GOLAB</b>	Government Outcomes Lab (Oxford University)
<b>GPO</b>	Greening Programme Office
<b>ICMA</b>	International Capital Market Association
<b>ICLEI</b>	Local Governments for Sustainability (international network)
<b>IoT</b>	Internet of Things (sensors for MRV)
<b>IRR</b>	Internal Rate of Return
<b>JASPERS</b>	Joint Assistance to Support Projects in European Regions (EIB/EC)
<b>LIFE</b>	EU Programme for Environment & Climate Action
<b>MRV</b>	Measurement, Reporting and Verification
<b>NBS</b>	Nature-Based Solutions
<b>NDC</b>	NDCConsult (consortium partner)
<b>NGO</b>	Non-Governmental Organisation
<b>NZC</b>	NetZeroCities
<b>OBC</b>	Outcome-Based Contract
<b>OBF / OBFM</b>	Outcome-Based Finance / Mechanisms
<b>OPEX/ CAPEX</b>	Operational Expenditure / Capital Expenditure
<b>PNRR</b>	Piano Nazionale di Ripresa e Resilienza (Italy's Recovery Plan)
<b>RRF</b>	Recovery & Resilience Facility (EU)

<b>SFDR</b>	Sustainable Finance Disclosure Regulation
<b>SPV</b>	Special Purpose Vehicle
<b>UN</b>	United Nations

## Executive Summary

European cities increasingly recognize urban greening as essential infrastructure for climate adaptation, biodiversity and public well-being. Yet most municipalities struggle to finance and maintain nature-based interventions at scale. Fragmented grants, strict fiscal rules and limited technical capacity create a structural funding gap – particularly for long-term maintenance, which often represents the majority of lifecycle costs.

This report provides a comprehensive playbook of collaborative financing schemes that cities can use to close this gap and mobilise predictable, diversified, and outcome-based investment. It maps the full funding landscape – EU programmes (ERDF, LIFE), green and sustainability bonds, outcome-based finance, blended-finance structures, developer contributions, corporate partnerships, Business Improvement Districts and civic crowdfunding.

The report also explains how emerging EU regulatory frameworks (EU Green Bond Standard, EU Taxonomy, CSRD, CRCF) are reshaping expectations for transparency and data quality, creating new opportunities for cities to access private and institutional capital.

Beyond funding, the document addresses the critical execution gap. It provides a practical implementation blueprint centered on the creation of a Greening Program Office (GPO), lifecycle procurement models, robust MRV systems, and multi-annual investment planning. These components form the operational backbone necessary to absorb diverse funding sources and deliver credible, measurable, high-impact greening programs.

This report serves to support city and town administrations to find the funding to plant new trees and to maintain them.

# 1 The Funding Challenge for Urban Greening

European cities increasingly recognize that trees, parks, and nature-based solutions are critical urban infrastructure-vital for climate adaptation, biodiversity, and public wellbeing.

Yet across the continent, municipalities face systemic financial barriers that limit their ability to plan, finance, and maintain greening programmes at scale.

While ambitions are high, local budgets and financial instruments are rarely designed for long-term, non-revenue-generating environmental assets.

## 1.1 Structural Budget constraints

A majority of European municipalities operate under tight fiscal rules that constrain borrowing and long-term investment capacity.

According to the European Investment Bank (EIB) 2024 Municipal Investment Survey, over 50% of cities report under-investment in climate change and climate change mitigation (see figure below), with lack of funding and administrative capacity cited as the main barriers: "Nearly two-thirds of municipalities find financing and almost a half lengthy regulatory processes to be major obstacles to investment. These have both become bigger barriers since 2022."<sup>1</sup>

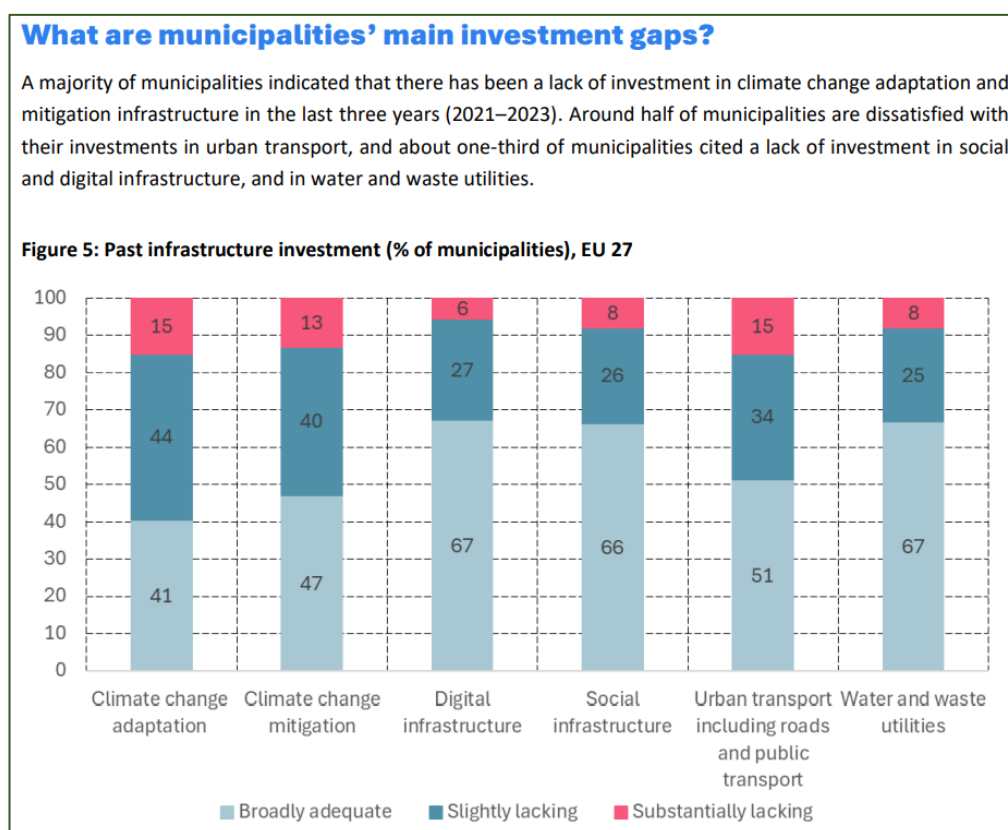


Figure 1. Extract of 2024/25 Municipal Investment Survey - European Investment Bank

<sup>1</sup> [https://www.eib.org/files/publications/20250028\\_080425\\_municipalities\\_survey\\_en.pdf](https://www.eib.org/files/publications/20250028_080425_municipalities_survey_en.pdf)

Urban greening competes for scarce capital with housing, transport, and social services-sectors that yield more immediate political or economic returns.

In France - as in many EU countries - structural budget rules (called "golden rule") and financing practices make it difficult for municipalities to use debt for operating costs (see below).

### **Policy Insight - The "Golden Rule" Constraint on Urban Greening Budgets**

*Across most EU Member States, local authorities are subject to the so-called "golden rule" of public finance, which prohibits the use of borrowing to cover operating expenditures.*

*Under this principle, municipalities may contract debt only to fund capital investments (e.g. building a park, purchasing equipment, or planting trees), while operational costs-such as irrigation, pruning, ecological monitoring, or tree replacement-must be paid from annual current revenues.*

*This rule, designed to ensure long-term fiscal discipline, has unintended consequences for nature-based solutions and urban greening. Because tree maintenance, watering, and replacement are classified as operating expenses, they cannot be financed through loans or bonds.*

*Yet these activities represent a very significant part of the total lifecycle cost of urban greening projects (ADEME, EEA 2024). Consequently, cities often secure grants or loans for initial planting but lack the recurrent budget to maintain trees over time, resulting in high mortality rates and under-performance of nature-based solutions.*

*This structural constraint underscores the importance of innovative financing instruments-such as Greening-as-a-Service OPEX contracts, Outcome-based Bonds, or EU-supported blended-finance schemes-that can combine public and private resources to fund both establishment and long-term stewardship of urban nature.*

The I4CE (2022) report<sup>2</sup> shows that French local authorities finance around 59 % of their investment expenditure through self-financing, derived from current revenues, while only about 17 % comes from new borrowing. This reflects the so-called "golden rule" of local public finance, which allows debt only for capital investment, not for operating or maintenance costs.

Consequently, municipalities often rely on one-off grants or surpluses to fund new projects, but lack predictable, multi-year resources for maintenance and ecological monitoring-core elements of effective urban greening.

I4CE highlights that the combination of tight operating budgets, debt limitations, and administrative complexity leads to structural under-investment in climate adaptation, especially for non-revenue-generating assets such as parks, trees, or nature-based infrastructure.

As a result, we can easily imagine that if cities can secure grants for initial planting, they struggle to fund the long-term care and monitoring necessary to ensure canopy survival and ecological resilience.

## 1.2 Fragmented and short-term funding landscape

Many LIFE-funded projects addressing urban nature are relatively modest in scale and structured as one-off demonstration actions. While these pilots have generated valuable knowledge, their limited size and duration make replication and scaling challenging for municipalities.

Maintaining newly planted trees and other green assets also represents a recurrent budgetary challenge for most European cities. The European Investment Bank (2023) notes that "municipal budgets rarely include earmarked funding for maintenance and monitoring beyond initial project cycles", resulting in structural gaps once project-based subsidies expire.

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<sup>2</sup>[https://www.i4ce.org/wp-content/uploads/2022/11/Rapport-Climat-comment-financer-les-investissements-des-collectivites\\_au05-12-22.pdf](https://www.i4ce.org/wp-content/uploads/2022/11/Rapport-Climat-comment-financer-les-investissements-des-collectivites_au05-12-22.pdf)

The European Environment Agency (2021) likewise observes that “urban NBS projects often rely on short-term EU or national calls, which poses challenges for long-term maintenance and replication”. More broadly, the OECD (2024) identifies operational and maintenance costs as one of the main obstacles to scaling green infrastructure investment, particularly under pressure from rising energy and personnel expenditures.

Together, these findings confirm that the lack of predictable, multi-annual maintenance funding remains a systemic barrier to scaling urban greening across Europe - and underline the need for innovative, lifecycle-based financing schemes that can integrate both capital expenditure and long-term care within a single framework.

### 1.3 Under-mobilisation of private and blended finance

Despite the rapid growth of sustainable-finance markets, urban nature and adaptation projects remain largely excluded from private portfolios.

Analyses from recent studies - including the NetZeroCities Deliverable 7.1 “City Climate Finance: Landscape, Barriers and Best Practices” (2023) and the NewClimate Institute’s “Little Book of City Climate Finance” (2023)<sup>3</sup> - show that municipal climate investment in Europe continues to rely predominantly on public funds. Private or blended-finance participation remains limited and is mostly concentrated in large-scale energy or transport infrastructure, while smaller nature-based and adaptation projects rarely achieve the scale, revenue models, or risk profiles required by commercial investors.

The European Investment Bank (2023) similarly highlights that many nature-based solution (NBS) projects are “grant-based, small-scale and difficult to replicate at investment grade”<sup>4</sup>, and that cities often face structural barriers such as:

- the absence of standardised measurement, reporting and verification (MRV) frameworks to quantify environmental performance;
- the difficulty of aggregating small or dispersed projects into investable portfolios;
- limited technical capacity within municipalities to design impact-linked contracts or revolving funds; and
- the lack of long-term maintenance and performance-based business models that can provide confidence to financiers.

The OECD (2025) identifies operational and maintenance costs as a persistent barrier to the bankability of green-infrastructure investments by regional and local governments. For instance, the London Green Fund (UK)<sup>5</sup> illustrates how a European Regional Development Fund-backed blended-finance model can mobilize private capital, but such initiatives remain rare-most require expert intermediaries, robust project pipelines and technical assistance, which mid-sized cities often struggle to access.

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<sup>3</sup>[https://newclimate.org/sites/default/files/2023-08/Little%20book%20of%20city%20climate%20finance%20\\_August23.pdf](https://newclimate.org/sites/default/files/2023-08/Little%20book%20of%20city%20climate%20finance%20_August23.pdf)

<sup>4</sup> [https://www.eib.org/attachments/lucalli/20230095\\_investing\\_in\\_nature\\_based\\_solutions\\_en.pdf](https://www.eib.org/attachments/lucalli/20230095_investing_in_nature_based_solutions_en.pdf)

<sup>5</sup> [https://www.fi-compass.eu/sites/default/files/publications/case-study\\_london-green-fund\\_uk.pdf](https://www.fi-compass.eu/sites/default/files/publications/case-study_london-green-fund_uk.pdf)

## 1.4 The resulting investment gap

Several recent analyses point to a widening “urban nature finance gap” across Europe. According to the European Investment Bank (EIB, 2023) and the European Environment Agency (EEA, 2024), existing municipal and national funding streams are insufficient to meet the investment needs required to achieve the EU Green Deal and Mission Cities objectives. The EIB’s *Investing in Nature-Based Solutions* report underlines that urban adaptation and ecosystem-restoration projects remain “underfinanced compared to their potential contribution to climate resilience”, while the EEA’s *Urban Adaptation in Europe* assessment emphasises that cities must significantly increase annual investment levels to scale up nature-based adaptation measures: “many people, including policymakers and investors (...) underappreciate the urgency (...) resulting in insufficient budget allocations for adaptation projects”<sup>6</sup>.

Smaller and medium-sized municipalities face the most severe constraints, as their limited fiscal autonomy and administrative capacity restrict both access to EU funds and their ability to structure blended-finance projects. This situation leaves many local governments without a dedicated budget line for green infrastructure or urban nature, and reliant on ad hoc national or European calls.

Together, these findings reveal a persistent funding gap that prevents cities from deploying nature-based solutions at the necessary scale. Bridging this gap will require not only increased public investment but also mechanisms capable of crowding in private capital, providing technical assistance, and ensuring multi-annual funding for both implementation and maintenance.

## 1.5 Purpose of this paper

This financial reality frames the question that underpins the present deliverable: how can European cities access predictable, diversified, and outcome-based funding to plant and maintain trees and green spaces at scale-while ensuring transparency, accountability, and measurable impact?

The following sections therefore present a practical playbook of collaborative funding schemes, showing how public, private, and blended instruments can be structured to overcome these constraints.

Each mechanism-impact bonds, green bonds, developer contributions, philanthropy, or OPEX contracts-addresses a specific barrier identified above and could be supported by the 100KTREES toolbox as a shared monitoring and verification backbone.

Understanding these funding barriers also requires examining the broader market and policy environment in which cities operate.

Over the past decade, the European Union and national governments have developed a wide array of financial, regulatory, and reporting frameworks designed to mobilize capital toward sustainable urban infrastructure.

From green and sustainable bonds to outcome-based financing, corporate sponsorship, and EU blended-finance facilities, a diverse ecosystem of instruments is emerging - each offering partial solutions to the municipal finance gap identified above.

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<https://www.eib.org/en/publications/20230095-investing-in-nature-based-solutions>

<https://www.eea.europa.eu/en/analysis/publications/urban-adaptation-in-europe-what-works>

However, these instruments remain unevenly understood and adopted across cities. Section 2.1 therefore provides an overview of their current market dynamics, policy relevance, and practical integration potential, setting the stage for the structured blueprint and implementation roadmap presented in later chapters.

## 2 Market & Policy Context

### 2.1 Overview: The emerging landscape of urban greening finance

European cities are increasingly at the forefront of the ecological transition - leading on adaptation, biodiversity restoration and improved liveability. Yet delivering these ambitions requires sustained investment in urban nature, while conventional municipal budgets and fragmented project grants remain insufficient to cover long-term greening and maintenance costs.

The European Investment Bank (EIB, 2023) notes that public funding still dominates the financing of nature-based interventions, with fewer than 5 % of projects relying primarily on private finance<sup>7</sup>. Moreover, most urban projects remain modest in scale - 44 % cost less than €1 million and 81 % less than €10 million - limiting replication and access to capital markets.

The NetZeroCities report D7.1 (2022)<sup>8</sup> confirms that although a wide range of funding and financing options now exists, cities continue to face structural barriers to mobilising private or blended capital. These include limited technical capacity, small project size, and difficulties combining funding streams or aggregating investments. The report concludes that while public and private funding is available, it has difficulties landing in cities, underlining the need for stronger facilitation, project preparation and technical assistance.

At the same time, a new ecosystem of complementary financial instruments is emerging across Europe:

- Public and EU programmes - such as ERDF, LIFE, or the Recovery and Resilience Facility - which remain vital for seed funding but are typically short-term;
- Market-based instruments - including green or sustainability bonds - allowing cities to access long-term capital;
- Outcome-based and blended-finance schemes, linking payments to verified results;
- Developer and corporate contributions, integrating greening into planning obligations or CSR strategies; and
- Local collaborative models, such as Business Improvement Districts or civic crowdfunding, leveraging community participation.

The challenge for municipalities is therefore to be aware of their existence and see how to combine and operationalize these tools within coherent, long-term investment strategies. This requires credible measurement, reporting and verification (MRV) frameworks, transparent governance, and the ability to demonstrate both environmental and social returns on each euro invested.

The following sections examine these funding instruments in detail, highlighting how European cities can apply them - individually or in combination - to overcome financing barriers and implement large-scale urban greening programmes.

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<sup>7</sup> [https://www.eib.org/files/publications/20230095\\_investing\\_in\\_nature\\_based\\_solutions\\_en.pdf](https://www.eib.org/files/publications/20230095_investing_in_nature_based_solutions_en.pdf)

<sup>8</sup> <https://netzerocities.eu/wp-content/uploads/2023/11/D7.1-City-climate-finance.pdf>

## 2.2 Public and EU Programmes

Public investment remains the backbone of urban-greening finance in Europe. Most municipalities still depend on European and national grant mechanisms to initiate or pilot nature-based projects. These instruments are indispensable for triggering action but are typically short-term, fragmented, and seldom cover the long-term maintenance or monitoring required to ensure lasting impact.

Under the EU Cohesion Policy 2021-2027, the **European Regional Development Fund (ERDF)** and the Cohesion Fund together allocate €392 billion<sup>9</sup> to regional and local development, including climate-adaptation, biodiversity protection, and sustainable-urban initiatives. Under Regulation (EU) 2021/1058, several provisions strongly incentivise the financing of urban greening. The ERDF explicitly supports investments in nature, biodiversity and green infrastructure *including in urban areas*, as part of Policy Objective 2 for a greener and climate-resilient Europe. Urban greening is further reinforced through the regulation's emphasis on ecosystem-based adaptation, which recognises nature-based solutions as essential tools for climate resilience. At least 8% of national ERDF resources must be allocated to sustainable urban development, ensuring that cities mobilise dedicated funding for integrated strategies addressing environmental and climate challenges-typically through expanded green spaces, cooling infrastructure and ecological corridors. These requirements are backed by specific performance indicators mandating the creation and improvement of green infrastructure and access to nature for urban populations. Finally, the European Urban Initiative provides an additional vehicle to fund innovative urban greening projects and strengthen local capacities. Together, these elements make urban greening a priority area for Cohesion Policy funding in 2021-2027<sup>10</sup>.

However, the ERDF's co-financing requirements can also constrain smaller municipalities with limited operating budgets. ERDF funding always requires national co-financing (the co-financing rate varies by region and programme: typically 40-85%). Even if the EU covers the majority of project costs, municipalities must still mobilise their share, which can be difficult for small or fiscally constrained cities. In addition, cash-flow constraints arise because EU funds are often reimbursed after expenditure, requiring upfront liquidity.

The LIFE Programme - the EU's dedicated fund for environment and climate action - remains a key catalyst for pilot and demonstration projects. Since 1992, LIFE has co-financed more than 5 000 initiatives. These have generated valuable technical experience and policy learning, yet their one-off calls and limited duration make replication and scaling difficult for cities.

### Lisbon Case Study - LIFE lungs program<sup>11</sup>

The City of Lisbon (Portugal) has relied on the EU LIFE Programme to finance a major urban-greening initiative aimed at strengthening its ecological infrastructure, improving resilience to climate risks, and enhancing quality of life for residents. Rather than issuing a green bond, Lisbon leveraged LIFE as a

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<sup>9</sup> [https://ec.europa.eu/regional\\_policy/funding/available-budget\\_en](https://ec.europa.eu/regional_policy/funding/available-budget_en)

<sup>10</sup> <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:02021R1058-20210630>

<sup>11</sup> <https://life-lungs.lisboa.pt/en/>  
[https://cinea.ec.europa.eu/news-events/news/breathing-life-lisbon-through-enhanced-urban-green-infrastructure-2025-06-12\\_en](https://cinea.ec.europa.eu/news-events/news/breathing-life-lisbon-through-enhanced-urban-green-infrastructure-2025-06-12_en)

catalytic funding source to accelerate its green-transition agenda and test large-scale nature-based solutions across the metropolitan area.

In 2018, the municipality launched the LIFE LUNGS - "Long-term Urban Nature for a Growing Sustainability" project, co-financed by the EU's LIFE Climate Action sub-programme. With a total budget of €5.2 million, of which LIFE contributed approximately €3.2 million, the project aims to expand, restore, and interconnect green infrastructure across Lisbon's urban fabric. The initiative is directly aligned with the city's Climate Action Strategy and responds to urgent challenges such as heatwaves, air pollution, biodiversity loss and climate-driven flood risks.

According to CINEA (2025), the LIFE LUNGS project focuses on three major interventions:

- Creating new green spaces and ecological corridors, including the plantation of thousands of native trees and shrubs and the establishment of multifunctional, permeable landscapes capable of reducing heat-island effects;
- Restoring degraded or underused areas, converting abandoned lots, compacted soils and road-adjacent land into biodiverse green zones;
- Enhancing the city's "green connectivity", by linking parks, riverfront spaces, peri-urban forests and neighbourhood-level green pockets into a coherent and accessible ecological network.

The LIFE LUNGS website notes that these interventions will contribute to an additional 90 hectares of improved or newly created urban green areas, and the planting of 240,000 new trees and shrubs, substantially increasing Lisbon's green cover. The work also includes soil recovery, installation of sustainable urban-drainage elements, and the deployment of monitoring systems to track ecological performance, cooling effects, and CO<sub>2</sub> absorption.

While the project is ambitious, it remains in an implementation phase, and comprehensive consolidated data on all ecological and socio-economic results are expected closer to project completion.

At national level, adaptation and recovery mechanisms provide additional resources. Examples include France's Fonds Vert pour l'Accélération de la Transition Écologique dans les Territoires, Germany's Deutsche Anpassungsstrategie (DAS) programme, and Italy's Piano Nazionale di Ripresa e Resilienza (PNRR)<sup>12</sup>. While these schemes fund measures such as heat-island mitigation, flood prevention or ecosystem restoration, they face similar challenges of short timeframes, administrative complexity, and uneven municipal access.

The NetZeroCities report D7.1 (2023)<sup>13</sup> underscores that "public and private funding is available, but it has difficulties landing in cities," due to fragmentation, administrative burdens, and a lack of coordination between different funding levels. Many municipalities "lack the internal capacity, staff or structures to align project preparation, co-financing and reporting requirements" across programmes, creating a project-preparation gap that hinders the deployment of urban-nature investments.

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<sup>12</sup> <https://www.governo.it/sites/governo.it/files/PNRR.pdf>

<sup>13</sup> <https://netzerocities.eu/wp-content/uploads/2023/11/D7.1-City-climate-finance.pdf>

To make these instruments more effective, cities increasingly rely on technical-assistance facilities and advisory services - such as the EIB's ELENA (European Local Energy Assistance), JASPERS, or the InvestEU Advisory Hub - which help municipalities structure proposals and blend EU grants with additional capital sources. These facilities provide the expertise required to bridge the gap between concept and implementation, enabling cities to reach investment-ready stage and attract complementary funding<sup>14</sup>.

In summary, EU and national programmes remain indispensable for initiating greening projects and building local capacity. However, their short-term design and reliance on competitive calls mean they are best suited for pilot and preparatory phases. Sustainable large-scale implementation will depend on complementary use of market-based, outcome-linked, and collaborative financial instruments - addressed in the following sections.

### 2.3 Market-based instruments : green & sustainable bonds

Green and sustainability bonds have become one of the most widely adopted market-based tools for financing climate and environmental projects. For cities, these instruments represent a way to mobilize long-term capital at competitive rates while demonstrating transparency and accountability to investors and citizens alike.

Under the International Capital Market Association (ICMA) Green Bond Principles and the forthcoming EU Green Bond Standard (EuGBS), issuers must earmark proceeds for projects that deliver measurable environmental benefits - such as renewable energy, sustainable mobility, or nature-based adaptation- and disclose impact through standardised reporting. The EuGBS, adopted by the European Parliament in 2023, will provide a harmonised framework across Member States, including voluntary alignment with the EU Taxonomy and external verification requirements.

#### 2.3.1 Use by Municipalities

Some cities now issue green or sustainability bonds to fund their climate and adaptation strategies, which integrates urban greening plans into a much larger plans.

#### Paris case study<sup>15</sup>

City of Paris (France), has issued several sustainability bonds since 2015 to finance its climate adaptation plan, green spaces, storm-water management, and energy-efficient public buildings.

In 2015, the city has issued its primary so-called "Climate Bond" of €300 million, with maturity to 2031 and a coupon of 1.75 %, to finance mitigation and adaptation projects. For the adaptation component, the targets were to plant 20,000 trees and create 30 hectares of new parks by 2020. The issuance is a landmark example of a municipal climate/green bond. However, given that this initiative is now about

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<sup>14</sup> [https://www.eib.org/files/publications/20230095\\_investing\\_in\\_nature\\_based\\_solutions\\_en.pdf](https://www.eib.org/files/publications/20230095_investing_in_nature_based_solutions_en.pdf)

<sup>15</sup> <https://climate-adapt.eea.europa.eu/en/metadata/case-studies/climate-bond-financing-adaptation-actions-in-paris>

ten years old and that consolidated data on full delivery of all adaptation/green-space targets remain incomplete, it should be considered more as a proof of concept rather than a fully mature, fully realized model.

*Articles say that "A Climate Bond was perceived by the City of Paris as an interesting and profitable mechanism to finance public projects, because it targets a wide variety of investor profiles. Typically, few investors are likely to be interested in bonds which are only climate-related and do not give a clear prospect in terms of return on investment". It adds that, "In terms of funding, the Paris Climate Bond has been very successful: it was able to attract a large number of investors, more than expected, with enough applications during the launch phase to cover €475 million to fund the bond, involving 30 investors. The bond is mainly supported by domestic investors (83%), but the City of Paris managed to diversify its investor base to international institutional accounts, in particular to Benelux (9%), Switzerland (3%) and Nordic countries (3%). Insurers and pension funds bought the lion's share of the trade (51%), followed by asset managers (49%)".*

Since the 2015 Climate Bond, the City of Paris has widened its financing toolkit via a broader "Sustainability Bond" framework that covers a much wider spectrum of transition (clean transport, energy efficiency, social housing, urban greening, adaptation, etc.). For example, in November 2021 the City issued a €300 million Sustainability Bond under its 2017 Framework <sup>16</sup>. Third part of the programme called "Adapting to climate change" presents the city's objective in terms of green areas & tree planting (170,000 new trees). Overall, it represented a relatively small part of the 2021 bond (€12.5 millions out of €300 millions).

Associating funding needs dedicated to urban greening with other needs seem to facilitate the financing.

For municipalities, green bonds provide three main advantages:

- Access to larger and longer-term financing than standard budgetary loans;
- Enhanced transparency and investor confidence through mandatory impact reporting; and
- Alignment with ESG and EU Taxonomy frameworks, helping cities demonstrate contribution to the Green Deal and Mission Cities targets.

### 2.3.2 Key Challenges

As we have seen with green bonds issued by the City of Paris, urban nature and biodiversity projects still account for only a small share of green-bond proceeds. The EIB (2023) and Climate Bonds Initiative (2023) note that most issuances focus on energy or transport, while investments in ecosystem services or adaptation remain under-represented because of measurement and bankability barriers.

In addition to that, EIB also reports that private financial investors actually fund much less than expected in terms of nature-based solutions: "According to the United Nations, the world will need to

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<sup>16</sup> <https://cdn.paris.fr/paris/2024/06/07/sustainability-bond-reporting-2021-en-1-cXKG.pdf>

*triple its investments in nature-based solutions by 2030, and quadruple them by 2050, with additional financing needed for “blue” nature-based solutions. This is a future annual investment rate of \$536 billion. In order to effectively overcome the funding gap, institutional investors need to be engaged to a greater degree. Controlling \$87 trillion in assets under management and overseeing €4 trillion in lending and investments, global capital markets have a critical role to play. In 2021, private sector finance for nature-based solutions amounted to only \$18 billion per year globally. In Europe, only 5% of total funding for terrestrial ecosystem restoration is sourced from the private sector”<sup>17</sup>.*

Quantifying benefits such as cooling, runoff reduction, or biodiversity improvement remains complex without standardised MRV tools, and the relatively small size of individual projects limits their cost-effectiveness for capital-market transactions and this may reduce attractiveness of this sector.

To overcome these barriers, cities increasingly explore pooled or regional issuance models, in which several municipalities aggregate projects into a single portfolio - an approach supported by development banks and national green-investment agencies. Such aggregation allows smaller projects (including tree-planting or park restoration) to reach viable transaction sizes and spread issuance costs.

### 2.3.3 Role of 100KTREEs

By providing a standardised MRV infrastructure, the 100KTREEs toolbox could help cities generate verifiable, investor-grade data on the environmental outcomes of nature-based projects-making them more compatible with green-bond frameworks and future EuGBS reporting standards. This alignment between credible data and capital-market requirements is critical to attract institutional investors toward urban greening.

## 2.4 Outcome-based and blended finance

Outcome-based and blended-finance mechanisms are gaining traction as innovative ways for cities to attract additional investment into climate adaptation and urban greening. They differ from traditional grants or loans by linking disbursements to measurable environmental or social outcomes and by combining public and private capital to share risks.

### 2.4.1 Outcome-Based Mechanisms

Outcome-based instruments - such as Environmental Impact Bonds (EIBs), Pay-for-Performance contracts, or Results-Based Payments - provide financing upfront for green projects and reimburse investors only when predefined outcomes are achieved and verified.

The first Environmental Impact Bond, issued by Washington D.C. (USA) in 2016 to finance green storm-water infrastructure, demonstrated how measurable performance (reduction in runoff) can underpin repayment conditions. Inspired by this model, several European cities are exploring similar structures.

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<sup>17</sup> [https://www.eib.org/attachments/lucalli/20230095\\_investing\\_in\\_nature\\_based\\_solutions\\_en.pdf](https://www.eib.org/attachments/lucalli/20230095_investing_in_nature_based_solutions_en.pdf)

Washington D.C. Case Study - A pioneering pay-for-success instrument associated with a green bond (2016)

In 2016, the District of Columbia Water and Sewer Authority (DC Water) issued the world's first Environmental Impact Bond (EIB) to finance large-scale green storm-water infrastructure aimed at reducing runoff and mitigating combined sewer overflows during heavy rainfall events. The \$25 million bond was structured as a pioneering "pay-for-success" instrument, linking part of the financial return to measurable environmental performance.

The EIB funded the installation of nature-based storm-water management systems - such as permeable pavements, bioretention areas, rain gardens and green roofs - across targeted neighbourhoods. The goal was to test whether green infrastructure could cost-effectively reduce storm-water runoff compared with conventional grey infrastructure and thus contribute to regulatory compliance under the Clean Water Act.

A distinctive feature of the instrument was that repayment terms depended on quantified reductions in storm-water runoff, measured over a defined evaluation period. Three performance scenarios were embedded in the contract:

- Outperformance: If runoff reduction significantly exceeded expectations, DC Water paid a "success payment" to investors, acknowledging superior environmental outcomes.
- Expected performance: If results matched the modelled baseline scenario, investors received the standard coupon with no adjustment.
- Underperformance: If green infrastructure underperformed (i.e., runoff reduction fell below an agreed threshold), investors reimbursed a portion of the coupon, sharing the downside risk with the utility.

This structure provided two important proofs of concept. First, it demonstrated that measurable environmental outcomes - in this case, hydrological performance - can credibly underpin repayment conditions and risk-sharing mechanisms. Second, it showed that investors are willing to participate when the intervention is clear, outcome metrics are robust, and performance uncertainty is transparently allocated.

The Washington D.C. EIB has since become a reference point for municipalities and utilities seeking to finance nature-based adaptation solutions through outcome-based financing, helping to unlock capital for green infrastructure where traditional cost-benefit or revenue-based models fall short.

A report from Government Outcomes LAB (GOLAB)<sup>18</sup> says that "*geographically, the majority of the OBCs were implemented in the USA (52), followed by Taiwan (8), India (6), Peru (2), China (1), Indonesia (1), and the UK (1)*". *The use of OBC for environmental policy therefore appears to be quite well established, at least for achieving demand-side energy savings. The evidence suggests more diversity in both policy area and geographical location since the 2010s. While not conclusive (given the small sample size), this could suggest a growing appetite globally for environmental OBC. Nevertheless, the*

evidence remains clearly skewed towards energy programmes, and towards the USA, raising the question of how far the lessons learned can be applied to other policy areas, economies, and geographies”.

In contrast, the European landscape remains markedly different. As highlighted in the OECD’s 2025 review of outcome-based approaches to environmental finance<sup>19</sup>, no fully fledged Outcome-Based Contract (OBC) has yet been implemented in Europe for climate or nature-based projects, despite the conceptual relevance of such instruments for urban greening, adaptation, ecosystem restoration or pollution mitigation. Several European initiatives have explored impact measurement or pay-for-performance principles, but none has resulted in a contractual, investor-backed OBC comparable to the Washington D.C. Environmental Impact Bond.

According to recent EIB analyses (2023), the absence of outcome-based financing models in Europe, may be linked to the fact that investments in adaptation, biodiversity and nature-based solutions face significant measurement and monitoring barriers, including a lack of robust, standardised impact data and common methodologies. OBC require robust measurement, reporting and verification (MRV) systems and clear outcome metrics - for instance canopy growth, runoff reduction, biodiversity indices or temperature mitigation. Without standardised MRV, these instruments face high transaction costs and remain limited to pilots.

2.4.1.1 *Launch a pioneering Outcome-Based Contract in Europe in order to fund urban greening*

A municipality could issue an outcome-linked contract with private investors or philanthropic backers financing the initial deployment of the greening programme (street trees, pocket parks, riverbank restoration, schoolyard greening, etc.). The city would then repay investors - fully, partially, or with a performance uplift - only if predefined outcomes are achieved. These outcomes would be independently verified, using standardised monitoring protocols for ecological performance, climate-adaptation impact, and socio-economic benefits. The mechanism encourages robust project preparation, ensures proper maintenance during the contract period, and reduces long-term operational liabilities for the municipality.

KPIs could prioritize measurable climate-resilience outcomes while remaining feasible for annual or biannual verification.

Examples include:

- **Tree survival and health metrics:**  
First-year establishment rate (%), 3-year survival rate (%), canopy-health index, proportion of trees meeting growth thresholds.  
These are critical for ensuring that planting budgets translate into lasting canopy gains.
- **Urban-heat mitigation indicators:**  
Temperature reduction in targeted streets or districts (°C), increase in shaded surface area (m<sup>2</sup>), reduction in heat-stress days.  
These allow outcome payments to be linked to neighbourhood-level cooling benefits.
- **Stormwater-management performance:**  
Additional rainwater retention capacity (m<sup>3</sup>), reduced peak runoff during extreme rainfall events (%), number of flood-prone sites protected.  
This mirrors US water-quality impact bonds and offers high measurability.
- **Biodiversity and ecological KPIs:**  
Increase in habitat area created (m<sup>2</sup>), number of pollinator-friendly plantings, species-richness

<sup>19</sup> [https://one.oecd.org/document/DCD\(2025\)9/en/pdf](https://one.oecd.org/document/DCD(2025)9/en/pdf)

indicators, establishment of ecological corridors. These KPIs can be modestly standardised using existing nature-based solutions (NBS) indicators.

- **Socio-economic and public-health outcomes:** Accessibility of green areas (3-30-300 rule), improvements in thermal comfort scores, user satisfaction surveys, schoolyard cooling benefits. These capture the social co-benefits that justify public-sector payments.

An OBF scheme for urban greening would require:

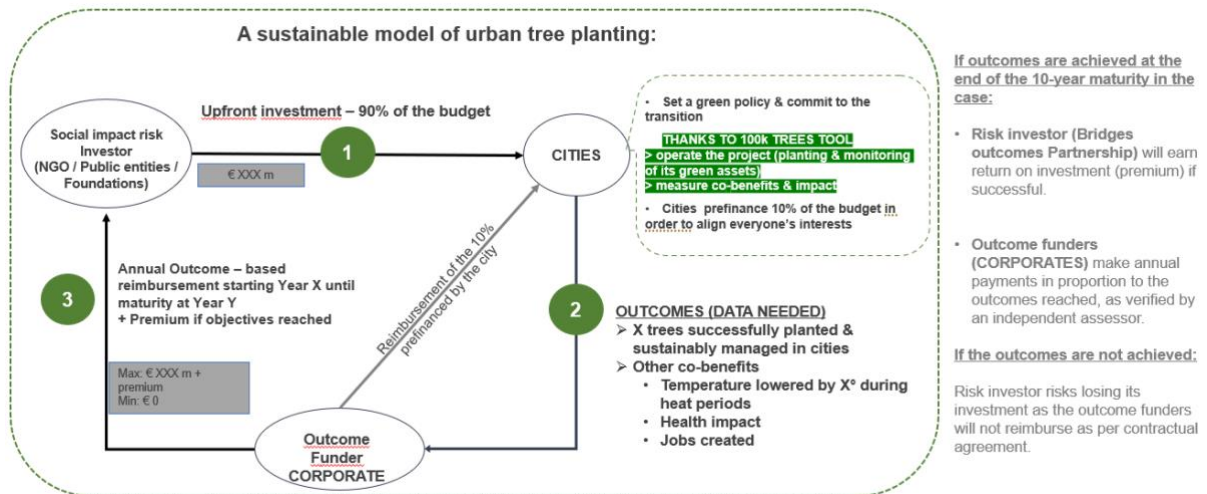
- A clear outcomes framework aligned with EU NBS guidelines and local adaptation plans.
- Robust MRV protocols for survival rates, canopy growth, hydrological performance, and microclimate monitoring (often via remote sensing or IoT).
- A performance-risk-sharing mechanism balancing investor incentives and municipal budget predictability.
- Aggregation of multiple small greening projects into an investable portfolio to reduce transaction costs.
- Long-term maintenance guarantees, as ecological outcomes depend strongly on proper upkeep.

#### 2.4.1.2 Another practical Example - EcoTree's Experience with an Outcome-Based Impact Contract

To illustrate the potential of outcome-based mechanisms, EcoTree has co-developed and extensively discussed with a major European financial institution the design of a Positive Impact Contract applying the same pay-for-impact logic to forest restoration and biodiversity enhancement. Although the project was ultimately not launched-mainly because the partner's internal strategy shifted and no immediate outcome funders were ready to pay a premium for the secured delivery structure-it remains a strong demonstration of how such financial models can be structured and validated at a pre-operational stage.

The proposed scheme combined three categories of actors:

- Outcome funders, who would reimburse the investment only if pre-agreed ecological and social outcomes were verified;
- Impact investors, providing the upfront capital and assuming the performance risk; and
- EcoTree, acting as project developer and operator, responsible for achieving measurable results on the ground.



The framework established a clear set of Key Performance Indicators (KPIs) related to carbon sequestration, biodiversity restoration, and social inclusion. Environmental KPIs included the number and diversity of trees replanted after sanitary cuts, improvement in forest resilience, and the restoration of wetlands and mature habitats. Social indicators covered local job creation and vocational training in forestry. Independent assessors—such as forestry committees and ecological consultancies—were to verify results periodically over five years.

Under the proposed contract, investors would have received their principal and a success premium (target IRR between 5 and 8 percent) if results met the agreed thresholds. EcoTree would have been reimbursed for its initial share of project costs and rewarded through a modest success bonus, while the outcome funder's reimbursement obligations would have scaled down proportionally in case of under-performance. The indicative allocation of funds devoted around 70-75 percent to forestry operations, 15-20 percent to biodiversity actions, and the remainder to impact monitoring and independent evaluation.

While this first attempt did not move into implementation, it validated the financial and technical feasibility of outcome-based contracts for environmental projects. It also provided a detailed blueprint—KPIs, governance model, and third-party verification process—that could easily be adapted to urban greening contexts. In such settings, the 100KTREES toolbox would play a critical role as the monitoring and verification infrastructure, enabling cities and investors to establish similar impact-linked schemes grounded in robust, transparent, and comparable data.

#### 2.4.2 Blended-Finance Approaches

Blended finance combines public or concessional resources (such as grants, guarantees, or first-loss capital) with private investment to reduce risks and improve the attractiveness of urban-greening projects for commercial investors. While this approach originated mainly in development contexts in the Global South, it is now increasingly applied within Europe, where urban-nature and adaptation projects face similar challenges: limited or uncertain revenue streams, fragmented project sizes, and high long-term maintenance costs. European institutions such as the European Investment Bank (EIB) and the Council of Europe Development Bank (CEB) are progressively deploying blended instruments through green investment funds and urban climate facilities, pooling grants and loans within unified

frameworks. European examples such as the London Green Fund<sup>20</sup> (UK) and the Lisbon Urban Development Fund<sup>21</sup> (Portugal) illustrate how blending can achieve leverage ratios of two to four times public funding while maintaining market-compatible returns.

Nevertheless, the NetZeroCities report D7.1 (2023) highlights that only a minority of municipalities currently have the internal expertise to design or negotiate such blended structures, reinforcing the need for technical assistance and advisory facilities to help cities aggregate projects and attract investors<sup>22</sup>.

#### 2.4.3 Opportunities for Cities

Outcome-based and blended-finance models offer cities a path to link funding with measurable impact while diversifying sources beyond public grants. By demonstrating verifiable ecological performance, municipalities can build trust with investors and unlock new capital streams. To succeed, cities must invest in robust MRV frameworks, adopt clear governance structures, and seek partnerships with financial intermediaries experienced in impact finance.

The 100KTREES toolbox can support these mechanisms by providing a standardised data infrastructure for monitoring verified outcomes - such as canopy growth, carbon sequestration, or habitat connectivity - aligned with EU Taxonomy and CSRD standards. This ensures that future outcome-based or blended-finance instruments for urban nature can rest on transparent, comparable and investor-grade data.

## 2.5 Developer and corporate contributions

Beyond public and financial-market instruments, European municipalities are increasingly engaging private developers and corporations as long-term partners in financing urban greening<sup>23</sup>. These mechanisms allow cities to embed environmental objectives directly into urban-development and business activities, generating recurring private co-funding for trees, parks, or other nature-based infrastructure.

#### 2.5.1 Planning-linked developer contributions

Many cities integrate green-space requirements or compensation measures into urban-planning regulations or building permits.

Through planning obligations, development fees, or biodiversity-offset mechanisms, private developers contribute financially or in-kind to the creation and maintenance of green infrastructure.

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<sup>20</sup> [https://www.fi-compass.eu/sites/default/files/publications/case-study\\_london-green-fund\\_uk.pdf](https://www.fi-compass.eu/sites/default/files/publications/case-study_london-green-fund_uk.pdf)

<sup>21</sup> [https://www.fi-compass.eu/sites/default/files/publications/Financial%20instruments%20for%20urban%20development%20in%20Portugal%20-%20IFRRU%202020\\_2.pdf](https://www.fi-compass.eu/sites/default/files/publications/Financial%20instruments%20for%20urban%20development%20in%20Portugal%20-%20IFRRU%202020_2.pdf)

<sup>22</sup> <https://netzerocities.eu/wp-content/uploads/2023/11/D7.1-City-climate-finance.pdf>

<sup>23</sup> [https://www.oecd.org/content/dam/oecd/en/publications/reports/2025/04/mobilising-sustainable-finance-for-regions-and-cities\\_419a30c4/2af8daddb-en.pdf](https://www.oecd.org/content/dam/oecd/en/publications/reports/2025/04/mobilising-sustainable-finance-for-regions-and-cities_419a30c4/2af8daddb-en.pdf)

The OECD (2024) identifies these schemes as “a critical but under-used tool to align private real-estate investment with public environmental objectives.”

Examples include:

- Copenhagen (Denmark), where the Local Plan Framework requires developers to offset sealed-surface areas by creating equivalent green or permeable zones elsewhere in the district;
- Paris (France), which integrates biotope-area factors and “compensation écologique” into urban-planning rules, requiring minimum green-surface ratios for new projects;
- London (UK), where Section 106 Agreements and the Community Infrastructure Levy regularly channel private contributions toward urban greening and climate-adaptation measures;
- Milan (Italy), whose Urban Forest Plan links development permits in specific districts to tree-planting obligations and funding for green corridors.

These approaches offer a direct, place-based source of finance, but their impact depends on strong governance and transparent monitoring. The NetZeroCities report D7.1 (2023) stresses that many municipalities lack the legal and administrative capacity to design and enforce such mechanisms consistently, particularly smaller ones.

#### International zoning-based mechanisms – additional inspiration for European cities.

Beyond European planning obligations, several international urban-planning instruments illustrate how regulatory frameworks can systematically generate land or funding for green infrastructure. In North American cities such as Vancouver, density bonusing allows higher building heights or floor-area ratios in exchange for enhanced parkland dedication or ecological amenities. In major redevelopment areas, this mechanism has enabled municipalities to secure significant green space—sometimes 1 hectare or more per 1,000 new residents—while accommodating growth.

Similarly, gross-density zoning and cluster zoning, used in parts of Canada and the United States, require developers to transfer a share of land - typically 15% under gross-density rules, and up to 50% under cluster zoning - to municipal authorities for the preservation of natural features (wetlands, woodlots, riparian corridors). In exchange, development is concentrated on the remaining parcel at higher density. These instruments combine ecological protection, land-value optimisation, and predictable contributions to urban green infrastructure.

While such mechanisms are rooted in local planning laws outside Europe, they offer useful conceptual parallels to emerging European practices such as green-surface ratios, ecological-compensation rules, or mandatory permeability indices. They demonstrate how zoning tools can structurally embed urban-nature objectives into development dynamics, complementing more traditional developer-contribution schemes.

#### 2.5.2 Corporate partnerships and voluntary contributions

Beyond planning obligations, cities should leverage corporate engagement frameworks - through sponsorship, corporate social responsibility (CSR), or insetting strategies - to co-finance greening projects.

The C40 Cities initiative “Reinventing Cities” demonstrates how public-private partnerships can deliver low-carbon and biodiverse redevelopment projects by integrating nature-based components into

competitive tenders.

Corporations increasingly view local greening as an opportunity to enhance employee well-being, strengthen ESG performance, and offset residual emissions or impacts within their value chains.

The European Investment Bank (2023) highlights that such partnerships, while often small in scale, can play a key catalytic role by providing flexible co-funding and mobilising citizen engagement.

### 2.5.3 Opportunities for cities

Developer and corporate contributions provide cities with a recurring, localised source of finance that complements grants and bonds.

To maximize their potential, municipalities should:

- integrate green-space requirements and ecological compensation into planning frameworks;
- establish transparent accounting and monitoring systems for private contributions; and
- create partnership platforms linking local businesses, developers, and NGOs around measurable greening goals.

The 100KTREES toolbox can support such mechanisms by offering a traceable MRV infrastructure to quantify, monitor, and communicate the impact of developer - or corporate-funded actions - ensuring accountability and alignment with broader city targets and EU standards (CSRD, EU Taxonomy).

## 2.6 Local collaboration models: Business Improvement Districts and Civic finance

Cities across Europe are increasingly turning to community-based and place-based finance models to mobilise local stakeholders around urban greening.

These approaches - such as Business Improvement Districts (BIDs), community funds, or civic-crowdfunding platforms - create collaborative governance frameworks that allow businesses, residents, and local institutions to co-finance and co-manage nature-based projects in their neighbourhoods.

### 2.6.1 Business Improvement Districts (BIDs)

BIDs are formal partnerships in which local property owners and businesses agree to contribute, typically through a levy or fee, to fund area-based improvements.

While the concept originated in North America, it has become widespread in European cities as a tool for place-based regeneration that integrates sustainability and green-infrastructure goals.

#### **2.6.1.1** *Business Improvement Districts (BIDs) and Urban Greening in the UK*

In the United Kingdom, Business Improvement Districts (BIDs) have become a mainstream place-management tool: more than 350 BIDs<sup>24</sup> have been established across the country, in settings that range from central London districts to regional cities, small market towns and coastal resorts. While early adopters were mostly high-value city centres, newer BIDs are increasingly found in intermediate and smaller towns, where they play a role in maintaining high streets, improving public spaces and co-funding greening initiatives. Examples include cathedral and county towns such as Hereford and

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<sup>24</sup> <https://britishbids.info/services/bid-index>

King's Lynn, the coastal town of Penzance, and suburban or commuter centres such as Beeston or Walton-on-Thames, all of which have active BIDs that invest in planting schemes and enhanced streetscapes.

From what we can see, many of these BID interventions are framed as town-centre attractiveness or "clean and green" programmes rather than explicit climate-adaptation projects, but they nonetheless contribute to increased tree and shrub cover, pollinator habitats and improved microclimates along busy streets and are certainly a good tool in order to finance ambitious tree-planting plans and pocket parks as well.

Focusing on London (UK), the city now hosts more than 70 BIDs, several of which - for instance, The Northbank BID and Better Bankside - dedicate part of their budget to green corridors, pocket parks, and tree planting along busy streets. Several BIDs have placed green infrastructure (GI) at the core of their business plans. Better Bankside and Team London Bridge partnered with the Greater London Authority and Cross River Partnership to undertake a joint Green Infrastructure Audit, identifying existing green roofs, walls, open spaces and street trees, and mapping opportunities for new planting<sup>25</sup>.

This has led to a decade-long programme of incremental "urban forest" projects along the Bankside Urban Forest and the Low Line, with interventions including:

- new street trees and understory planting;
- pocket gardens and small community spaces under railway viaducts;
- wildlife habitats and pollinator-friendly planting;
- climbers and green walls to soften built structures.

These projects have won multiple awards and are explicitly framed as urban-greening and climate-resilience measures, enhancing shade, biodiversity and walkability in a dense inner-city district.

#### **2.6.1.2** *Hamburg Case Study - Business Improvement Districts as a Vehicle for Urban Greening*<sup>26</sup>

Business Improvement Districts (BIDs) - known in Hamburg as Business Improvement Areas (BIAs) - offer a distinctive governance and financing mechanism for delivering place-based public-space upgrades, including urban greening interventions. Although the concept originated in North America, Germany has been one of the few European countries to adopt and institutionalise BIDs at scale. Hamburg stands out as a frontrunner, introducing a dedicated legal framework (BID-Gesetz) in 2005 and refining it through successive legislative updates. Since then, the city has established 26 BIDs,

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<sup>25</sup> <https://thegic.com/casestudies/team-london-bridge/>

<sup>26</sup> <https://www.hamburg.de/politik-und-verwaltung/behoerden/behoerde-fuer-stadtentwicklung-und-wohnen/themen/stadtentwicklung/konzepte-und-strategien/business-improvement-districts>

[https://ccam.gencat.cat/web/.content/05\\_arees\\_actuacio/comerc/setmana\\_comerc\\_2019/presentacions/04\\_BIDS\\_Europa\\_Govern\\_Hamburg\\_Frithjof\\_Fuettner\\_26\\_03\\_2019.pdf](https://ccam.gencat.cat/web/.content/05_arees_actuacio/comerc/setmana_comerc_2019/presentacions/04_BIDS_Europa_Govern_Hamburg_Frithjof_Fuettner_26_03_2019.pdf)



B I D H A M B U R G  
STADT MACHEN WIR GEMEINSAM

generating more than €65 million in private investment for public-space improvements, including approximately €2.7 million specifically earmarked for plantation and urban greenery.

Under Hamburg’s model, BIDs are formal partnerships through which property owners within a defined commercial district agree to pay a mandatory levy to finance a predefined set of improvements. These measures

typically include high-quality public-realm design, illumination, marketing, maintenance - and crucially, planting, landscaping, and the long-term care of urban greenery. The BID levy is collected for a

fixed period (typically up to five years), providing a reliable and ring-fenced budget for implementation. Because the initiative is property-owner driven, the approach effectively aligns private incentives (enhanced footfall, increased rental values, district attractiveness) with public benefits such as shade provision, biodiversity enhancement and improved microclimates.

Hamburg provides several clear examples of BIDs integrating greening into wider urban-upgrade programmes. Projects such as Neuer Wall, Tibarg, Hohe Bleichen or Wandsbek Markt combined surface redesign with tree planting, new planters, soil improvements and expanded vegetated elements within dense commercial areas. These interventions were funded through privately raised levies and delivered in collaboration with the city administration, illustrating how BIDs can serve as hybrid governance instruments blending public authority with private initiative. The model also ensures that all property owners contribute, preventing free-riders and ensuring collective stewardship over public space. According to the city’s BID Commissioner, this mandatory collective financing is one of the core reasons for their durability and success.

### 2.6.1.3 European BIDs, in a nutshell

Across Europe, the Business Improvement District (BID) model remains unevenly adopted. While it is firmly institutionalized in Anglo-Saxon contexts - above all in the United Kingdom, where BIDs constitute a mature and widespread place-management tool - its diffusion across continental Europe is still relatively limited. Germany (notably Hamburg), Ireland, the Netherlands, Austria and Belgium have adopted BID-like structures, but the model’s penetration and financial weight remain weaker than in the UK, where more than 350 BIDs now operate with stable levy-based funding streams.

In the UK, most BIDs have historically focused on initiatives designed to stimulate immediate commercial benefits for levy payers-clean and safe programmes, public-realm improvements, seasonal greening, or enhanced streetscape maintenance aimed at increasing footfall and retail attractiveness. However, experience from London and other regional cities suggests that, once robust evidence is presented on the climate-resilience and public-health value of urban trees, BIDs can evolve towards more strategic environmental interventions. Demonstration tools such as the 100kTrees toolbox, which quantify impacts on heat-island mitigation for example, can help BID managers and local businesses understand the tangible returns of investing in nature-based solutions. When BID-led actions are aligned with a broader municipal greening strategy, they can become credible contributors to long-term adaptation objectives rather than isolated beautification efforts.

Taken together, European experiences - particularly the UK's large and diverse BID ecosystem and Hamburg's more top-down legislative framework - suggest that BIDs represent a financial mechanism worth exploring for cities seeking complementary funding for urban greening. Their predictable revenue base, local governance structure and capacity for rapid delivery make them valuable partners for small- to medium-scale interventions. While not a silver bullet, BIDs can play a catalytic role in accelerating green-infrastructure deployment when properly integrated into the city's overarching climate and resilience agenda.

#### 2.6.2 Civic Crowdfunding and Community Funds

Civic crowdfunding and community climate funds have emerged as complementary mechanisms to Business Improvement Districts (BIDs), enabling residents, neighbourhood groups, NGOs, and local businesses to pool resources for small-scale greening interventions such as tree planting, community gardens, pocket parks, or green-roof schemes. These models frequently operate through municipal match-funding programmes, in which city governments double or partially match citizen contributions—thereby leveraging private donations to multiply the impact of local climate and greening projects. Research supported by the European Commission and Nesta shows that civic crowdfunding can mobilise both financial capital and civic engagement around micro-scale sustainability actions.

Several European cities have integrated these approaches into their urban-greening and climate strategies. Madrid (Spain) operates one of the most well-known participatory-budgeting platforms—Decide Madrid—which has allocated up to €100 million per year between 2016 and 2019 to citizen-proposed environmental actions, including green corridors, reforestation and local nature-based solutions.

Similarly, Paris (France) dedicates 25% of its Budget Participatif to ecological transformation. Since 2016, hundreds of citizen-led greening projects—including tree planting, schoolyard greening, urban agriculture, depaving and biodiversity corridors—have been financed directly through resident votes and municipal matching.

According to the European Investment Bank (2023), community-based and civic-finance mechanisms can strengthen citizen trust, broaden local ownership and provide flexible, small-scale contributions that complement institutional public financing especially in the field of nature-based solutions and local adaptation. These models also help cultivate long-term stewardship and shared responsibility for green assets - two factors critical to the durability of urban greening programmes.

While the scale remains modest, they illustrate a growing experimentation with hybrid community-municipality financing models for nature-based solutions.

#### Community stewardship as a complementary resource for urban greening

In addition to financial contributions, many cities observe a growing willingness from neighbourhood associations, civic groups and residents to participate in the stewardship of local parks, street trees and micro-green spaces. This form of engagement—ranging from light maintenance and watering to community gardening, habitat monitoring or small-scale fundraising—can strengthen long-term care and ecological performance while reducing pressure on municipal operating budgets.

Evidence from North American and European park systems shows that structured stewardship programmes enhance public ownership, improve survival rates of newly planted trees, and increase social acceptance of nature-based interventions. When integrated into municipal governance frameworks and supported by transparent monitoring tools, community stewardship becomes a valuable complement to more formal collaborative-finance models such as BIDs or civic crowdfunding, reinforcing both durability and legitimacy of urban-greening programmes.

### 2.6.3 Opportunities for Cities

Local collaborative models empower municipalities to mobilise private and civic resources while fostering shared ownership of urban-nature projects. They are particularly valuable for medium-sized or resource-constrained cities where large financial instruments are not viable, but are also used for very large city, such as London.

To maximise their potential, cities should:

- create legal and fiscal frameworks that enable BID-like structures or participatory funds;
- provide matching grants to co-finance civic initiatives; and
- integrate these mechanisms within broader green-infrastructure plans and monitoring systems.

The 100KTREES toolbox can enhance such models by supplying qualitative data & a transparent MRV infrastructure to document progress, visualise impact, and report on outcomes to citizens and partners - strengthening both accountability and local engagement.

## 2.7 Policy and regulatory enablers

The European Union has developed an increasingly coherent policy and regulatory framework to steer public and private capital toward sustainable urban transformation.

This architecture - encompassing the EU Green Deal, the EU Taxonomy, the Green Bond Standard, the Carbon Removals Certification Framework (CRCF), and the Corporate Sustainability Reporting Directive (CSRD) - is progressively reshaping how cities, investors, and companies plan, finance, and report on nature-based solutions.

### 2.7.1 EU Green Deal and Mission Cities

At the top level, the European Green Deal (2019) sets the EU's overarching objective of achieving climate neutrality by 2050 while mainstreaming biodiversity restoration and circular-economy principles across all policy domains. Within this framework, the EU Mission on Climate-Neutral and Smart Cities supports 103 pioneering cities<sup>27</sup> in their ambition to reach climate neutrality by 2030. The Mission and its implementation platform (NetZeroCities) explicitly recognise urban greening and nature-based solutions as essential levers for adaptation, health, and citizen well-being, and provide a

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<sup>27</sup> [https://research-and-innovation.ec.europa.eu/document/download/942e747e-3ccf-4121-a973-9cc8032fc421\\_en?filename=ec\\_rtd\\_cities-mission-eu-label.pdf](https://research-and-innovation.ec.europa.eu/document/download/942e747e-3ccf-4121-a973-9cc8032fc421_en?filename=ec_rtd_cities-mission-eu-label.pdf)

structured framework - through Climate City Contracts and integrated investment plans - to mobilise EU, national, municipal and private finance for urban transformation.

#### 2.7.2 EU Taxonomy and Sustainable-Finance Regulations

The EU Taxonomy Regulation (2020/852) and its delegated acts define what constitutes an environmentally sustainable economic activity, creating a common reference framework increasingly used by investors. While municipalities are not direct addressees of the regulation, the taxonomy provides a shared language that helps align urban projects-such as tree planting, water retention measures or green roofs-with ESG expectations in the financial sector. When combined with the Sustainable Finance Disclosure Regulation (SFDR), it strengthens transparency requirements for investors and facilitates the inclusion of nature-based assets in green and sustainable portfolios. This coherence is particularly important for cities seeking to issue green bonds or develop blended-finance instruments that meet credible sustainability criteria.

#### 2.7.3 EU Green Bond Standard (EuGBS)

Adopted in October 2023, the EU Green Bond Standard (Regulation EU 2023/2631) introduces a voluntary, harmonised framework for issuers to ensure that bond proceeds finance activities aligned with the EU Taxonomy.

For cities, this standard will enhance investor confidence and comparability across Member States. It also establishes requirements for external review and impact reporting, which can be supported by robust local MRV systems - such as those integrated in the 100KTREEs toolbox - to quantify benefits like carbon storage, cooling, or runoff reduction.

#### 2.7.4 Corporate Sustainability Reporting Directive (CSRD)

The Corporate Sustainability Reporting Directive (Directive EU 2022/2464) significantly expands sustainability-disclosure requirements across Europe. Phasing in from 2024, it obliges nearly 50,000 companies to report detailed information on environmental, social and governance performance under the European Sustainability Reporting Standards (ESRS). Among these, ESRS E4 on Biodiversity and Ecosystems requires firms to disclose their impacts, dependencies, risks and mitigation actions related to land use, ecosystem condition and restoration.

For urban greening, the CSRD can act as an indirect enabler. Companies subject to ESRS must increasingly demonstrate credible, place-based nature and climate contributions, creating new opportunities for municipalities to partner with firms seeking verifiable, high-quality environmental outcomes. Well-designed urban-nature projects - such as tree planting, biodiversity corridors, soil-health restoration or cooling interventions - can therefore become attractive vehicles for corporate investment, sponsorship or blended-finance models when they help companies meet material reporting needs.

However, the transformative potential of the CSRD should be interpreted with caution. Since late 2024, EU institutions have pursued a major simplification of the directive through the "Omnibus I" revision package, including proposals to raise reporting thresholds, streamline certain obligations and delay disclosures. These changes could significantly reduce the number of companies required to report in depth, thereby limiting the volume of standardised biodiversity and climate data that would otherwise support corporate-municipal partnerships. As a result, while the CSRD remains a valuable framework for aligning corporate behaviour with ecological objectives, its capacity to drive large-scale private financing for urban greening may be more modest than initially expected - reinforcing the need for cities to diversify their financing strategies beyond corporate reporting incentives alone.

### 2.7.5 Carbon Removals Certification Framework (CRCF)

The EU Carbon Removals Certification Framework (CRCF), politically agreed in 2024, establishes the first EU-wide methodology for certifying carbon removals, including afforestation, reforestation, agroforestry, soil-carbon enhancement and other nature-based practices. The framework aims to harmonise monitoring, reporting and verification (MRV) requirements, increase transparency, and enable public and private actors to rely on credible, standardised certificates. While primarily designed for national authorities and private project developers, the CRCF could theoretically support cities in developing certified urban-forest or soil-carbon projects, potentially unlocking blended or corporate funding where removals can be credibly demonstrated.

However, it is important to recognise that carbon removals are not the primary rationale for bringing trees into cities. Urban greening delivers multiple high-value benefits-cooling, water retention, biodiversity, shade, health, and improved quality of life-but carbon sequestration is comparatively modest. The cost of planting and maintaining urban trees is high relative to the amount of carbon they store over their lifetime, which makes urban afforestation a poor candidate for cost-efficient carbon compensation, even under a standardised EU certification regime.

A concrete illustration comes from the City of Paris<sup>28</sup>:

- 15,284 trees planted in 2021 are expected to sequester around 11,150 tCO<sub>2</sub> over their lifetime, according to the city's Sustainability Bond Reporting (2021).
- The associated expenditure reached €4 million, which implies a sequestration cost on the order of €359 per tCO<sub>2</sub>.

Such figures make clear that corporate actors would engage in urban-tree planting projects for everything but carbon as it is obviously not as an efficient way to offset their carbon footprint. For cities, the CRCF should therefore be viewed less as a driver of large-scale carbon finance and more as a complementary tool that can enhance the credibility and transparency of urban-nature projects, especially when combined with adaptation, biodiversity or health-oriented funding streams.

### 2.7.6 Implications for Cities

All together, these frameworks provide additional support for municipalities to embark private players with them. They align cities' local investments with investors' sustainability expectations, facilitate access to private capital, and ensure coherence between public-policy objectives and financial mechanisms.

Municipalities that integrate these standards into their planning and reporting processes - particularly through reliable MRV tools - will be best positioned to mobilise diverse funding sources under the emerging European sustainable-finance landscape.

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<sup>28</sup> <https://cdn.paris.fr/paris/2024/06/07/sustainability-bond-reporting-2021-en-1-cXKG.pdf>

## 2.8 Conclusion

To conclude, the funding instruments and policy frameworks presented above outline the opportunities available for cities to mobilize capital for urban greening.

However, turning these mechanisms into tangible results requires more than access to finance: it demands operational capacity, clear governance structures, and credible monitoring systems to plan, deliver, and sustain projects over time.

Part 3 therefore moves from the “what” to the “how”.

It provides a practical implementation blueprint for municipalities - detailing how the different instruments can be structured, governed, and integrated into long-term strategies.

The section explores the essential enabling factors for success: coordinated project aggregation, transparent procurement and contracting, robust MRV frameworks, and cross-sector partnerships that align technical, financial, and community stakeholders.

By connecting these operational levers with the financial and policy ecosystem described in Chapter 2, the blueprint offers cities a roadmap to deploy scalable, accountable, and high-impact urban-nature programmes that contribute directly to the objectives of the European Green Deal and the 100KTREES mission.

## 3 Implementation blueprint

### 3.1 Structuring Collaborative Schemes: from funding to execution

Mobilising finance for urban greening is only half the challenge. Many European cities struggle not because of insufficient funding opportunities, but due to the “execution gap” identified by the OECD (2024) and NetZeroCities (2023): fragmented responsibilities, complex procurement, and limited technical capacity frequently reduce greening plans to isolated pilot projects.

Scaling nature-based solutions requires cities to organise themselves around coordinated delivery structures, capable of preparing projects, combining funding sources, contracting efficiently, and ensuring long-term monitoring.

### 3.2 Creating a Greening Programme Office (GPO)

A practical response is to establish a Greening Programme Office (GPO) within the municipal administration. While the name itself varies across Europe, the underlying model corresponds to functions recommended by the European Investment Bank, the OECD, and the EU Mission Cities: cities need a central entity that aggregates projects, aligns funding, and manages delivery.

Core functions of a GPO include:

- Project aggregation: consolidating multiple small or dispersed interventions (street trees, parks, schoolyards, courtyards, green roofs) into unified investment packages is essential for large scale NBS financing
- Financial structuring: being able to align all appropriate financial funding schemes is key: European Regional Development Fund or LIFE funds with municipal constrained budgets, philanthropic contributions, and long-term capital (e.g. green bonds) into a single multi-annual plan is also key raise enough funds with long term perspective, in order to cover capex & opex expenditures
- Contractual standardisation: preparing framework contracts for landscapers, ecologists, maintenance providers and MRV partners using shared KPIs is also a necessity in order to make sure that everyone is aligned.
- Monitoring & Verification (MRV): coordinating data collection and reporting consistent with emerging EU frameworks (EuGBS, CSRD/ESRS, CRCF). This mirrors the logic of integrated monitoring systems promoted by the EU Mission Cities platform and by NetZeroCities.

### 3.3 Operational Advantages of a GPO

A central GPO provides four operational advantages repeatedly emphasized in the literature (EIB 2023; OECD 2024):

- Efficiency: shared administrative, procurement and financial capacities reduce transaction costs and speed up implementation.
- Continuity: The EIB identifies short planning horizons and fragmented municipal governance as major obstacles to sustainable investment; it therefore underlines the importance of dedicated delivery structures and long-term institutional capacity across funding periods
- Scalability: aggregating multiple interventions into investment-ready portfolios allows cities to access blended finance, technical assistance, and potentially bond financing.
- Accountability: standardised procedures and MRV ensure traceable use of public and private funds and credible outcome reporting

These benefits reflect a strong consensus across urban-finance institutions: delivery capacity is as important as funding availability.

### 3.4 Governance and partnerships

The OECD (2024) and NetZeroCities (2023) both identify fragmented governance as one of the primary obstacles to deploying nature-based solutions at scale.

Three principles consistently emerge across European frontrunners:

- Integrated Governance: greening spans planning, mobility, water, housing, and public realm departments. Integrated governance - through cross-departmental boards or a GPO - reduces duplication and accelerates decision-making.
- Clear Role Allocation: cities increasingly rely on partnerships involving utilities, developers, NGOs, universities, and corporate actors. OECD (2025) highlights that clear contractual mandates and maintenance responsibilities are essential to avoid gaps over time.
- Transparency and Data-Driven Management: continuous monitoring and open reporting (aligned with EU Taxonomy, CSRD/ESRS and EuGBS) enhance trust and enable adaptive management - a recurring recommendation from EIB and ICLEI.

Together, these principles enable municipalities to coordinate funding, implementation, monitoring, and stakeholder engagement.

### 3.5 Procurement & Lifecycle Management: Ensuring Long-Term Impact

Many greening or nature-based infrastructure projects underperform because procurement systems focus on planting or construction rather than lifecycle maintenance. Long-term operational costs and maintenance are repeatedly identified by the EIB and other institutions as a major barrier to scaling Nature Based Solutions in urban contexts.

Three procurement strategies consistently emerge as best practice:

- Lifecycle contracts: multi-year contracts integrating planting and maintenance help ensure survival and ecological performance.
- Performance-based contracting: payments linked to survival rates, hydrological performance, biodiversity indicators or microclimate metrics. [See Part 2.4 about Outcome-based contracts]
- Framework Agreements: pre-approved provider lists reduce administrative load and allow cities to quickly procure repeated interventions - a method widely used in European climate-adaptation and public-realm programmes.

Lifecycle procurement ensures that trees survive, green infrastructure remains functional, and ecosystem services persist.

### 3.6 Measurement, Reporting and Verification (MRV)

Robust MRV (monitoring, reporting and verification) is not a technical add-on but a foundational component of credible and financeable greening programmes. The EIB (2023)<sup>29</sup> identifies standardised monitoring and reporting among the key enablers for private investment in nature-based solutions, noting that insufficient data and comparability of outcomes significantly raise transaction costs and hinder investment decisions.

A robust city-level MRV system may include:

- Standardised indicators such as canopy growth, survival rates, heat-stress reduction, stormwater retention, biodiversity proxies.
- Data Infrastructure: combining field surveys, remote sensing (satellite or LiDAR), and IoT sensors for microclimate and soil monitoring.
- Verification & Reporting: annual or biannual reporting aligned with relevant European frameworks.
- Digital tools for data aggregation: cities such as Copenhagen and Helsinki use structured planning tools (Copenhagen's *Green Planning Tool*; Helsinki's *Green Factor* and *Nature Information System*) that consolidate ecological metrics. While not fully open-source, these tools represent a first step toward transparent monitoring architectures.

### 3.7 Ensuring multi-year financing & replication

Most municipal greening budgets operate on annual cycles, while ecological processes unfold over decades. Adopting a long-term multi-year investment plan is therefore essential.

Key enablers include:

- Multi-year budgeting, in order to aligning project preparation, implementation and maintenance across several years.
- Revolving or blended mechanisms, gathering both public & private financing to support long term expenditures
- Standardised templates to replicate procurement, MRV and financing across different projects or close locations.

The 100KTREES toolbox can be thus helpful to replicate actions by offering shared metrics and a common digital backbone, facilitating regional aggregation and access to larger financial instruments.

### 3.8 Implementation Roadmap

- Diagnose & prioritise: identify priority sites using canopy, heat-island, hydrological and biodiversity mapping.
- Structure finance & governance: establish the GPO (or equivalent), align funding sources, integrate MRV and maintenance costs early.

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<sup>29</sup> [https://www.eib.org/attachments/lucalli/20230095\\_investing\\_in\\_nature\\_based\\_solutions\\_en.pdf](https://www.eib.org/attachments/lucalli/20230095_investing_in_nature_based_solutions_en.pdf)

- Procure & deliver: use lifecycle or performance contracts, framework agreements, and clear technical specifications.
- Monitor & Report: implement standardised MRV aligned with EU standards; use dashboards or structured tools.
- Replicate & Scale: standardise templates, pool projects regionally, and leverage the 100KTREES toolbox for consistent metrics.

The same roadmap applies to corporates, when building a strong CSR & carbon policy with long-term objectives, often beyond corporate business plans.

### 3.9 Conclusion

For municipalities, especially for small to medium-size ones, execution capacity seems today almost as challenging as funding in order to execute its urban greening plan.

Cities that consolidate governance, adopt lifecycle procurement, implement robust MRV systems, and plan multi-annual investments are able to absorb funding efficiently and deliver measurable benefits. This implementation blueprint provides a practical, credible pathway to deploy collaborative funding schemes and accelerate nature-based urban transformation across Europe.

## 4 Conclusions and Outlook

Urban greening has become a strategic necessity for European cities facing rising heat, flood risks, biodiversity loss and deteriorating quality of life. Yet despite strong political ambitions, the current financial architecture remains inadequate: budgets are constrained, grants are fragmented, maintenance is underfunded, and private capital mobilises too slowly.

This report demonstrates that a wide range of public, private and blended instruments already exists. The challenge is no longer the absence of solutions, but the ability of cities to structure them coherently, combine them effectively, and execute them through robust governance and monitoring systems.

The roadmap presented here – integrating project aggregation, long-term financial planning, lifecycle procurement, and standardised MRV – provides municipalities with a practical model to move from pilots to citywide deployment.

Cross-cutting lessons from case studies reinforce this message:

- Integration beats fragmentation: successful cities centralise greening strategies through a dedicated GPO or equivalent structure.
- Maintenance is investment: long-term care and monitoring determine ecological outcomes.
- Data creates trust: credible MRV unlocks funding and ensures accountability.
- Partnerships drive scale: combining municipal leadership with corporate, civic and developer contributions multiplies both impact and legitimacy.

What we try to offer with 100KTREEs is a practical toolbox supporting municipalities in their greenification, notably by leveraging data collection required in the above presented funding schemes.

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