

Co-creating Flemish Forestscapes

A New Practice

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Abstract

The paper explores the implementation of the afforestation programme in Flanders since 2019. Framed by the authors' situated knowledge, it recounts the diverse strategies and tools of the programme, aimed at realising 4,000 hectares of new forests by 2024. With a focus on collective and systemic efforts, the paper outlines three operational domains to analyse the coalition-building process at regional and local levels: setting the institutional space, infrastructuring afforestation in spatial practice, and tailoring design tools for urban forestscapes. It explains how, beginning with the creation of the regional Forest Alliance coalition, a set of policies, soft power mechanisms, and designs have been promoted to accelerate the realisation of (sub)urban forest projects. In doing so, the article proposes a discussion on the forest metropolis as a contextualised cultural project, capable of aligning forest policies with urban forestry initiatives, as well as converging the urbanisms of territorial and domestic spheres, and positioning designers as crucial interfaces between these diverse realms.

Keywords

Afforestation programme, Flanders, forest urbanism, urban forest typologies, landscape architecture, spatial agency

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Introduction

The paper examines the implementation of the afforestation programme in Flanders since 2019, drawing insights from extensive case study research. The authors have assumed varied roles within the programme's development, serving as a policy advisor responsible for overseeing its execution, and a designer and academic collaborating closely with the programme. Informed by the authors' situated knowledge (Haraway, 1988), the paper presents and analyses the evolution of the programme's actions and processes, focusing on the collective and systemic efforts.

Central to this exploration is a fundamental hypothesis: the afforestation project in European urbanising territories necessitates convergence mechanisms across intellectual, technical, political, socio-economic, and natural dimensions. It compels us to bridge the gap between forest policy and urban forestry, both in practical implementation and as an academic discipline. Additionally, we assert that the evolving governance and design paradigms of co-creation and landscape offer essential perspectives for effectively narrowing this divide. To this end, the paper presents the diverse levels of co-creation and landscape design integral to the programme's evolution, by conceptualising it in three primary operational domains.

- **Setting the Institutional Space for Afforestation:** This section investigates the initial phase of the programme with the formation of a regional entity termed the Forest Alliance, built around the programme's quantitative objectives and associated generic tools and implementation strategies. In this stage, the groundwork for a multi-level governance structure and culture conducive to urban afforestation is laid. This involves mobilising key stakeholders from the public, private, and environmental sectors, aiming to converge their knowledge, capacities, and enterprises toward a singular objective: fostering more forest in Flanders.
- **Infrastructuring Afforestation in Spatial Practice and Coalitions:** The dynamic interaction between the regional afforestation programme and sub-regional spaces is introduced. The programme's trajectory shifts towards recognising localised areas and area-based processes as opportunities to reinforce the afforestation effort and organise it around the quality question in spatial development and landscape design.
- **Tailoring Design Tools for Urban Forestscapes:** This section delves into the programme's most recent stage, focusing on the development of a distinct urban forest typology. The typological approach unveils and elaborates on a series of challenges inherent to Flanders' urbanization culture, which afforestation must urgently address. It aims to stimulate further debate and afforestation initiatives from the regional to the domestic sphere and private gardens, presenting design(ers) as the interface bridging these divergent yet interconnected realms.

Flanders as a Context: Understanding Cultures of Spatial Production

Since the beginning of its mandate in October 2019, the Flemish Government has aimed to create 4,000 hectares of new forests and woodlands by 2024, with a larger vision of achieving 10,000 hectares by 2030 (Vlaamse Overheid, 2020). This afforestation policy serves a dual purpose: fortifying existing natural assets in Flanders' urbanized landscape and responding to the growing demand for both social services and ecological welfare (Gobbato Liva & Migotto, 2024).

Albeit the pandemic and climate crises have accelerated social and ecological motivations, the objective of expanding forests is not at all new in Flanders. Afforestation has lingered on the political agenda for decades, but its implementation reached a deadlock. Annual afforestation efforts were limited to around 60 hectares, insufficient given also the substantial deforestation taking place without adequate compensation. Forest inventories revealed a consistent forest area of approximately 140,000 hectares in Flanders from 2000 to 2020, maintaining a stable forest index of 10.3% (Govaere & Leyman, 2022). Flanders stands out as one of Europe's least forested regions, with urbanization posing a significant threat to natural habitats (European Union, 2019).

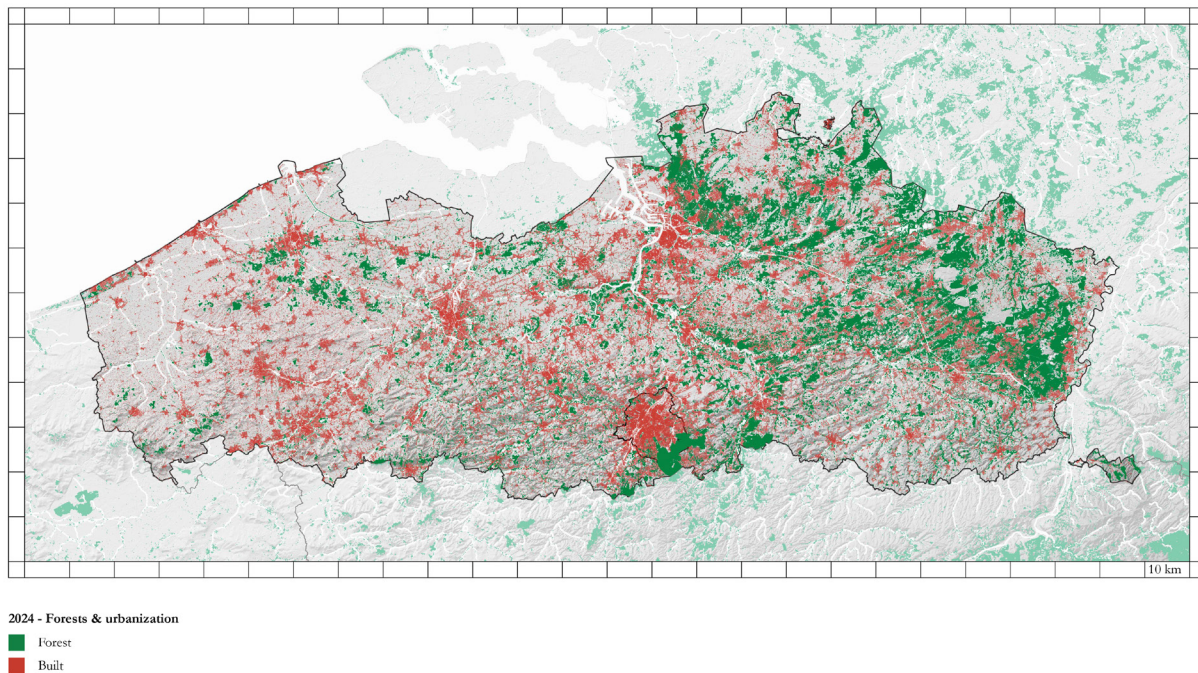


FIGURE 1 Forests & urbanization in Flanders. The Flemish 'nebular city' stands out as one of Europe's least forested regions with the highest soil sealing and land take rates. (Image by Federico Gobbato Liva, Andrea Migotto, 2024)

This situation is unsurprising in one of Europe's most fragmented and densely populated territories, where urbanization places ecosystems and land availability under intense pressure [fig. 1]. Decades of neoliberal planning have turned the Flemish territory into a chaotic urban landscape characterised by private land ownership models of small parcels, unregulated sprawl of low-density dwellings, intensive agriculture, and widespread road infrastructure. This has led to the privatisation and fragmentation of both urban and natural landscapes (De Meulder et al., 1999). Observing the woodlands, the average size of forest and nature clusters in Flanders is less than 1 hectare (Schneiders et al., 2020). Additionally, 60% of Flemish forests are on private land, managed independently of the public Agency of Nature and Forest (ANB), limiting the impact of habitat management and public regulations (Govaere & Leyman, 2022).

What is commonly called the Flemish 'nebular city' describes the morphological structure of sprawl and the horizontal urbanization of Flanders (Dehaene & Loopmans, 2003). However, the term 'nebular city' or 'sprawl' befits not only Flanders' territory but its governmental landscape as well. Since the 1970s, the Flemish Government has engaged in a continuous process of internal organization reform following a dispersed and sectoral tradition (Voets & De Rynck, 2006). This compartmentalisation resulted in a

fragmented relationship between the Flemish Government and institutions operating at the local scale, with each governmental agency designing its regulations, procedures, and financial schemes independently to support local projects (Pelgrims & Hondeghem, 2003; Putsey et al., 2003). The scarcity of land intensified competition between government agencies, often leading to unintended consequences such as land-price inflation and resource-intensive processes (De Rynck & Janssens, 2023).

The afforestation programme, from its early stages, had to grapple with these contradictions. It necessitated a cohesive multi-level governance structure to support quantitative and qualitative procedures for securing land and implementing afforestation initiatives, while also navigating dispersed institutional and spatial realities. To tackle these objectives in a region characterised by urban sprawl and with limitations in coordinating sectoral policies with the local level, a process of co-creation has been initiated. In this process, top-down policy and soft power mechanisms were conceived, designed, and jointly executed to strengthen cooperation across governance levels, governmental and non-governmental actors (Carmona et al., 2023).

Setting the Institutional Space for Afforestation: From a Quantitative Agenda to the Creation of the Forest Alliance

In pursuit of realising 4,000 hectares of new forests by 2024, the Flemish Minister of Environment and Spatial Development initiated an ambitious programme, necessitating a tenfold acceleration in forestry initiatives compared to past legislations. While deemed feasible (Departement Omgeving, 2018), achieving this goal demanded a systemic shift in collaboration methods across public administrations and a broad spectrum of involved organisations and actors. Moreover, it required the development and systematisation of tools to support programme governance and implementation.

Setting up a Co-creation Pathway

To lay the foundation for the afforestation programme, four key governmental agencies, namely the Department of Environment & Spatial Development (OMG), ANB, the Research Institute for Nature and Forest (INBO), and the Flemish Land Agency (VLM), were tasked in 2019 with creating a draft document and to unite into a joint taskforce under the auspices of the Ministers' Cabinet. It was a careful move away from entrenched compartmentalised *modus operandi*, aimed at fostering the exchange and consolidation of knowledge, instruments, and resources among the administrations.

ANB, as the principal owner of nature areas in Flanders, brings substantial expertise in forest policy and management, (financial) instruments, and field presence. Paired with VLM's role in rural development policy, the programme leveraged legal means such as Flemish land banks for land transactions critical to accelerating forest projects. INBO contributes scientific rationale and research, while OMG facilitated the joint taskforce setup and maintains a facilitator role through integrated design and planning.

Launch of the Programme as a Collective Effort

The official launch of the programme in spring 2020 was marked by negotiations with civil society and the extension of the taskforce to key players in Flanders' forestry. This collective effort involved stakeholders such as BOS+, Bosgroepen (Forestry Groups), Natuurpunt, Landelijk Vlaanderen, and representatives of municipalities and provinces. An agreed-upon partition of the afforestation targets and a strong political and financial commitment from the Flemish minister were the outcomes of these negotiations (Vlaams minister van Omgeving Zuhair Demir, 2019).¹

To reinforce cooperation among these governmental and non-governmental actors, several partnership tools and mechanisms were implemented. In the first year, a neutral agent, 'Bosintendant', was appointed to coordinate and build trust within the partnership, soon officially named the Forest Alliance (Bosalliantie). A charter agreement clarified roles, and multiple tools for internal knowledge sharing and process coordination were established.

The Forest Alliance then implemented a series of joint strategies and tools, focusing on aspects from mobilising society through communication campaigns or awarding Forest Labels (Bosalliantie, 2020), to securing planting stock, removing legislative barriers, or installing user-friendly procedures (Agentschap Natuur en Bos, 2020). Most importantly, subsidies have been significantly augmented to encourage the planting of new forests on suitable land. Also, a comprehensive set of procedural and financial tools has been employed to catalyse land acquisition for afforestation. A pivotal component was the establishment of a new Land Bank specific to the programme. The VLM thus could systematically undertake land purchases and transfers, also addressing medium-term afforestation after land exchanges or the expiration of agricultural lease contracts (Vlaams Pachtdecreet van 13 Oktober 2023). Finally, the Forest Alliance has a unique monitoring system, accessible at bosteller.be, to transparently track newly planted forests, forest compensation, as well as the surface area of land secured for future afforestation.

Infrastructuring Afforestation in Spatial Practice and Coalitions

Moving beyond the initial phase, where internal governance and essential tools for a collective quantitative effort have been the focus, it became increasingly important to emphasise the qualitative aspects of forest development. The programme document already drafted general objectives and strategies in this regard (Vlaamse Overheid, 2020). Besides an emphasis on native and climate-smart forest qualities, a major concern has been to improve Flanders' overall forest structure and thus to yield the optimal location of the new forests.

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The negotiation resulted in an agreed indicative partition of the quantitative afforestation targets, assigning specific goals to various entities, including Flemish (1,250 hectares) and local governments (750 hectares), nature conservation associations (750 hectares), Forestry Groups (750 hectares), and private landowners (500 hectares). The Flemish minister demonstrated strong political engagement by underpinning these ambitious goals with financial support (120 million euros) (Vlaamse Overheid, 2020).

Among the targeted strategic locations, expanding existing forest and nature complexes has been the most successful strategy for establishing new forests so far. This sector-based approach benefits from well-established practices and financial mechanisms. It follows a logic of land acquisition, ownership, and long-term agreements between the Flemish government (ANB) and nature organisations, which both own most large nature units in Flanders (Vandekerckhove, 2013). Strengthening existing ecological areas has thus effectively met quantitative goals, with ANB creating about 950 hectares of new forests since winter 2019, and nature organisations adding 400 hectares (Agentschap Natuur en Bos, 2020).

Other afforestation practices are harder to implement. Initiatives to reinforce valleys as green-blue networks, connect small forests, or create accessible forests near (sub)urban centres would require more careful integrated planning focusing on landscape quality. Potential locations lay dispersed in the Flemish territory and interface with multiple other land uses. These efforts face challenges like fragmented ownership and equally complex negotiations, and the varying needs and intentions of non-forestry sectors and specific localities.

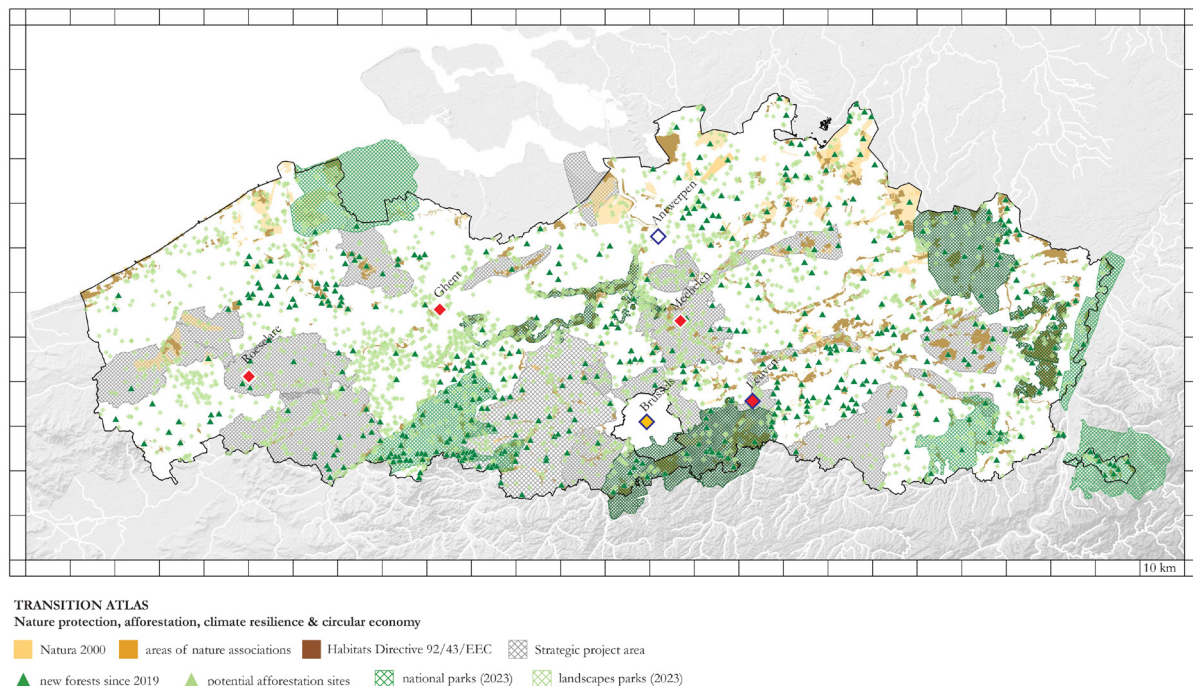


FIGURE 2 *Transition Atlas*. The map shows the main nature protection and afforestation initiatives. The afforestation projects proposed since 2019 are presented in green, showing extended initiatives throughout the region. In addition, designated national and landscape parks along with ongoing area-based processes are identified as fertile ground for afforestation projects to grow. (Image by Federico Gobbato Liva, 2024)

To spur afforestation projects on these less obvious but no less important locations, strategies and tools have been developed for mobilising capacity within ongoing area-based processes [fig. 2]. Especially processes facilitated by the Flemish Government have been targeted, such as Strategic Spatial Projects and Territorial Development Programmes by OMG or Land Development Projects by VLM (Department Omgeving, 2024b; VLM, 2024). These processes take years to decades of government collaboration to implement integrated spatial strategies. During this time, coalitions obtain significant area-based knowledge and project capacity. The intention was therefore twofold: getting afforestation on the highest agenda of these ongoing area-based processes and infrastructuring cooperation mechanisms (Björgvinsson et al., 2012) in favour of afforestation among actors in a much more localised and operative setting.

A first evident tool for setting the agenda and identifying priority areas is the shared GIS database, which maps afforestation potential in Flanders. This analysis highlights afforestable lands within the Natura 2000 network and green designations, introducing regional landscape quality based on existing spatial frameworks. In addition, an in-depth review of the implementation rate of spatial plans, nature directives, and city forest policies identified locations with unmet afforestation objectives – once decided upon but never executed. For these priority areas, additional landscape design and vision-building trajectories are being activated to qualify potential afforestation sites and speed up implementation and coalition building.

The Case of the Dender River Basin

In 2020, the Dender River basin emerged as a significant priority, with an estimated 730 hectares of outstanding afforestation objectives and circa 450 hectares of unrealised wet nature targets. These figures prompted the establishment of a new trajectory to accelerate the implementation of green-blue infrastructure in the area with afforestation as one of its main components. The Territorial Development Programme (T.OP) Dender, an ongoing initiative coordinated by OMC and the province in collaboration with nine municipalities along a 40-kilometre stretch of the river, provided the essential framework (Department Omgeving, 2024c). ANB agreed to strengthen its partner role in this programme, jointly pulling off the green-blue trajectory and scaling up its regular nature development activities in the area.

Landscape research and design, operating at various scales, have been instrumental in supporting the partnership's perspective on qualitative green-blue transformations. The river basin saw the drafting of an overall green-blue structural vision and implementation plan, while on the smaller scales, the designs of a dozen local projects demonstrate integrated ambitions and secure funding. Ongoing projects exemplify a range of integrated strategies, such as combining erosion measures with water buffering and afforestation to expand an existing urban forest, or wetland restoration coupled with sewage works, surface rainwater drainage, and the creation of new valley forest (Department Omgeving, 2024d).

The spatially nested green-blue infrastructure designs interestingly addressed afforestation objectives alongside the typical water challenges of the river valley (fig. 3). Forests in this sandy-loam region serve as effective buffers against floods and drought by retaining water. Landscape design thus played a crucial role in integrating diverse conditions into multifunctional design proposals and navigating between scales and coalitions at each level. Through this approach, investments reinforce one another, multiply, and afforestation became a logical component to be considered in any green-blue project.

ANB and the local nature organisation also heightened their regular nature development efforts, creating 45.86 hectares of new forest in the T.OP Dender focus area using additional resources from the afforestation programme. They expanded green-blue infrastructure by acquiring land for new forests, particularly in lowlands and riverbanks near existing forests. While causality remains uncertain, the results suggest that intensified collaboration, along with landscape design and the tools from the afforestation programme, have been a catalyst for afforestation initiatives in the Dender focus area. Afforestation rates have doubled compared to the Flanders average, with local authorities playing a significantly more active role.

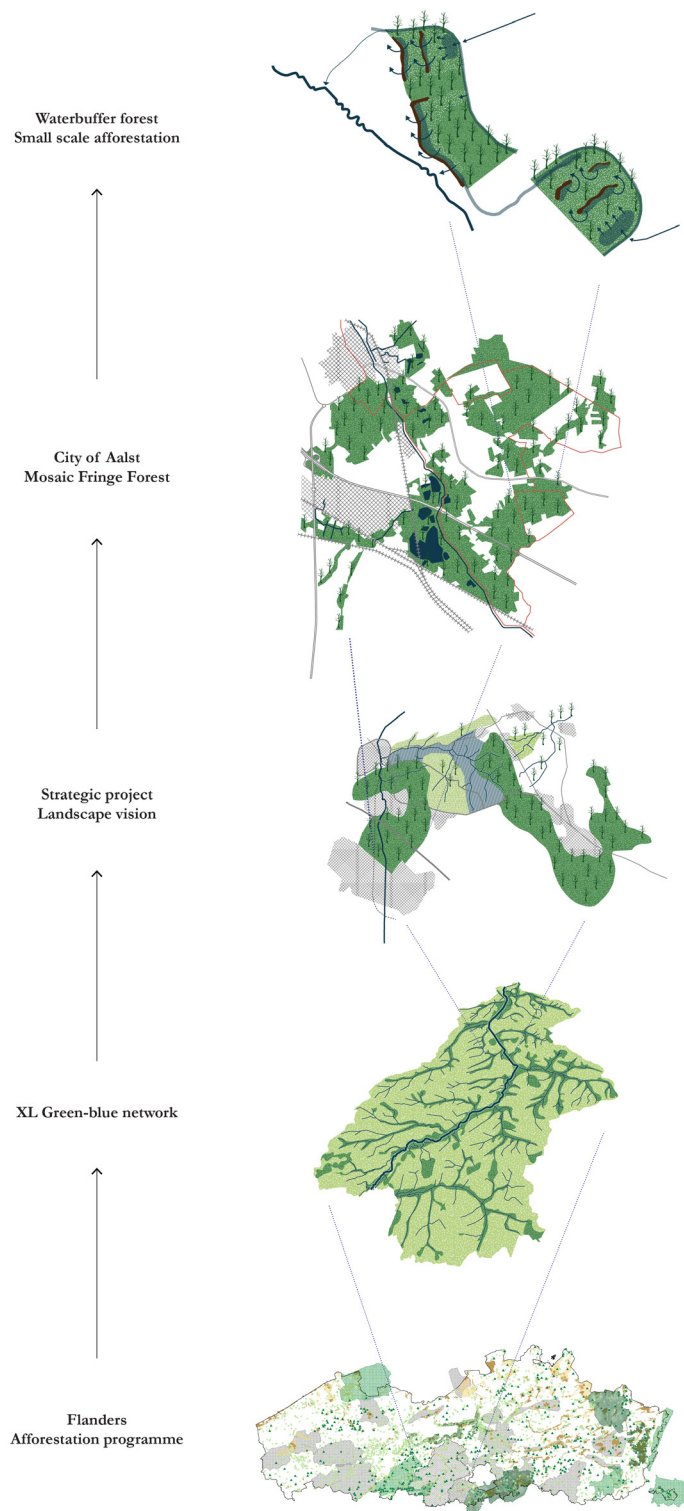


FIGURE 3 *A project of projects.* The drawing illustrates the integration of forest and water design across various scales within the area-based development project in the Dender river basin. It highlights the interconnectedness between the green-blue network programme at the river basin level, the landscape vision realised through a strategic project coalition, connecting Aalst with neighbouring urban centres, down to the city of Aalst's efforts to develop a mosaic fringe forest with one of its recent afforestation initiatives: a small-scale waterbuffer forest. (Image by Federico Gobbato Liva, re-elaboration from T.OP Dender, 2024)

Agency of Landscape Design

As the Forest Alliance engages in area-based strategies, the level of co-creation becomes more specific, also presenting a broader spectrum of challenges and potential conflicts. While alliances primarily involved actors from the forestry sector at the regional level, aimed at fulfilling quantitative objectives, the scope has now expanded to include municipalities, provinces, citizens, landowners, and farmers within integrated projects where afforestation plays a central role. A mediating perspective centred on landscape quality has become crucial for integrating ecological and technical parameters, ecosystem thinking, climate adaptation, as well as time and spatial concepts to shape the interaction between forests and localised urban transformation processes. Similarly, urbanists and landscape architects now act as facilitators and mediators, enabling active participation. They use design and scenario-building techniques to orchestrate empowering dialogues and negotiations among stakeholders, expanding their agency beyond mere design outcomes (see Figure 4).



FIGURE 4 *Urban-forest dialogues.* Looking from the urban towards the forest, a mediating perspective centred on landscape quality is crucial for effectively integrating diverse challenges and potential conflicts associated with land use and the stakeholders involved. (Image by Federico Gobbato Liva, Andrea Migotto, 2023)

In this context, design practices go beyond envisioning or unveiling novel local environments with forest tactics. They become a means to test the Forest Alliance's tools for organising coalition interactions at various scales. By focusing on landscape qualities, the afforestation programme has evolved into a stewardship of design activities, serving as a process for 'infrastructuring' a common practice that situates afforestation within diverse settings, such as river valleys and agricultural plateaus (Björgvinsson et al., 2012).

Tailoring Design Tools for Urban Forestscapes

The area-based approach to forest projects has injected fresh perspectives into multifunctional land use, forest concepts, and stakeholder engagement, all of which are now integral components of the afforestation programme. A pivotal challenge lies in enhancing the participation of local authorities in public afforestation initiatives, traditionally overseen by the Flemish government and nature organisations. It has been essential to demonstrate to local authorities the positive impact of forests on the quality of life for citizens and the resilience of their territories to climate change. Securing land for new forests poses another critical hurdle, for which the potential availability of land on the (sub)urban interface came into focus. Local authorities have substantial land ownership, estimated at approximately 7,000 hectares suitable for afforestation, particularly within built environments. Moreover, aligning with the Flemish Spatial Policy Plan's objective to achieve 'no net land take by 2040' (Bouwshift) (Cabus, 2018), approximately 30,000 hectares of surplus land, created in the 1960s and 1970s, awaits repurposing for nature or agriculture (Departement Omgeving, 2018).² Shifting focus from agricultural land to restructuring the built environment through future forest-urban projects presents a potential solution. To harness this opportunity and encourage the involvement of local authorities in afforestation, the Forest Alliance is intensifying its efforts to conceptualise (sub)urban forest environments.

The implementation of multifunctional forest types, as observed in the Dender River Basin case, has however highlighted a gap between urban forestry discourse (Borelli et al., 2023) and the culture of design practice. By addressing spatial design processes through landscape forest figures, the relationship between detailed forest knowledge and dispersed urbanism in Flanders remained untackled. While academic research has explored the morphological aspects and typological potential of forest-urban interfaces (De Meulder et al., 2019; Wambecq, 2023), a more accessible and systemic catalogue was needed to operationalise this knowledge. Such a catalogue should facilitate experimental reflection and convey design tools to integrate forests with other components of the landscape metropolis, including housing, private gardens, industry, infrastructure, water streams, and agriculture. Addressing these elements could enrich the afforestation programme by reversing the gaze, not only from outside to inside or from the forest towards the urban (as inherited from the initial quantitative approach) but also by considering the urban environment's viewpoint toward the forest.

Initially, a systematic categorisation of various multifunctional tree-rich infrastructures from diverse spatial projects was undertaken, resulting in the compilation of 30 forest and urban green structure types. The purpose of this collection was to foster dialogue among the different stakeholders involved in the programme, including public administrations, designers, and technical experts, thereby stimulating the realisation of pilot projects (Bos+ et al., 2021). Stemming from interdisciplinary debate and collective experiments, the primary objective evolved into constructing a shared knowledge base on the 'multifunctional potentiality' (Carlisle et al., 2014) of especially the most forest-like categories: an operational guide for implementation, management, and the cultivation of new cultural understandings regarding forests in urbanizing areas. To this end, a second assignment coordinated by the Forest Alliance yielded a more accessible guide in the form of graphic novels (Department Omgeving, 2024a; Programma Meer Bos voor Vlaanderen!, 2024). These novels gather and represent specific insights and qualitative

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Approximately 30,000 hectares of undeveloped land designated in the 1960s and 1970s for 'hard' development such as infrastructure, housing, and industry, are now considered unsuitable for further development to achieve no net land take by 2040. The current land use, including agriculture, fallow land, and wilderness, will be reassessed to align with priority objectives such as water management, afforestation, nature development, and (local) agriculture. Claiming this open land partly for afforestation poses fewer conflicts compared to, for instance, land designated for agriculture, particularly as it is often more fragmented and scattered within urbanized areas.

aspects of Forest Types. Summarised through the following points, this graphic elaboration presents the state of the art in tailoring design and co-creation tools for novel practices of Forest Architecture in Flanders.

Re-sourcing an Architecture of Trees (Leonardi & Stagi, 1982)

In support of the Forest-Ecogram of Flanders (Ecopedia, 2023) and the list of indigenous tree species for new forest plantations (The Council of European Communities, 1992), each tree's physical characteristics are synthesised through pictograms. Seasonal variations in canopy colours, growth dimensions, and flowering and fruiting cycles are represented [fig. 5]. These arboreal traits have a direct influence on the environment they construct and their symbiosis with the subjects that inhabit it. Impacting factors like scents, shade, and edible fruits are thus qualities that become available in a dialogue between designers and more-than-human users.



FIGURE 5 *Architecture of Trees.* Seasonal variations in canopy colours, growth dimensions, and flowering and fruiting cycles become qualitative objectives and tools developed and employed by the Forest Alliance. (Image by Federico Gobbato Liva, Andrea Migotto, Kilian Paterson, 2023)

Mobilising Private Gardens Domains - Every Space Counts

Gardens are often confined to the private sphere and overlooked on large-scale maps (Van Delm & Gulinck, 2011). Yet they play a pivotal role in shaping landscapes as a myriad of small decisions taken in these spaces aggregate into the larger-scale context (Dewaelheyns et al., 2016). Covering approximately 20% of Flanders' land area (9% in single-family dwellings), these private spaces hold significance. Graphic scenarios depict urban-forestry strategies for de-sealing collective spaces and defragmentation. These scenarios provide a preliminary toolbox for collaborative urban forestry in the private domains of the dispersed Flemish context.

Prototypes of Bio-Political Welfare (Programma Meer Bos voor Vlaanderen!, 2024)

The synthesis and illustration of five main spatial types is proposed as urban forest prototypes for stimulating the production of social and ecological welfares. These include the largest part of the thirty categories identified in the original report, yet they include them in a more holistic narrative, depicting how life could be imagined in these different forest-urban settings [fig. 6].



FIGURE 6 *Prototypes of Bio-political Welfare.* Graphic novels for five main spatial types depict how life could be imagined in different forest-urban settings. These novels gather and represent specific insights and qualitative aspects of forests in residential neighbourhoods, forests for the safeguard of water resources or flood control, forests supporting health care, forests as biomass reserves structuring life at industrial parks, and forests as collective and shared services in the urban fringe. (Image by Federico Gobbato Liva, Andrea Migotto, Kilian Paterson, 2023)

- **Residential forests (Boswijk)** – Urban forestry in residential neighbourhoods and the transfer of development rights for reserved housing parcels.
- **Infiltration and water-retention forests (Waterbufferbos)** – Collective forestscapes for the safeguard of water sources, drought measures, or flood control.
- **Health-care forests (Zorgbos)** – Afforestation of health care campuses linked to strategies for aging-in-place in the context of villages.
- **Corporate forests (Bedrijfsbos)** – Biomass reserves complementary to a densification of productive activities within existing industrial allotments.
- **Mosaic fringe forests (Stadsrandbos)** – Collective forests and shared services in the 20th-century belts around cities.

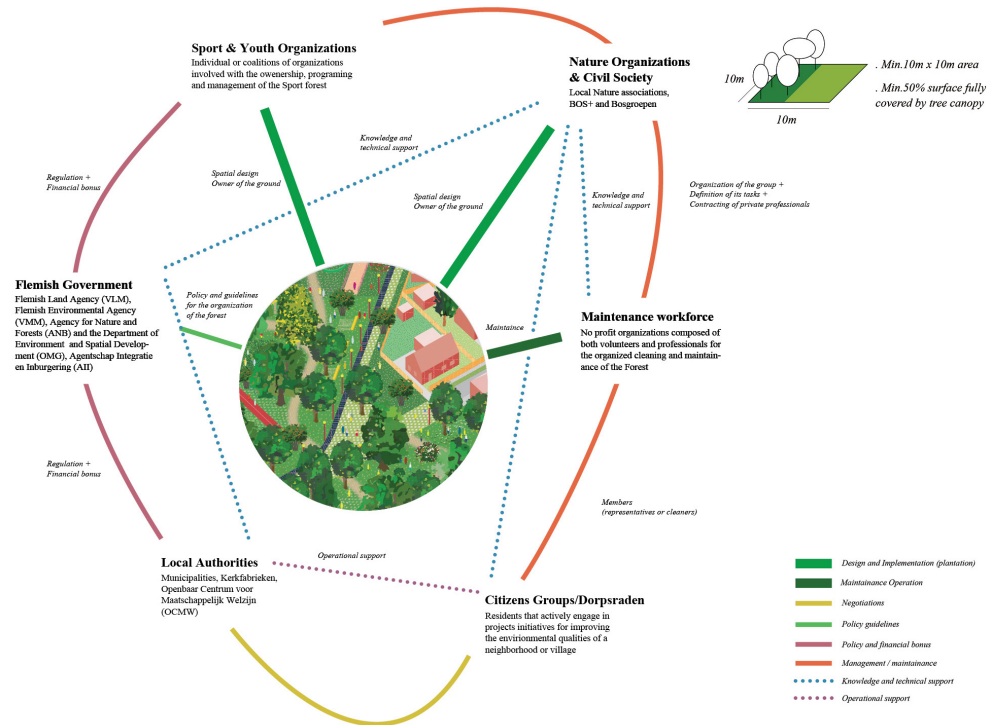
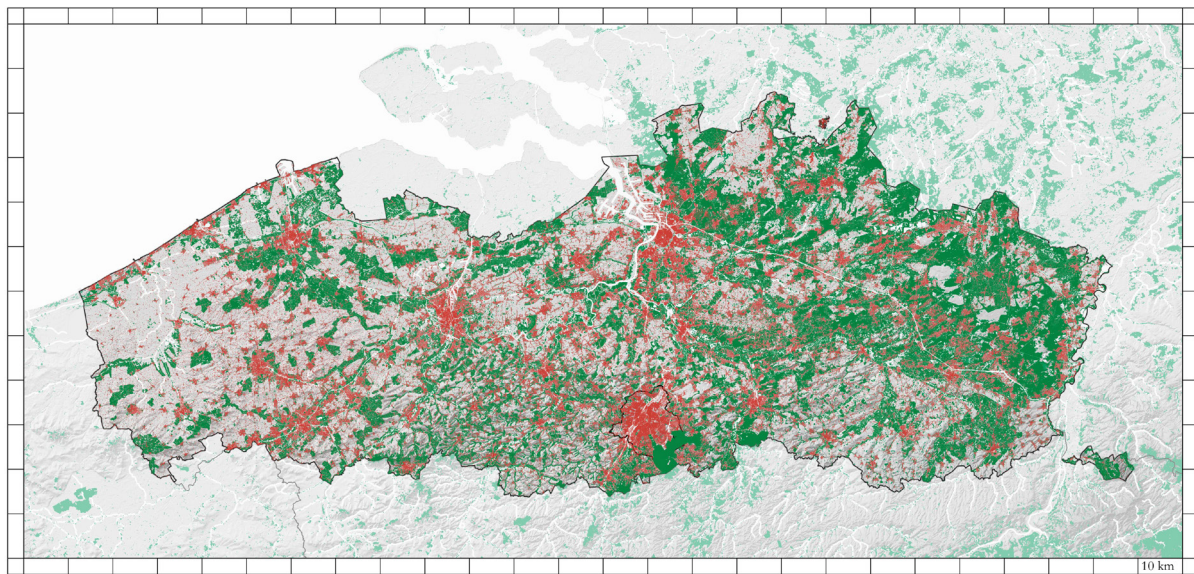


FIGURE 7 Forest-Platforms. Tailored stakeholder coalitions accompany each forest type, serving as prototypes to activate local participation trajectories. The image shows the prototype of the forest platform for the Mosaic Fringe Forest. (Image by Federico Gobatto Liva, Andrea Migotto, Kilian Paterson 2023)

Forest Platforms

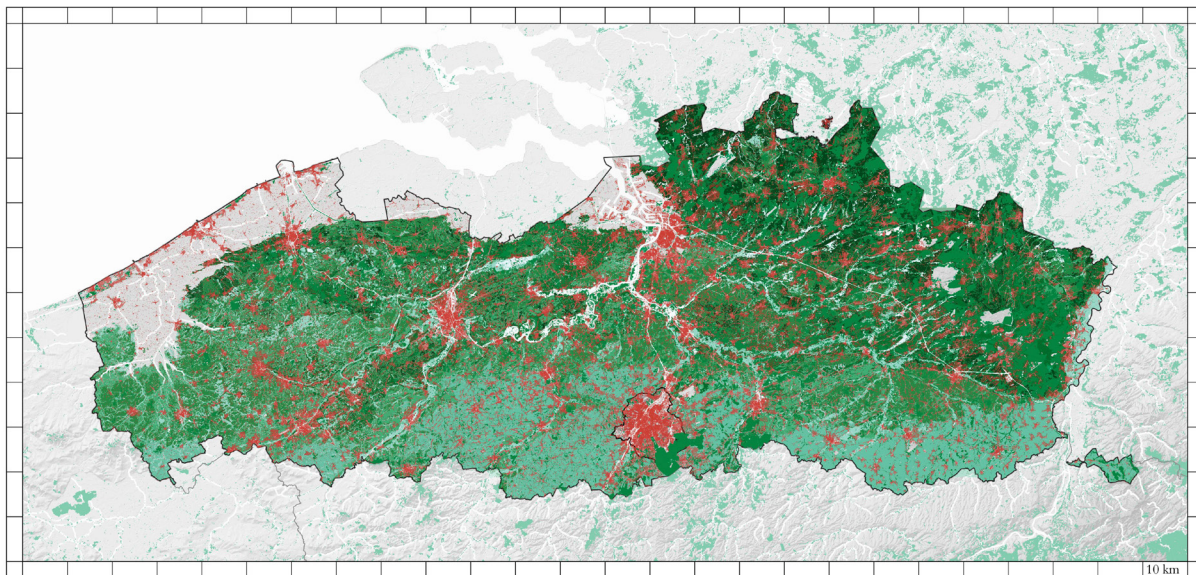
Tailored stakeholder coalitions accompany each forest type, serving as prototypes to activate local participation trajectories [fig. 7]. Focused on involving local government branches, professionals, associations, and citizen groups, these platforms enable local spin-offs from the Forest Alliance. They could contribute to root communal practices of urban forestry, making it feasible and facilitating spillover into broader social enterprise (Manzini, 2014).



Scenario - Flanders as a Forest-Metropolis

Forest
Built

FIGURE 8 *Scenario - Flanders as a forest metropolis.* What if forests would become the main way to increase the quality of life and nature within and around cities and throughout the territory? The map outlines potential locations for multifunctional forest types and tactics at a regional scale. (Image by Federico Gobbato Liva, Andrea Migotto, 2024)



Potential Natural Vegetation

Willow flood forest, alder brook forest
Willow floodplain forest, alder bird-cherry forest
Alder grove
Alder grove with chance of fresh-water sources
Alder-bird cherry Forest
Alder-bird cherry forest with chance of fresh-water sources
Beech forest, oak-hornbeam forest or soil-rich oak-hornbeam forest
Typical oak-beech forest, dry variety
Typical oak-beech forest, wet variety
Poor-soil oak-beech forest and oak forest, dry variety
Poor-soil oak-beech forest and oak forest, wet variety
Built

FIGURE 9 *Scenario - Potential vegetation.* This scenario overlays the existing built fabric with the layers of the potential vegetation map. In all unbuilt areas, forests spontaneously emerge with various types of forests based on the original soil characteristics. It excludes the soil disturbances that may have occurred due to urban activities or other intensive land use, which would also affect the vegetation. (Image by Federico Gobbato Liva, Andrea Migotto, 2024)

Extending Metropolitan Forestscapes

Lastly, a scenario map envisions a hypothetical future for Flanders where forest-urban landscapes, or forestscapes, become the main way to increase the quality of life and nature within and around cities and throughout the territory [fig. 8]. This map outlines potential locations for multifunctional forest types and tactics at a regional scale, while assuming densification strategies for the built fabric. The existing forests are combined with the potentially afforestable lands within the Natura 2000 protected areas network and green designations. The map also integrates previous cartographic work like the map of potential vegetation of Flanders (De Keersmaecker et al., 2013) [fig. 9], the map of Forest Urbanism (Wambecq, 2023), and the classification of built fabric typologies in the RURA project (Pisman et al., 2021).

Discussion: Foundations of the Forest Metropolis

Despite the collaborative efforts by the Forest Alliance and substantial investments in the afforestation strategy, the Flemish government will not achieve its projected quantitative objective. Based on the previously described actions, approximately 1,900 hectares of net new forests will be created in Flanders within one legislative period, while another 940 hectares of surface area is secured and available for afforestation during the next legislation (Agentschap Natuur en Bos, 2020). In comparison to the former average of 60 hectares per year, the Forest Alliance clearly catalysed a systemic change, now capable of creating at least 600 hectares of new forests annually, while exploring the large-scale qualitative potential of creating new forest-urban interfaces in the Flemish territory.

To sustain this change in Flanders' landscape metropolis, (sub)urban forests and active local authorities have become a critical piece of the afforestation strategy. Yet, existing practices and knowledge, as well as the overall approach to afforestation, still largely adhere to traditional sector-based cooperation and forest arrangements based on natural geological conditions. While the Forest Alliance has begun to emphasise a multifunctional and spatial perspective at the urban-forest interface, it seems key to further integrate forest policy with urban forestry and intersect urbanism with landscape architecture.

In exploring the need and tools for more coherence or merging, and truly develop a sustainable afforestation practice within this urbanized territory, a valuable step would be to delve into other recent European national or regional afforestation programmes. A quick scan suggests for instance similar challenges, though different approaches, in the Netherlands and Italy (AA.VV., 2022). While the Dutch national strategy (Boosten et al., 2020), akin to the Flemish approach, attempts to integrate urban forestry from the start, in Italy the National Forest Strategy (Pettenella, 2022) and the Parco Italia, a national design-based urban forestry programme (Lempi, 2023) seem to be following separate paths. In either context, up till now, working with urban forest types does not easily align with current definitions and policies related to forestry. (Technical) questions emerge regarding legislation, design, and maintenance of forests as public spaces or multifunctional landscapes (Van der Slikke & Van Benthem, 2023).

Examining other afforestation work would also help to evaluate and understand the pros and cons of the very specific position that the Flanders' programme takes. Most importantly, the programme explicitly commits to a co-creation pathway. It is hence significant that the regional afforestation targets were shared between the key players in Flanders' forestry, and not delegated and divided between more decentralised

authorities like the provinces in the Netherlands or the metropolitan urban areas in Italy. These key players then move back and forth between local and regional afforestation actions, weaving together multiple types of forest projects and coalitions. The choice for a web instead of territorial subdivisions may be unconscious. Yet, the Forest Alliance deliberately incorporates ongoing area-based processes to identify fertile grounds for afforestation projects within the territory, as exemplified in the Transition Map [fig. 2]. In interaction with the layers of natural geological characteristics [fig. 9] and spatial policies concerning urban and nature development [fig. 8], the capacity of coalitions steering area-based processes seems to co-define the foundation of the forest metropolis at the regional level.

Furthermore, the programme started organising a field of operation intersecting urbanism with landscape architecture. The success of this approach (and possible contribution to the landscape metropolis discourse) can be analysed on the interplay of three strategic dimensions. Combining a basket of tools that range from soft power mechanisms to more top-down law-making, the programme applies formal and informal governance tools (Carmona et al., 2023) to support the co-creation process, encouraging quality in landscape design and setting the context for effective short-term project implementation. In addition, it coordinates and tests the effectiveness of these tools within area-based strategies to organise the forest at different spatial scales. It recognises how the Flemish condition of dispersed urbanity implies a condition of dispersed knowledges which are available on the territory and ready to be harnessed (Viganò et al., 2018). Starting from these knowledges and their agency, as opposed to the simple interests of stakeholders, coalitions are united in the re-configuration of (sub)urban space through forests, through landscapes, and through projects. Thirdly, it elaborates on narratives and transformative design scenarios by insisting on scales and spaces a human community can relate to (Gobbato Liva & Migotto, 2024). In other words, it seeks to question the intersections between recurrent spatial arrangements of the territory and the culture and practices that are produced in the 'domestic' and in daily life. In this sense, the elaboration of the forest typology is not intended to be a fixed or universal set of solutions. Instead, it is viewed as an ongoing exploration of the role and potential of landscape design in reforming the categories and the practices that govern how we live and work.

Lastly, the programme has a tight focus on creating new forested environments, which can be questioned. In particular, the vulnerability of existing forests is not tackled, nor patterns of timber consumption and global supply chains. Ongoing deforestation in Flanders for new developments, as well as high wood imports primarily for the construction sector, leading to deforestation elsewhere, underscore the need for incorporating productive and circular concepts into the afforestation programme. How can afforestation in the landscape metropolis be considered successful when it does not contribute to a transition of material practices? Developing on such questions may imply an exchange with some cases of metropolitan afforestation that are being developed and discussed in contexts other than Flanders. It challenges some of the assumptions upon which the discourses of landscape urbanism and metabolism have been developed in the past. In proposing a discourse on afforestation and landscape, seen as attempts to re-naturalise the environment of the metropolis, one should pay attention to not induct dualistic views on nature and culture that result in dismissing the intentionality of humans which are acting within and throughout the transformation of these landscapes (Moore, 2014; Peleman et al., 2019).

Conclusion

Considering the architecture of the European landscape metropolis, what can we learn from the collective process the Forest Alliance has advanced to address the wide array of afforestation possibilities in the urbanized territory of Flanders? At the regional level, the spatial strategy is limited to defining broad qualitative goals aimed at improving the forest structure in Flanders, from expanding and connecting existing forests to green-blue networks and ensuring forests near (sub)urban centres. A preliminary landscape qualification was added using regional GIS analysis that incorporated existing spatial frameworks like the Natura 2000 network and green designations. But it is especially at smaller scales that the Forest Alliance activated the landscape architectural dimension, initiating additional landscape design and vision-building trajectories for priority areas. To operate at a more localised level was deemed essential to fully grasp the complex dynamics of the Flemish nebular city and to speed up implementation and coalition-building efforts.

Consequently, rather than aiming for a metropolitan forest as a regional landscape form, the afforestation programme is concentrating on a collection of separate projects. The forest metropolis adopts a multi-scalar nebular structure, framing afforestation projects from extending big nature complexes as regional infrastructures, to creating forests as components in interweaving technical green-blue networks, to local multifunctional urban forestscapes (re)structuring our daily living environments. Of even greater significance are the layered co-creation processes that come along with these projects and equally encompass scales and multiple professional dimensions. These processes are transitioning from a collective effort, uniting mainly the forestry sector around a shared (quantitative) objective, towards genuine communal endeavours.

In Flanders, constructing the forest metropolis thus means infrastructuring the nebular field of coalitions at work in area-based processes, connecting their local knowledge and capacities with the afforestation project through tool development and design. The integration of landscape qualities like spatial continuity, proportions, geological and urban structure occurs through the interactions among coalitions at various scale levels, designers, and the socio-ecological arrangements of localities where forest projects are implemented. Activating and reinforcing these interactions in a multitude of co-creation processes is what defines the forest metropolis and is imagined as the establishment of a new and common afforestation practice.

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