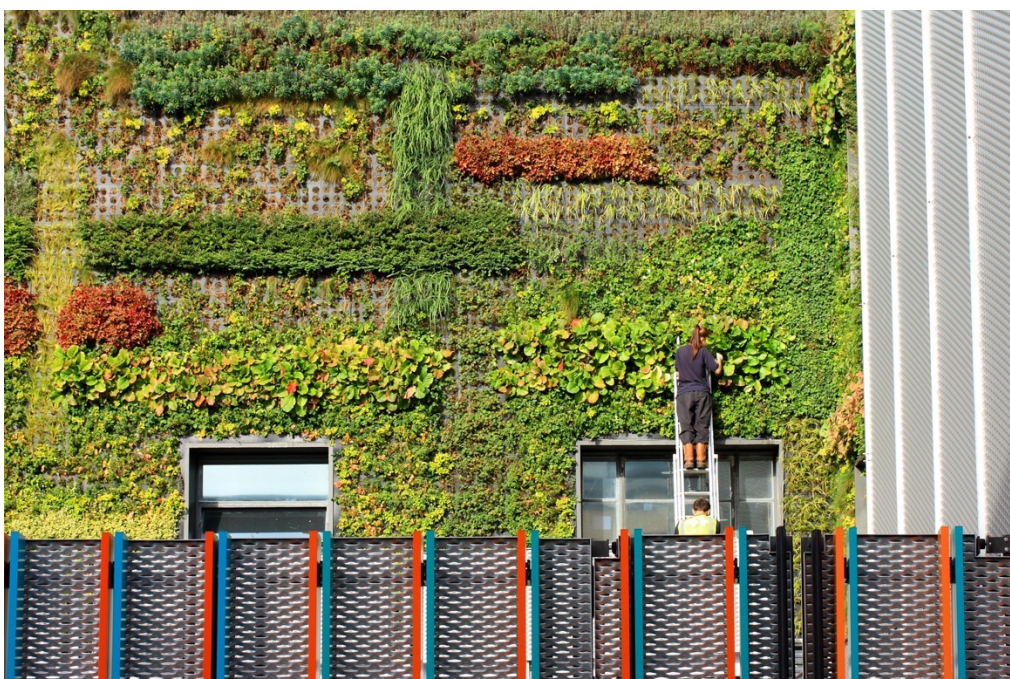




Bringing cities to life, bringing life into cities

Deliverable 24

Final report on the establishment of enterprise accelerator programmes in front-runner cities and fast-follower cities, and recommendations for uptake in multiplier cities



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Executive Summary

Nature-based entrepreneurship is a core element of the Connecting Nature Framework and supports the planning, delivery, and stewardship of large-scale nature-based solutions in cities. As the field of nature-based enterprises (NBE) and entrepreneurship is still novel, the Connecting Nature strategy for nature-based entrepreneurship consists of NBE research, implementation of NBE support strategies in cities, and outreach activities to provide visibility and support for the sector.

Nature-Based Enterprise Research (Section 2)

Research has been conducted on organizations delivering nature-based solutions – nature-based enterprises - and their economic activities, external challenges and enablers experienced by nature-based enterprises (NBEs), and on the Nature-based Economy, in which nature-based enterprises are recognized as key actors in the supply of NbS. A NBE is defined as “An enterprise, engaged in economic activity, that uses nature sustainably as a core element of their product/service offering. Here, nature may be engaged directly by growing, harnessing, harvesting, or sustainably restoring natural ecosystems, and/or indirectly by contributing to the planning, delivery, or stewardship of nature-based solutions.” [9, p. 2]. “A nature-based enterprise must contribute positively to biodiversity and ecosystem services.” [10, p. 1]. These types of enterprises engage in 11 categories of economic activities - ranging from ecosystem restoration, living green roofs, and eco-tourism to smart technologies and community engagement for NbS – and either use nature directly, or indirectly. The market for NbS is at an early stage of development with much potential - clear patterns of growth in established NbS market sectors have been identified (e.g., green buildings), as well as in emerging sectors (e.g., smart tech for NbS, NbS for health and wellbeing). Macro-environmental factors influencing overall market growth include policy supports, economic valuation of NbS, technological drivers, inclusive governance, and increased awareness of social justice aspects of NbS development. Nature-based enterprises identify political and regulatory factors (awareness of NbS levels among policy makers, policies and regulations enabling/limiting NbS uptake) as the most significant external factors influencing demand for NbS. Economic factors (market development, financing, and investment in NbS/NBEs, industry development) were found important, as well as public awareness of environmental issues, the availability of education and training, industry networks, and evidence of the effectiveness of NbS.

Support Strategies for Entrepreneurship and NBEs in Connecting Nature Cities (Section 3)

Nature-based enterprises deliver economic value by stimulating innovation and creating new skills and jobs in local economies. To support them, we developed the NBE Guidebook [11] that proposes a three step, holistic approach for cities or public-sector agencies to stimulate the start-up and growth of nature-based enterprises: Step 1- Awareness and strategic alignment, Step 2 - Building alliances, Step 3 - Planning, implementing, and monitoring a customised support programme. Depending on the level of awareness of NbS and NBE, the objectives were identified for NBE support strategies in 10 Connecting Nature cities:

1. Raising awareness about NbS principles (all cities)
2. Raising awareness about economic potential of NbS and NBE (all cities)
3. Delivering skills and training related to NbS (Poznań, A Coruña)
4. Generating business ideas for NbS exemplar (Glasgow, A Coruña, Málaga, Nicosia)
5. Creating opportunities for NBEs to deliver NbS exemplar – design, implementation, and/or stewardship (Glasgow, Poznań, A Coruña, Burgos, Ioannina, Nicosia)

Based on these overall objectives, each city started to develop NBE support programmes. The implementation of these had mixed results – 4 of the 10 cities have delivered an NBE support programme, and 4 cities are still in the first step of the process (raising awareness & strategic alignment). Support programmes that have been delivered are a pilot accelerator programme (Glasgow), training programmes (nature-oriented playgrounds in Poznań, urban gardens in A Coruña) and a hackathon (Málaga). Success factors included: effective communication to raise awareness about NbS and NBE, internal and external partnerships and collaboration, a pro-active and motivated team, and starting small with pilots. Key challenges were finding strategic alignment with policy – particularly economic policy and on the city scale - a lack of expertise and / or interest to support nature-based enterprises in the CN teams, and their department. Departments engaging in cross-departmental work were more successful in building alliances. In the process of developing NBE strategies, peer-to-peer learning between the cities was an important tool to share knowledge, inspire, and motivate teams.

Outreach Activities (Section 4, 5)

Nature-based enterprises are promoted and supported in Connecting multiplier cities and beyond. UrbanByNature is an expertise-sharing and capacity-building programme for nature-based solutions active in 4 regional hubs worldwide (Brazil, Korea, the Caucasus, and China), that is mainly focused on local governments and civil society. The NBE Mentoring Programme has supported NBEs from Brazil, and Armenia and Georgia. It offers a wide range of methods and tools which are solution-oriented and design-focused, ensuring that enterprises and their NbS projects are adjusted to their social, economic, and environmental context while achieving concrete results. Supporting and promoting NBEs in general, is the main goal of the Connecting Nature Enterprise Platform that was launched in October 2020. The platform has over 1700 users and provides knowledge and relevant research outcomes on the nature-based economy and nature-based enterprises, connects market demand with the supply of NbS by organisations and enterprises, and hosts 10 communities of practice. In these communities, NBEs and other organisations operating in the same sector meet informally, network, exchange best practices and collaborate. In addition, the Connecting Nature Enterprise Summit in June 2021 raised awareness on the nature-based economy and its different economic sectors, by exploring the challenges and opportunities facing NBEs, cities, communities, policy makers and developers.

Knowledge gaps & Recommendations

EU level - Further in-depth research is recommended to explore indications of disparities in the levels of awareness, financing, and skills gaps across different regions of Europe and different nature-based economic activities. Macro-environmental factors influencing overall market growth need to be addressed, as NBEs contribute to a diverse range of sustainable economic activities. These activities are not adequately accounted for by standard industry classification systems (i.e., NACE) and need to be recognized by developing global standards. This is particularly important considering the United Nations' recommendation to triple investment in NbS by 2030 and quadruple investment by 2050 [30]. This not only includes an increase in total investment, but also a change in the ratio of investment from being predominantly public sector led now to securing more investment from the private sector in the future. To achieve this, policy measures are needed should consist of systemic measures, needed for long-term transformative change, and immediate measures, needed in the short term to boost the market for nature-based solutions.

National / Regional / Local level - Nature-based enterprises are key in meeting increasing market demand for NbS, and specific policies need to be put in place to support their start-up and growth.

Politicians and policy makers at the national, regional, and local government levels can play a pivotal role in addressing many of the barriers identified by nature-based enterprises, from addressing knowledge gaps and inconsistencies in public sector approaches, to putting in place the policy instruments to stimulate NbS market demand and private sector investment. For this, more research is needed to understand NBE in different sectors and local contexts, including on external and internal barriers faced.

Going forward, it is important to promote nature-based enterprises as the ‘local engine’ for nature-based solutions, addressing both policymakers and the business community. This is aligned with two innovations of the Connecting Nature project: the UrbanByNature programme, that provides policymakers with information and tools for NbS implementation, and the Connecting Nature Enterprise Platform, that provides a network, knowledge, and opportunities to support NBEs. Nevertheless, as NBE supports and needs are context specific, every city that prioritizes nature-based solutions, or has climate change adaptation and mitigation strategies, should consider developing a NBE strategy. Supporting NBEs is needed to be able to meet the demand for NbS, and most Connecting Nature cities found it necessary to be able to deliver their NbS exemplars. They needed help from the private sector and see the local value that nature-based enterprises create.

However, the NBE Guidebook used for developing NBE strategies, needs to be updated to reflect research findings, learnings, examples, and recommendations from the implementation in the Connecting Nature cities. The three steps in the Guidebook are presented as a linear process, and there are no goals or indicators per step. This might be limiting some city teams as they might not start the next step until the previous one is finalized, and they might not know when this is the case. We recommend the following:

- **Step 1 – Raising Awareness & Strategic Alignment** - There are limited opportunities for NBEs in local economic policy, and support programmes are difficult to deliver on a city level. Looking beyond local policy for strategic alignment and developing NbS market sectors, i.e., considering a regional or national scale policy and collaboration, is key.
- **Step 2 - Taking Stock & Building Alliances**
Taking stock of existing NBE and cross-checking this with the city’s needs is an important start. Creating a clear narrative and effective communication about NbS and NBE is essential in getting buy-in from necessary internal and external partners. Both external vs internal alliances could be necessary to successfully deliver an NBE support programme. Internal alliances are not just important for political support, but also for expertise, resources, and networks. External alliances, for example with existing enterprise support programmes, were found useful in the short term.
- **Step 3 – Plan and Deliver a Customized NBE (Pilot) Support Programme**
Successful NBE strategies start with a particular goal, for example to identify NBE, and then focus on a more impactful programme to increase uptake of NBS / NBE. Taking small steps to experiment what works and what doesn’t work in the specific context of a city is essential for creating a successful NBE support strategy. Because of its importance, it is recommended that there should be a separate step to ‘Evaluate the NBE (Pilot) Support Programme’.

1. Introduction

The Connecting Nature project focuses on providing knowledge and tools for the large-scale implementation of nature-based solutions in urban settings. The European Commission defines Nature-based Solutions (NbS) as “Solutions that are inspired and supported by nature, which are cost-effective, simultaneously provide environmental, social and economic benefits and help build resilience. Such solutions bring more, and more diverse, nature and natural features and processes into cities, landscapes and seascapes, through locally adapted, resource-efficient and systemic interventions.” NbS therefore benefit biodiversity and ecosystem services. [1]

The benefits of implementing NbS to solve societal challenges has become widely accepted and the concept mainstreamed into policy by organizations, including the UN, the European Commission, IUCN, and the World Economic Forum [2-5]. However, designing and implementing these type of solutions – while simultaneously realising economic, environmental, and social value – is complex and there are a myriad of barriers identified [6-7]. Finding skilled and experienced suppliers has been identified as one such roadblock in the wider uptake of NbS [8].

1.1 Nature-based Enterprises as Engine of Nature-based Solutions

Nature-Based Enterprises (NBEs) can support cities, private sector and third sector organisations in the planning, delivery and management or stewardship of nature-based solutions. NBE is defined as “An enterprise, engaged in economic activity, that uses nature sustainably as a core element of their product/service offering. Here, nature may be engaged directly by growing, harnessing, harvesting, or sustainably restoring natural ecosystems, and/or indirectly by contributing to the planning, delivery, or stewardship of nature-based solutions.” [9, p. 2]. “A nature-based enterprise must contribute positively to biodiversity and ecosystem services.” [10, p. 1]. NBEs have the potential to become an engine for transition to net zero sustainable economies in line with Green Deal aspirations [9, 11, 29].

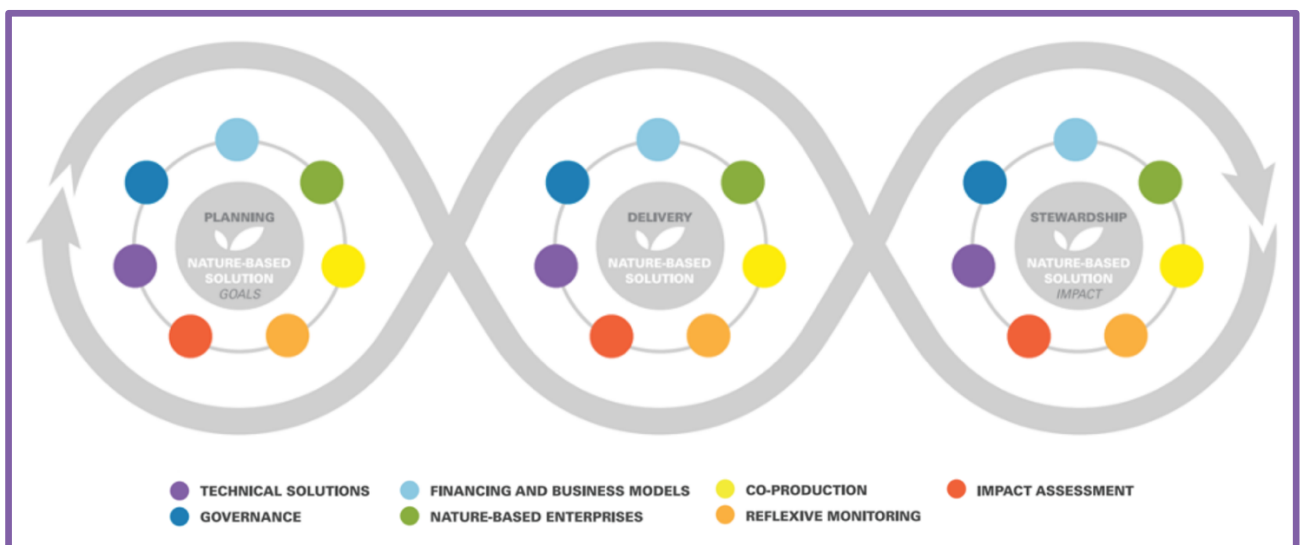


Figure 1 The Connecting Nature Framework

Nature-based entrepreneurship is a core element of the Connecting Nature Framework (Figure 1) - a process tool that helps cities and other organisations navigate the path towards the implementation of nature-based solutions. This process tool runs through three distinct phases of development for a nature-based solution: planning, delivery, and stewardship. Nature-based Entrepreneurship is one of the seven building blocks of the Framework ([Appendix II](#)). By 'nature-based entrepreneurship' we mean both nature-based entrepreneurs (e.g., start-ups) and existing nature-based enterprises, delivering innovative nature-based products, services, and solutions.

Given the relative novelty of nature-based enterprises and their potential to stimulate new market and business opportunities, the Connecting Nature Enterprise Strategy (Figure 2) consists of the following:

- Research on nature-based enterprises ([Section 2](#))
- Support strategies for nature-based entrepreneurship and NBEs in Connecting Nature cities ([Section 3](#))
- Activities promoting and supporting NBEs in multiplier cities and beyond ([Section 4](#))
- Activities promoting and supporting NBEs globally through the Connecting Nature Enterprise Platform and the Connecting Nature Enterprise Summit ([Section 5](#))

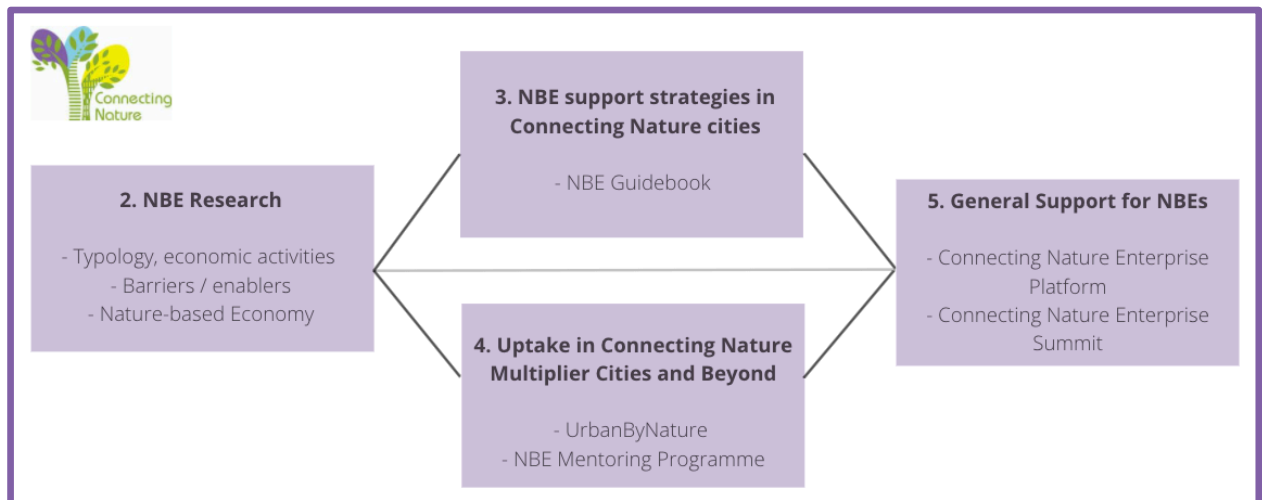


Figure 2 Connecting Nature Enterprise Strategy

2. Nature-Based Enterprise (NBE) Research

This chapter summarizes the research on Nature-Based Enterprise to date, that commenced in 2019 and is led by Trinity College Dublin, with support from University College Dublin. This research builds on the first definition of Nature-Based Enterprise as “*an enterprise inspired by nature, using nature as a product/service or contributing directly to the sustainability of a NBS from an economic, social or environmental perspective*” that was iteratively developed by researchers and practitioners in the Connecting Nature project in 2018 [12]. Since then research has been conducted on organizations delivering nature-based solutions – nature-based enterprises - and their economic activities ([Section 2.1 – NBE Paper I](#)), external challenges and enablers experienced by nature-based enterprises ([Section 2.2 – NBE Paper II](#)), and on the Nature-based Economy, in which nature-based enterprise are recognized as key actors in the supply of NbS ([Section 2.3 – draft White Paper](#)).

2.1 Typology and activities of nature-based enterprises

Nature-based Solutions (NbS) to address societal challenges have been widely recognised and adopted by governments in climate change and biodiversity strategies. However, the NbS market is still in its infancy and to implement NbS at a larger scale the involvement of all stakeholders, including the private sector, is required [13-14]. However, what kind of organisations contribute to the delivery of NbS, and what kind of activities do they undertake? Kooijman et al. (2021) [9] proposes a typology of organisations delivering NbS and a categorisation of their economic activities based on findings from a systematic literature review and an enterprise survey. It explicitly focuses on Nature-Based Enterprises (NBE), which we have defined as ‘an enterprise, engaged in economic activity, that uses nature sustainably as a core element of their product/service offering’. Here, nature may be used directly by growing, harnessing, harvesting, or sustainably restoring natural ecosystems, and/or indirectly by contributing to the planning, delivery, or stewardship of nature-based solutions. This definition is based on the first definition developed in Connecting Nature and takes into account the European Commission’s definitions for enterprise and nature-based solutions [1,15].

Enterprises are the outcome of the process of entrepreneurship; they are business organizations that and engage in economic activity [16]. Economic activities are organized into sectors – areas of business that make up a country’s economy. One of the classifications of economic sectors is the Statistical Classification of Economic Activities in the European Community (NACE). This reference framework provides statistics on economic activities that are comparable at the European and world level [17]. To connect the economy with nature, the term ‘natural capital’ is frequently used, in which capital refers to a stock that yields a flow of ecosystem services over time. Ecosystem services are the ecological characteristics, functions or processes that benefit human well-being [18-19]. Nature-based solutions (NbS) is an umbrella concept that covers a range of ecosystem service-related approaches [20]. Therefore, the implementation of NbS, by definition, must benefit biodiversity, support the delivery of a range of ecosystem services, as well as contribute to societal goals. Subsequently, organizations delivering NbS positively contribute to biodiversity and ecosystem services.

Based on a literature review (448 papers, 26 included) and an enterprise survey (173 respondents, 148 included), the 174 data points were evaluated using the criteria for nature-based enterprise: 1. engagement in economic activity, i.e., sell products or services for a given price on a market, and 2.

direct or indirect contribution to the delivery of nature-based solutions, and thereby positively contribute to biodiversity and ecosystem services. The result is the following typology of organisations delivering NbS (Table 1).

Table 1 Types of organisations delivering nature-based solutions [9]

	Nature is at the Core of Activities	Nature is Not at the Core of Activities
Economic activity	Nature-based enterprise	Enterprises delivering nature-based products and services
No economic activity	Nature-based organisation	Organisations delivering nature-based products and services

- Nature-based enterprises use nature as a core element of their product/service offering for the planning, delivery and/or stewardship of NBS and engage in economic activity (n=108).
- Nature-based organisations use nature as a core element of their product/service offering for the planning, delivery and/or stewardship of NBS but do not engage in economic activity (n=29).
- Nature-based products and services may be offered by enterprises or organisations where nature is not a core element of their product/service offering (n=11).

All nature-based enterprises were SMEs: 76% micro, 22% small, and 2% medium enterprises¹. To compare, the average enterprise in the EU employs no more than six people, and in 2018, 93% of SMEs were micro [15,21]. An average NBE is thus a larger employer than average EU SMEs, suggesting their work to be more labour intensive. When self-assessing its purpose, most enterprises indicated to be either for profit (40%) or hybrid (44%) as opposed to non-profit (16%). In addition, 11 categories of economic activities were identified, ranging from ecosystem restoration, living green roofs, and eco-tourism to smart technologies and community engagement for NBS. In these activities, nature is used directly or indirectly (Table 2).

Table 2 Summary of the categories of nature-based economic activities [9]

Direct activities	Indirect activities
<ul style="list-style-type: none"> • Ecosystem creation, restoration, and management • NbS for green buildings • NbS for public and urban spaces • NbS for water management and treatment • Sustainable agriculture & food production • Sustainable forestry and biomaterials • Sustainable tourism and health & wellbeing 	<ul style="list-style-type: none"> • Advisory services • Education, research & innovation • Financial services • Smart technology, monitoring and assessment for NbS

Nature-based enterprises contribute to a diverse range of sustainable economic activities not adequately accounted for by standard industry classification systems (i.e., NACE). While recognising that NBEs operate in existing economic sectors, this research highlights that their role in implementing NbS separates them from other, less sustainable activities in broader economic sectors (e.g., general agricultural activities versus regenerative agriculture). At the same time, raising visibility of the sustainable activities of NBE in economic sectors enables policymakers to design and develop specific strategies targeting these types of enterprises.

¹ According to the definition of the European Commission [14] : micro enterprises have < 10 full-time employees and an annual turnover of < 2 million Euro, small enterprises have <50 full-time employees and an annual turnover of <10 million Euro, medium enterprises have <250 full-time employees and an annual turnover of <50 million Euro.

Reference: Kooijman, E.D.; McQuaid, S.; Rhodes, M.-L.; Collier, M.J.; Pilla, F. *Innovating with Nature: From Nature-Based Solutions to Nature-Based Enterprises*. *Sustainability* 2021, 13, 1263. <https://doi.org/10.3390/su13031263>

2.2 External factors influencing the success of nature-based enterprises

The capacity of nature-based solutions to create economic opportunities, including green jobs, is well cited in the literature [22-24]. Yet there is a dearth of empirical literature showing evidence of these economic benefits or green jobs or how they might be achieved [7, 25]. While nature-based enterprises (NBEs) have recently emerged as important actors in the delivery of nature-based solutions (NbS) to societal challenges [9, 11], little is known about the context – the external environment - in which they operate and the factors influencing their development. A paper by McQuaid et al. (2021) develops insights into the external factors influencing NBE [10].

Enterprise success factors and constraints—or barriers and enablers—can be divided into factors related to the internal environment, and to the external environment. The internal environment is defined by entrepreneurial behaviour and factors include the founder’s characteristics, such as experience and personal motivation, and business characteristics, such as labour, capabilities, and technology [26]. As enterprises and entrepreneurs interact with the larger system context in which they operate, they are influenced by its policies, regulations, interactions, norms, societal pressures, etc. [27]. This context—or external environment—includes the conditions to which an enterprise must adapt to survive and thrive [28]. Given the sustainability orientation of nature-based enterprises, literature on external barriers and enablers influencing sustainability-oriented enterprises were considered, as well as literature on specific barriers and enablers to the implementation of NbS that are key drivers of the establishment and growth of NBEs. For sustainability-oriented enterprises, the availability of funding, policy measures and regulation, technical skills and a supportive political and local environment are important factors. For nature-based solutions, pro-environmental policy and regulation, the availability of funding, awareness of NbS benefits, availability of skilled suppliers, and co-production with local stakeholders are important factors.

Drawing on the review of literature, data from the enterprise survey (182 respondents, 148 included)², and interviews with founders/CEOs of NBEs (22 respondents), McQuaid et al., 2021 categorize the resulting data using ‘PESTEL’ (Figure 2). The ‘PESTEL’ (i.e., political, economic, social, technological, environmental, legal) framework is a widely accepted framework for analysing external factors affecting firms in the business strategy literature.

Nature-based enterprises identify political and regulatory factors (awareness of NbS levels among policy makers, policies and regulations enabling/limiting NbS uptake) as the most significant external factors influencing demand for NbS. Policy inconsistencies and poorly designed public procurement approaches present significant challenges, as well as silo gaps. Economic factors (factors influencing market development, financing, and investment in NbS/NBEs, industry development) also

² The survey consisted of 44 questions on general enterprise characteristics, activities, value creation and on experienced barriers and enablers. This paper only considers the findings from the section on barriers and enablers thus complementing the Kooijman et al. (2021) paper on general characteristics and activities [9].

were found to be highly influential. Economic instruments such as subsidies or fees were found to have an important positive impact on market development and private sector investment in NbS. Lack of financing for NbS was a major barrier identified in both primary research and literature. From a socio-economic perspective, important influencing factors on NBE development include increased levels of public awareness of environmental issues and the availability of education, skills, and training for NBEs. Industry networking and access to education, training, and skill development emerged as key enablers, with university collaborations highly regarded. Regarding technical/technology barriers, lack of evidence of the effectiveness of NbS remains a major stumbling block which is compounded by a lack of knowledge on how to measure the multiple impacts of NbS.

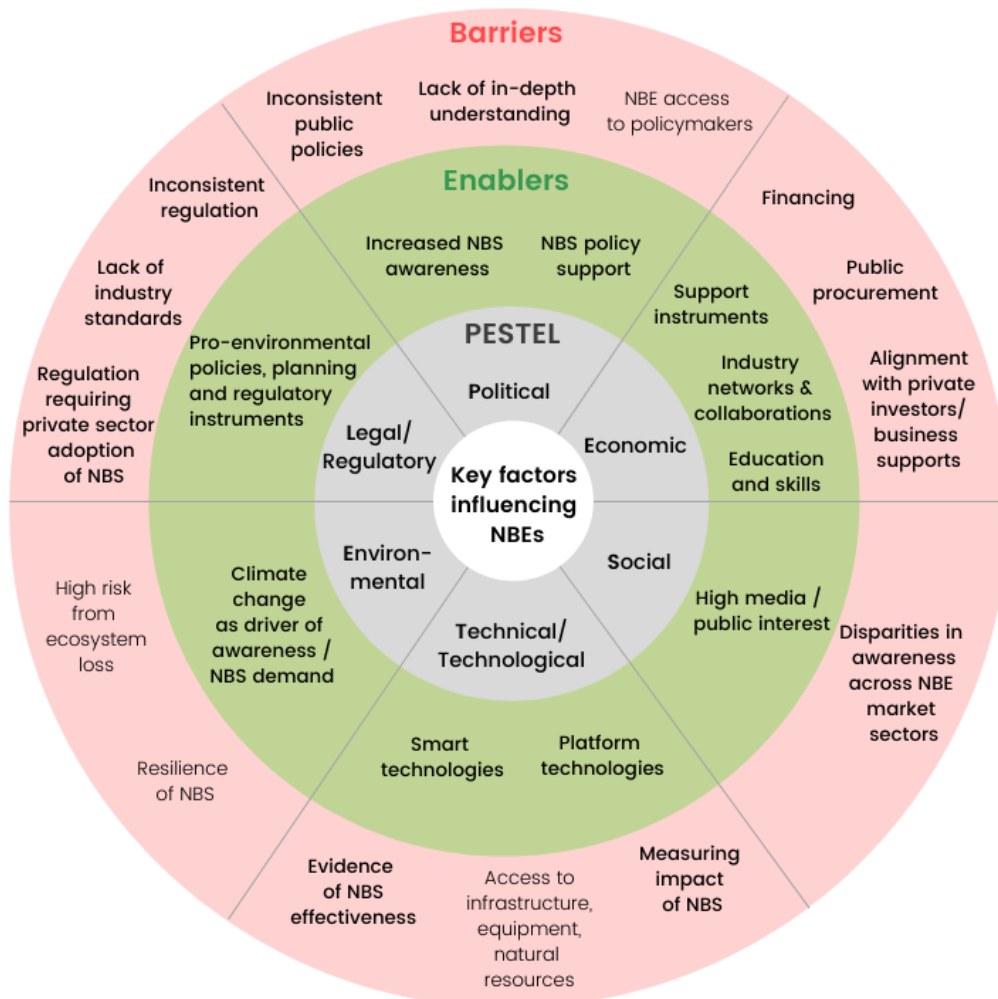


Figure 2 Key factors influencing Nature-Based Enterprises (NBEs). Influencing factors highlighted in bold were identified in literature, survey and interviews, other factors were only identified in literature [10]

These findings suggest that politicians and policy makers at the national and local government levels can play a pivotal role in addressing many of the barriers identified by nature-based enterprises, from addressing knowledge gaps and inconsistencies in public sector approaches, to putting in place the policy instruments to stimulate NbS market demand and private sector investment. Further in-depth research is recommended to explore indications of disparities in the levels of awareness, financing, and skills gaps across different regions of Europe and different nature-based economic activities.

Reference: McQuaid, S.; Kooijman, E.D.; Rhodes, M.L.; Cannon, S. *Innovating with Nature: Factors influencing the success of Nature-Based Enterprises*. *Sustainability* **2021**, *13*, 12488.

<https://doi.org/10.3390/su132212488>

2.3 Nature-Based Enterprises as part of the Nature-based Economy

Nature-based solutions provide multiple benefits for biodiversity. While much focus to date has been on the environmental or social benefits of NbS, less attention has been paid to their economic potential and their role in a just transition to the type of sustainable economy envisaged in the European Green Deal. The Draft White Paper ‘From Nature-based Solutions to the Nature-Based Economy’ by McQuaid et al. (2021)³ addresses this imbalance by proposing a paradigm shift - a new approach to valuing natural capital and to enabling its incorporation in the economic system [29]. The Nature-based Economy “encompasses all production, exchange and consumption processes related to activities concerned with the protection, conservation, restoration and sustainable use of natural resources by consumers, industry and society at large”. [29, p. 2] Policy, regulation, institutions and/or cultural and community narratives relating to the rules and norms governing these activities are essential and integral elements of the production, consumption, and exchange processes of the nature-based economy.

Nature-based Solutions - and related categories of economic activity - play a vital role in the Nature-based Economy (Figure 3). They can contribute to policy goals on sustainable economic growth within the context of climate change and biodiversity crises. A multiplicity of actors are involved in both demand and supply of NbS market sectors. Demand-led policies must take into account the nature of NbS as private goods and services (e.g., green buildings), public goods or services which can be enjoyed by many (e.g., parks), and so-called common pool resources, i.e., public goods where over-use of such resources would lead to negative effects (e.g., urban forests or nature reserves). On the supply side, specific policies need to be put in place to support the start-up and growth of **nature-based enterprises as a key enabler** to meet increasing market demand for NbS. In addition, NbS specific barriers affecting demand and supply need to be addressed: measuring effectiveness, challenges related to hybrid governance and financing, and a myriad of challenges related to public procurement which has led to difficulties finding skilled private sector suppliers of NbS.

The market for NbS is at an early stage of development with much potential for growth. Clear patterns of growth in established NbS market sectors have been identified (e.g., green buildings), as well as new emerging sectors (e.g., smart tech for NbS, NbS for health and wellbeing). Macro-environmental factors influencing overall market growth include policy supports, economic valuation of NbS, technological drivers, inclusive governance, and increased awareness of social justice aspects of NbS development. Policy measures were proposed in this White Paper at global, EU, national and local government levels. These measures consist of systemic measures, needed for long-term transformative change, and immediate measures, needed in the short term to boost the market for nature-based solutions. Local

³ This document is a synthesis of a longer background report under preparation by the Nature- Based Economy Working Group of Task Force III of the European Commission. This document was shared as part of an open consultation process running until October 2021, and the outcome of this process will form the basis for an EC Expert Publication on the Nature-based Economy.

governments are identified as a key enabler in this process with regional partnerships playing an important role in knowledge sharing.

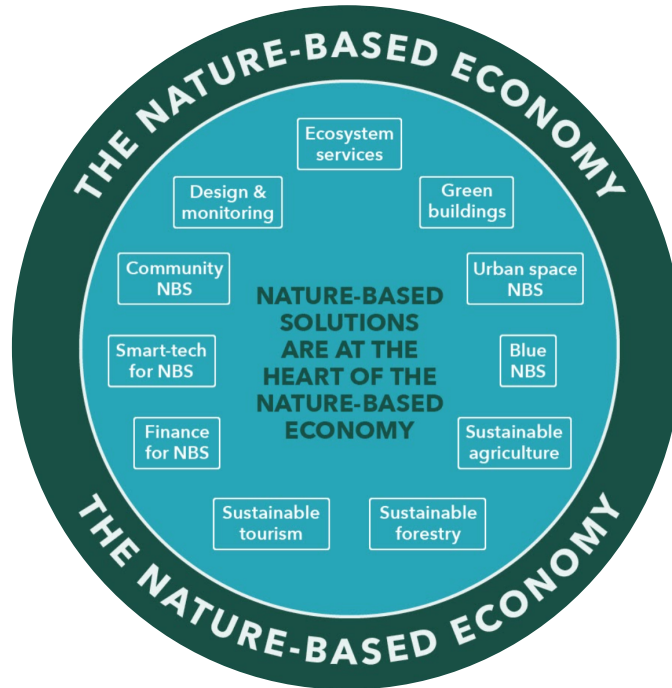


Figure 3 Nature-based Solutions – and corresponding NbS sectors – are at the heart of the Nature-based Economy

In line with UN targets, one of the overall recommendations of this publication is to triple investment in nature-based solutions (NbS) by 2030 and quadruple investment by 2050 [30]. This can be achieved by changing the ratio of investment from being predominantly public sector led now to securing more investment from the private sector in the future. Increasing investment in nature-based solutions yields multiple benefits including new and sustainable high-quality jobs in nature-based enterprises, a just transition to a low carbon future, enhancing biodiversity, and combating climate change. With nature-based solutions at the heart of the nature-based economy, the recommendations put forward set out a pathway towards transformative change.

Reference: McQuaid, S., Rhodes, M.L., Andersson, T., Croci, E., Feichtinger-Hofer, M., Grosjean, M., Lueck, A. E., Kooijman, E., Lucchitta, B., Rizzi, D., Reil, A. and Schante, J. (2021) *From Nature-Based Solutions to the Nature-Based Economy*. Nature-based Economy Working Group of EC Task Force III on Nature Based Solutions. <https://doi.org/10.5281/zenodo.5055605>

3. Support Strategies for Entrepreneurship and NBEs in CN Cities

Nature-based enterprises deliver economic value by stimulating innovation and creating new skills and jobs in local economies. Taking into account what we know about the characteristics of nature-based enterprises ([Section 2.1](#)), and their barriers and enablers to growth ([Section 2.2](#)), in the Nature-Based Enterprise Guidebook [11] we proposed a three step, holistic approach for cities or public sector agencies to stimulate the start-up and support the growth of nature-based enterprises:

Step 1- Awareness and strategic alignment

A lack of awareness of nature-based solutions and their benefits often corresponds with low support for NbS across local government departments. Lower investment in NbS has a knock-on effect and limits the demand for products and services offered by nature-based enterprises. The first step to support NBE therefore focuses on raising awareness and securing support of (political) leaders and departmental heads for NbS. This includes the raising awareness about the different types of value that NbS create - including their economic potential - and the role of nature-based enterprises in delivering these values. As part of this step, city officials are asked to consider how NbS may support the strategic goals of the city or organisation and beyond, for example, national policy and the UN Sustainable Development Goals. Nature-based solutions may align with multiple goals, policies, and strategies, as they deliver social, economic, and environmental value.

Example: In Glasgow, the NBE strategy was aligned with the stewardship of open spaces in the city, as part of the Open Space Strategy. This strategy was adopted by Glasgow City Council.

Step 2 - Building alliances

Building on Step 1, the next step in the process focuses on mapping the innovation ecosystem and building alliances. The innovation ecosystem includes a wide variety of stakeholders, i.e., end-users, industry, government, and non-governmental, investment & funding, and academic organizations. Moreover, to gain a better understanding of the local context, cities are encouraged to map local nature-based enterprises which could be involved in the delivery of NbS and assess the internal and external barriers faced by them. Addressing barriers will require support and expertise from a broad coalition of experts, and this needs to be considered in building strategic alliances to support NBE. For example, 1) to address financing barriers, create an alliance with potential funders, or 2) to address barriers related to impact measurement, build an alliance focused on sharing knowledge and capacity building. Alliances could also be built within an organisation, for example, by connecting the department responsible for NbS with the ones for economic development or enterprise support.

Example: In Nicosia, an alliance was built with an existing enterprise accelerator, leveraging their expertise on enterprise support and networks.

Step 3- Planning, implementing, and monitoring a customised support programme

The specific measures to be put in place to support nature-based enterprises will vary by context as informed by Steps 1 and 2. As aforementioned, knowledge and responsibility for nature-based solutions and enterprise support are often in different departments. This poses the question on who should lead on the planning, implementation and monitoring of an NBE support programme. Ideally, this would be

a department with cross-cutting priorities. However, in any case, high-level support from other departments or agencies is needed. The design, implementation and monitoring of the programme ideally will be collaborative. It is recommended to prepare the nature-based enterprise strategy with input from both internal and external stakeholders as part of a co-creation process. The co-creation process should involve experts in NbS, and economic development or enterprise support and other ecosystem actors as identified in Step 2 - specifically nature-based enterprises - to ensure the support measures planned meets actual needs.

Example: In Poznań, early collaboration was initiated with an architect for their exemplar of nature-oriented playgrounds to deliver the exemplar, and to develop a training programme for professionals on NbS principles and good practice.

As part of Step 3 impact measurement needs to be considered at multiple levels – at the level of the individual nature-based enterprise with respect to the specific product or service it provides, and at the level of the overall nature-based solution, which is likely to include multiple component parts provided by different internal and external suppliers. It is also important to measure the success of the support programme being delivered. Impact indicators, both quantitative and qualitative, should be considered at planning stage and data gathered throughout the process on indicators such as number of enquiries, number of enterprises supported, outcomes in terms of product or service innovations, impact on business confidence, contribution to overall strategic goals etc.

This three-step approach was developed as a guide for cities to develop support strategies for nature-based entrepreneurship and nature-based enterprises and includes guiding questions for each of the 3 steps ([Appendix III](#)). Unlike other elements of the CN Framework, this approach to develop NBE support strategies was tested simultaneously in all Connecting Nature cities – in Front Runner Cities (FRCs) Genk (BE), Glasgow (UK), Poznań (PL), and in Fast Follower Cities (FFCs) A Coruña (ES), Burgas (BG), Ioannina (EL), Málaga (ES), Nicosia (CY), Pavlos Melas (EL), and Sarajevo (BA). To start off this process, a half-day workshop on Step 1 - i.e., mapping nature-based enterprise strategy against NbS strategy - was delivered by the team in Trinity College Dublin (FRCs, February-May 2019) and Horizon Nua (FFCs, October-December 2019). Thereafter, 5-6 quarterly calls⁴ were held with each of the 10 cities to provide guidance and support where needed and to monitor progress. The Nature-Based Enterprise Guidebook was published in January 2020 based on preliminary results of the research on NBEs.

This chapter reports on the Connecting Nature cities' NBE support strategies based on their context and objectives ([Section 3.1](#)), the process of developing NBE strategies, influencing factors (barriers and enablers) and their current status ([Section 3.2](#)), discusses the results and provides recommendations ([Section 3.3](#)).⁵

⁴ Call #1 Oct 2019 – April 2020, call #2 March – September 2020, call #3 March – Oct 2020, call #4 March – May 2021, call #5 May – September 2021, call #6 September – October 2021.

⁵ For more information on the activities in Step 1 and 2 in each of the cities, see Connecting Nature Deliverable 19 (interim report on NBE support in FRCs, January 2019) and Deliverable 20 (progress report on NBE support in FRCs and FFCs, January 2020).

3.1 Description of NBE support strategies

Genk (BE)

- Exemplar: Upgrade the Stiemer Valley into a blue-green lifeline through the city, with the goal to further improve the quality of life of residents and to increase the city's resilience to climate change.
- Challenges: A lack of in-house expertise in nature-based solutions for water management.
- NBE support strategy: Develop close partnership with Tractobel, a large consulting company with expertise in nature-based water management⁶. Genk anticipate further opportunities to engage with NBEs in water management during the implementation and stewardship phase of NbS. Genk are also leveraging the Stiemer NbS to stimulate social entrepreneurship via their innovative Stiemer Deals⁷.

Glasgow (UK)

- Exemplar: Glasgow's Open Space Strategy aims to ensure well-managed, well-located, and well-connected open spaces that operate as part of a wider green network.
- Challenges: With the increase in green spaces in the city, private sector and community involvement is required for the governance and sustainability of these spaces.
- NBE support strategy:
 - Pilot of a NBE accelerator programme. Participants to develop and pitch the business plan for their nature-based enterprise by the end of the programme.
 - Full scale roll-out of the NBE accelerator programme, focused on the delivery and stewardship phase of the Open Spaces Strategy.

Poznań (PL)

- Exemplar: The creation of a network of nature-oriented playgrounds throughout the dense city centre.
- Challenges: Lack of knowledge about NbS and local requirements for NbS in the City Council and among the private sector, as well as a dependency on a small number of external contractors from other regions of Poland.
- NBE support strategy:
 - Training programme on NbS for the creation of nature-oriented playgrounds aimed at landscape architects, gardening companies and local decision makers and potential contractors, including district and city councillors.
 - Following the training programme on nature-oriented playgrounds, a similar programme - The NbS Academy - is foreseen for other flagship NbS in Poznań: floating gardens (water management), eco-demonstrators (ecological education), Family Allotment Gardens (opening and sharing greenspace with citizens). The aim of this programme is to promote NbS and their economic/entrepreneurial potential in terms of creating demand and supply.

⁶ Note: Tractobel would not fit the definition of an NBE as their core business spans multiple sectors. NbS related product offerings are just one part of their activities.

⁷ Genk has been promoting entrepreneurship in general in the Stiemer Valley through Stiemer Deals. These deals are agreements between the city and associations, residents, entrepreneurs, or companies in which it is agreed how they will work together towards a common goal related to the Stiemer Valley. Since 2019, 44 deals have been concluded, from which 10 with entrepreneurs or companies. None of them is defined as a NBE.

A Coruña (ES)

- Exemplar: A network of urban gardens connecting different initiatives across the city.
- Challenges: Although urban gardens are popular, there is a low awareness of NbS among professionals, as well as a lack of private sector engagement and ownership of NbS.
- NBE support strategy:
 - 'Gardeniser' programme, a training course on gardening organised by the employment department of the city. The main aim of the course was to improve the employability of unemployed people, and therefore also included training on how to create a project or enterprise or find a job.
 - Incubator programme for nature-based enterprises, based on an existing incubator programme that is run by the city's Entrepreneurship Department.
 - Create opportunities for NBEs to tender for contracts in the NbS exemplar, for the maintenance of urban gardens in schools and develop an educational programme for them.

Burgas (BG)

- Exemplar: Redevelopment of Saint Trinity Park, an unused and derelict park, in a way that it protects biodiversity and provides social, economic, and environmental opportunities.
- Challenges: Even though some landscape architects and specialists are engaged in the planning and delivery of the park, one of the challenges remains the low awareness of NbS and nature-based enterprises.
- NBE support strategy: Raising awareness about NbS and NBEs by offering NBEs spaces in Saint Trinity Park to promote their activities and products. This is mainly focused on enterprises in landscape architecture, landscaping etc.

Ioannina (EL)

- Exemplar: Redevelopment of Pirsinela Park, a neglected park located in the urban boundaries.
- Challenges: Lack of awareness of NbS and NBEs, difficulty to involve NBEs in the implementation of the NbS exemplar due to public procurement practises favouring larger entities.
- NBE support strategy: The municipality plans to support the growth of NBE through contracts for various works during the delivery and stewardship phases of the NbS exemplar. Ioannina also plans to promote NBEs by allocating spaces in the park to showcase their products.

Málaga (ES)

- Exemplar: NbS-led regeneration of the Lagunillas neighbourhood, an area with many derelict and vacant spaces that are often walled up.
- Challenges: Lack of funding to redevelop these spaces, issues with ownership, and the fear of gentrification.
- NBE support strategy:
 - Climathon for the Lagunillas neighbourhood – an idea generation event, particularly aimed at students. The main objective was to raise awareness about NbS and their economic potential and generate interest in entrepreneurship related to NbS. As follow-up to this, the aim is to develop and implement a NBE incubator programme to create business ideas and nature-based enterprises.

- Opportunities for NBE to tender in the development of the City's green corridors including Lagunillas.

Nicosia (CY)

- Exemplar: An urban network of linked Open and Green spaces with the National Forest Park of Athalassa as the core and linking with other green spaces.
- Challenge: A lack of awareness about NbS and NBEs.
- NBE support strategy:
 - Create opportunities for nature-based enterprises to design, implement and manage parks under the Adopt-A-Park scheme. This scheme is targeted at encouraging local businesses to fund and maintain small scale pocket parks.
 - Pilot NBE incubator programme in collaboration with local accelerators.

Pavlos Melas (EL)

- Exemplar: The redevelopment of a former military camp into a metropolitan park.
- Challenges: Lack of support and funding for NBEs, due to lack of awareness about NbS and their benefits. There is a lack of NBE in general, and for delivery in the park there is the assumption that they would be more expensive than other contractors.
- NBE support strategy: Raising awareness and promotion of both NbS and NBE through an online cluster. In the future, they are thinking about developing a training programme for NBE may be developed inspired by the approach of Poznań.

Sarajevo (BA)

- Exemplar: An intergenerational urban garden and sensory garden, where children and elderly citizens come together in designing and maintaining.
- Challenges: Lack of sufficient knowledge about NbS, a lack of funding, and a limited amount of NBEs.
- NBE support strategy: Raise awareness about NbS and NBEs and has the objective to support NBE as possible contributors in designing and implementing the urban garden at a later stage.

A summary of the context and NBE support strategies in CN cities is shown in Table 3. This table includes the NbS exemplar, the current level of NbS and NBE awareness, and, for the NBE strategy; the goals, type of NBE addressed, phase of NbS implementation, the corresponding (pilot) programmes, partners involved, and finally, the status of implementation.

Table 3 Summary of context and NBE support strategies in Connecting Nature cities

City	NbS exemplar	Awareness ⁸		Goal of NBE strategy	Type of NBE	NbS phase	Support programme	Partners	Status
		NbS	NBE						
Genk (BE)	Stiemer Valley	High	Low	Identify across wider Flanders region experts in this field and build capacity and networks	Water management	Planning, Delivery & Stewardship	Water management cluster for Flanders on NBE platform	Flemish regional water authorities and key partners from other bids	Planning
Glasgow (UK)	Open Spaces	High	High	Stimulation of community and private sector engagement in NbS Build community resilience for stewardship phase - different governance models	NBE for implementation of NbS exemplar	Delivery & Stewardship	1. Pilot of NBE accelerator	Existing social incubator programme	Transfer
							2. NBE Accelerator	City Council Civic Innovation (CCI), Departments of Sustainability, Economic development	Planning
Poznań (PL)	Nature play-grounds, Floating gardens	Medium	Low	Transfer knowledge to other NBEs to build resilience Build knowledge of gardening companies about NbS	Landscape architects, landscaping / gardening companies	Planning, Delivery & Stewardship	1. Training programme	Legal, financial and business departments Colleagues working in Health & Greenspace project (URBACT III)	Transfer
							2. NbS Academy		Planning
A Coruña (ES)	Urban Gardens Network	High	Medium	Increase the awareness of the future professionals to NbS Increase awareness for the potential of NBE, stimulate private sector interest in NbS	Architects, landscaping and gardening companies All types of NBEs	Planning, Delivery & Stewardship	1. Gardeniser training programme	Department of Employment	Transfer
							2. Pilot of NBE incubator	Existing municipal incubator centres	Planning
							3. Pilot with contracts NBEs for maintenance of gardens	5 Schools Departments of Employment, Environment, and Education	Execution

⁸ Current levels of awareness

Burgas (BG)	Saint Trinity Park	Low	Low	Encourage the participation of NBE in the planning and implementation of public projects	Landscape architects, landscaping / gardening companies	Planning	Demo sites for NBE in exemplar	-	Concept
Ioannina (EL)	Pirsinela Park	Low	Low	Raise awareness of NbS and NBEs in the region Create opportunities for NBEs to contribute to exemplar and showcase products / services	Landscape architects, landscaping / gardening companies	Planning, Delivery & Stewardship	Opportunities for NBE to implement NbS exemplar	Chamber of Commerce	Concept
Málaga (ES)	Lagunillas area	Low	Medium	Promote NbS and NBE Generate ideas for the development of empty plots in exemplar, and companies that can implement them	All types of NBE	Planning, Delivery & Stewardship	1. Hackathon for NbS in Lagunillas	NbS business cluster Rizoma Foundation City of Malaga	Transfer
							2. NBE Incubator Programme		Planning
Nicosia (CY)	Network of pocket parks	High	Medium	Create opportunities for NBEs to work on design, implementation and stewardship of pocket parks Create new NBEs, and solutions related to the parks	Architects, landscaping / gardening companies Smart tech for NbS monitoring All NBE types	Planning, Delivery & Stewardship	1. Adopt a Park contracts for NBE	ANEL City of Nicosia	Planning
							2. Pilot of NBE incubator	ANEL Existing incubator programme Bank Department of Innovation (national)	Planning
Pavlos Melas (EL)	Metropolitan Park	Low	Low	NbS and NBE promotion Local economic growth and job creation	Landscape architects, landscaping / gardening companies	Planning, Delivery & Stewardship	Cluster of Metropolitan Park NBE on NBE platform	Chamber of Commerce Universities	Concept
Sarajevo (BA)	Urban Gardens	Low	Low	Raise awareness on NbS and NBE Support NBEs with opportunities in designing and implementing the urban gardens	NbS for public and urban spaces	Planning, Delivery & Stewardship	Opportunities for NBE to implement NbS exemplar	SERDA City of Sarajevo Municipality of Novo Sarajevo Government of Canton Sarajevo Schools Centre for Healthy Ageing	Concept

3.1.1 Objectives of NBE support strategies

As aforementioned, the cities were provided with a structured approach for developing a NBE support strategy. The context and exemplars in each of the cities are different, and different levels of NbS and NBE awareness were observed, as well as general support for entrepreneurship. This results in different NBE support strategies, of which the objectives are summarised in Figure 4 and explained below.



Figure 4 Objectives of NBE support strategies of Connecting Nature cities

1. Raising awareness about NbS principles

All cities have raised awareness on the NbS concept and principles, both internally and externally, as part of their activities within the Connecting Nature project. Raising awareness on NbS is an ongoing activity, as cities' activities in this field expand and the NbS concept and principles are complex and not well-known. For building alliances to support entrepreneurship for NbS, it is key to first create a level of understanding on NbS.

2. Raising awareness about the economic potential of NbS and NBE

Compared to the environmental and social benefits of NbS, the economic benefits and opportunities are less straightforward. In addition, in most cities, the team responsible for NbS was part of the environment department, and since entrepreneurship for NbS and NBE is a new concept, all cities started with low awareness and thus low support. Raising awareness about the economic potential of NbS, the concept of NBEs and how they can contribute to the implementation of NbS and to local economies is thus essential. Activities to raise awareness include providing information to (potential) NBEs, decisionmakers within the public sector, and in some cases, the public. For example, in Genk, where there is a lack of local expertise in water management, a knowledge cluster is being planned to bring together external expert stakeholders working in this field.

3. Delivering skills and training related to NbS exemplars

In cities where there was a good knowledge of NbS but a lack of skilled NBE suppliers, support programmes focus on delivering skills or training programmes related to their NbS exemplar. In A Coruña, NbS was not seen as a professional opportunity and a training programme was initiated around urban gardens for NBEs, communities and individuals. Poznań identified a lack of knowledge and

expertise needed for delivering the NbS exemplar of nature-oriented playgrounds and initiated a training programme on NbS principles for professionals and decisionmakers. A follow-up of this programme is focused on promoting the entrepreneurial potential of NbS in different sectors, including water management, education, and urban gardens.

4. Generating business ideas for NbS exemplars / establishing NBEs

Generally addressing the lack of nature-based enterprises, this includes developing business ideas (e.g., hackathons), enterprises (e.g., incubator programmes) and scaling enterprises (e.g., accelerator programmes). For example, the goal of Málaga's 1 day hackathon was to create appetite for a pilot incubator programme, while Glasgow's pilot nature-based accelerator aimed to identify enterprises to potentially contribute to derelict spaces identified in their NbS exemplar. Nicosia, A Coruña and Málaga are planning to run an incubator programme for enterprises.

5. Creating opportunities for NBEs to deliver NbS exemplars

There are several cities that have the objective to leverage their NbS exemplar to stimulate nature-based enterprises and local job creation. In some cases, this addresses the lack of private sector involvement in NbS exemplars and the challenge of maintaining the NbS exemplars in the stewardship phase. Burgas has included landscape architects and specialists in the design consultation process of the exemplar and aims to include them in the delivery as well. In Poznań, the exemplar of nature-oriented playgrounds is designed and delivered by a NBE, and the training programmes are aimed at supporting NBEs for the delivery of other types of NbS in the city. In A Coruña, NBEs do the maintenance of school gardens, and to help teachers develop an educational programme. Glasgow and Nicosia are creating opportunities for nature-based enterprises to design, implement and manage spaces as part of their exemplar. However, both cities focus particularly on the stewardship phase of the NbS.

3.2 Process and status of support strategies

As demonstrated in the previous section, there is significant diversity in the objectives of NBE support strategies in the Connecting Nature cities. The next section focuses on the process of developing the NBE strategies in the cities and evaluates the status of the corresponding support programmes and pilots (Figure 5). To determine the status of the programmes, we link the three steps for developing a NBE strategy [11] and link this to the four phases of project implementation:

- 1) Concept
- 2) Planning
- 3) Execution
- 4) Transfer

In the Concept stage, the programmes are still mainly ideas resulting from Step 1 on raising awareness and strategic alignment. In the Planning stage, programmes are taking shape as alliances for implementation are built (Step 2), and the design and planning of support programmes has started (Step 3). Programmes in the Execution stage are being implemented and are therefore in the delivery phase of Step 3. The last phase is the Transfer phase, where programmes have been delivered and are being evaluated, similarly to the monitor and evaluation in Step 3. The evaluation will result in a decision either to build upon the current programme, or not. If decided in the affirmative, then there will

be a second iteration in the city's NBE strategy with new support programmes. These new programmes may have a different goal than the ones in the first iteration, as NbS and/or NBE awareness might have changed after the first programme, or the new support programme focuses on a different stakeholder group (existing vs. new enterprises).

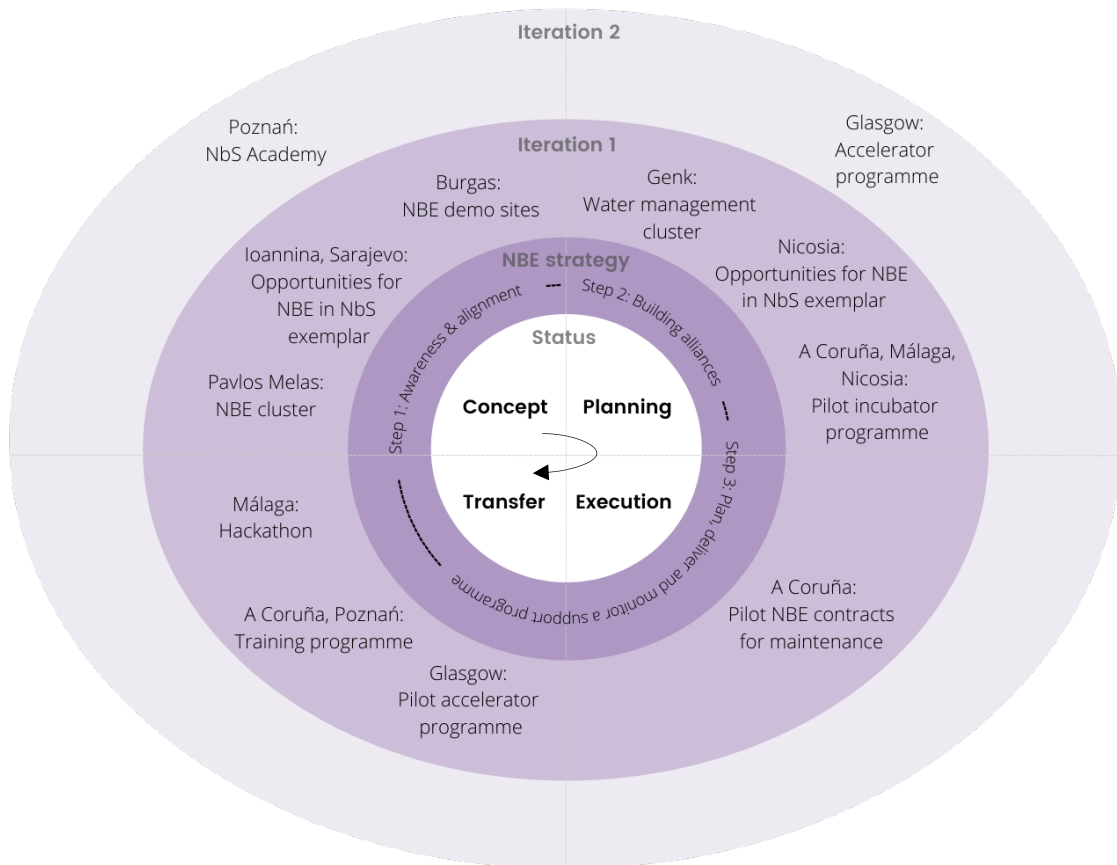


Figure 5 NBE support programmes identified in the CN cities, and their status

In the next sections we dive deeper into the process of developing NBE support strategies in the Connecting Nature cities. In order to see if any patterns emerge, we analyse cities with current low NBE awareness (Genk, Burgas, Ioannina, Málaga, Pavlos Melas, Sarajevo) in [Section 3.2.1](#), and cities with current medium-high NBE awareness (Glasgow, Poznań, A Coruña, Nicosia) in [Section 3.2.2](#).

3.2.1 Process in cities with low NBE awareness

Step 1: Awareness and strategic alignment

Genk: NbS awareness is relatively high and there is a support programme for social innovation in place related to the NbS exemplar, but not specifically for nature-based enterprises. One reason for this is that in the redevelopment of the Stiemer Valley exemplar, co-creation with citizens played a major role. When launching their Stiemer Deals programme, the focus was therefore on creating local value from and for the exemplar, and a specialist in social innovation was recruited to the team. Other limiting factors include lack of entrepreneurial culture in Genk in general, limited expertise in entrepreneurship support in the CN team and a lack of support from the economic development department for NbS.

Genk do recognise their lack of knowledge in the field of nature-based water management and collaborate extensively with large consulting firms in this field. They do see a role for further engagement of smaller companies at delivery and stewardship phase but engagement of smaller companies on smaller contracts presents additional public procurement burdens.

Burgas, Ioannina, Pavlos Melas and Sarajevo: The concept of NbS is still very novel in these cities, and strategic development policies at the municipal level do not specifically mention NbS, and economic development policies mainly focus on conventional economic sectors. Although a lack of funding for NbS is mentioned as a challenge in each of these cities, alignment of policies prioritising NbS is an important first step towards securing funding. Moreover, we found that at city level, a culture of entrepreneurship and / or support for entrepreneurship was low, as well as policy support for innovation. The project teams in the Connecting Nature cities are usually from one department, which is focused on NbS, and is typically composed of technical specialists e.g., urban planners, environmental engineers etc., who have limited expertise and interest in economic development and entrepreneurship. Raising awareness about the multiple benefits of NbS and aligning these benefits with overarching economic strategies is therefore a time-consuming and difficult process. For these reasons, the goals of the NBE strategy in these cities are mostly focused on raising initial awareness of NbS and NBE, for example through events, and showcasing NBEs or their products and services on demo sites in the exemplar.

Málaga: There is a plan for a network of green infrastructure in the city, however, the NbS exemplar - the Lagunillas neighbourhood – is not included in this. The city's economic policies focus on developing the main touristic areas of the city and the tourism sector in general, especially since the COVID-19 pandemic. The CN team in Málaga is an economic development agency, not the city government. This agency has a network with the innovation ecosystem; however, it has limited expertise in technical NbS interventions and limited influence on policy. In the exemplar, barriers include the legal issues related to public/private ownership of plots in Lagunillas and a community averse to changes.

Step 2: Building alliances

Genk: Several public and third sector organisations (water, nature management authorities on different government levels) are responsible for different parts of the Stiemer Valley. This has made it more difficult to attain alignment on the NbS strategy and created more limited opportunity for enterprises to find their place in the process. Genk is looking into building partnerships and alliances for NbS for water management on a regional level for Flanders, including water authorities, enterprises, and key partners from related projects, including universities and cities and building up knowledge of private sector experts in this field.

Burgas, Ioannina, Pavlos Melas and Sarajevo: The NBE strategy is still in the concept phase and no alliances have been formalised. The teams in Ioannina and Pavlos Melas have had conversations with the Chamber of Commerce to explain the NbS exemplar and the concept of NBE, and they are planning to map existing NBEs as a first step. In Ioannina's NBE strategy, the next step is to create opportunities for NBEs in delivering the exemplar but like Genk these may be larger companies as engagement of smaller companies presents additional public procurement requirements. In Burgas, there have been meetings with landscape architects in the exemplar's consultation process. In Sarajevo the exemplar has changed a few times, and potential partners for the NBE strategy are like those of the exemplar.

Málaga: The challenges faced by the CN team has resulted into the bottom-up organisation of an NbS business cluster, as well as an academic foundation, for promoting NbS. The NbS cluster has been working on developing a catalogue of NbS for the region, addressing the lack of knowledge on NbS. The academic foundation has conducted a community survey in Lagunillas to better understand their objections to NbS and urban regeneration in general.

Step 3: Planning, implementing, and monitoring a customised support programme

Genk, Burgas, Ioannina, Pavlos Melas and Sarajevo: These cities have not started with planning a specific support programme for NBE yet.

Málaga: The business cluster has organised the first programme of the NBE strategy, a hackathon on nature-based solutions in Lagunillas, and is now aiming to start planning an incubator programme. The objectives of the hackathon were to increase the understanding of local climate impacts and risks, about NbS for climate resilience in the local economy, and to get a first experience with social entrepreneurship for the climate. The 16 participants were students from the University of Málaga, particularly from environmental science, environmental analysis and management, and entrepreneurship programmes. For both programmes, expertise, and networks from other organisations - within and beyond the cluster - have been vital. The hackathon was part of the Climathon programme of EIT Climate-KIC, a well proven programme format with a strong brand and reputation. For the incubator programme, several meetings have been held with the team in Glasgow about their accelerator, and with CN partner University of East London, that runs a business incubator programme.

3.2.2 Process in cities with high NBE awareness

Step 1: Awareness and strategic alignment

Glasgow: The CN team identified ways in which the NbS exemplar fits within economic policy – e.g., contributing to increasing the attractiveness of an area, and for tourism (e.g., opportunity for markets for locally grown foods) – and as such the Open Spaces Strategy was developed. The main barriers identified were related to sites and land ownership. The principal enablers identified were similar to those for other SMEs and included access to space, funding, support, expert knowledge, and inspiration. In addition, two events in Glasgow have helped to raise the profile of NbS and NBE: the Connecting Nature Innovation Summit (March 2021) – featuring the first public webinar on nature-based enterprises - and COP26 (November 2021) - in which nature-based solutions were spotlighted in the run up to the event.

Poznań: Poznań identified supporting SMEs and entrepreneurship as one of the top priorities in the city. NbS is not mentioned specifically, but the Poznań team identified several different types of NBEs who could contribute to their NbS objectives, for example, landscape architects can contribute to environmental and economic goals. The main barriers identified were lack of critical mass to sustain SMEs, lack of awareness/demand for NbS, and the lack of specific support for NBE/social enterprises. The principal enablers identified were eco-education and awareness related to a wider challenge identified in Poznań related to the 'branding of NbS'. Public procurement was identified as an enabler

along with incentives. The Connecting Nature Enterprise Summit (June 2021, [Section 5.2](#)) significantly raised awareness of both the profile of NbS and NBE in Poznań.

A Coruña: There is strong political support and alignment with existing strategic plans of the city – there is a clear potential for NbS to contribute to some of the key economic development priorities, for example, sustainable consumption, circular economy, and green spaces. As aforementioned, in A Coruña urban gardens are popular, there are waiting list for plots, and the Urban Garden Network exemplar was awarded a prize from the Federation of Municipalities of Spain in the NbS category. However, an important challenge was to find out how local NBEs could be involved in the maintenance of the exemplar and NbS in general, instead of bigger companies, who are usually more successful in preparing winning bids for tenders.

Nicosia: ANEL – the partner for Nicosia in Connecting Nature – is the Nicosia Development Agency and is a collaboration of 8 municipalities. Their main aim is strengthening local communities and economies. On the national level in Cyprus, there are relevant policies and strategy documents focusing on research and innovation, and on sustainable development. Most of these focus on increasing the competitiveness of the country, and there are at least 10 enterprise incubators active on the island. Even though there is no specific mention of NbS in policy, in the context of Nicosia’s exemplar, ANEL finds it of importance to identify organisations and institutions that can support the development of NBEs, which in turn, will increase the uptake and scale up of NbS and support the economy.

Step 2: Building alliances

Glasgow: The CN team in Glasgow is the Urban Planning department – this is a horizontal department in that it typically works together with other departments. They have produced a clear NbS strategy and a digital map with the open spaces part of the exemplar. There was no expertise on supporting entrepreneurship / enterprises among the team, but as NBE have great potential in contributing to the exemplar, there was motivation to explore this. For the nature-based accelerator the team worked together with an existing enterprise support programme. This programme originally focused on social enterprises and had to be slightly adapted. The interest was much higher than expected and one of the reasons seems the way it was promoted – with a lot of examples and without using, for example, the different NBE sectors. For this, getting buy-in from the PR/marketing department was important, however, they were reluctant to promote it initially. By talking to the right people in the Glasgow’s Centre for Civic Innovation, this was overcome.

Poznań: Team Poznań identified gaps in their relationship with some key actors – in particular with the economics and entrepreneurship departments. One of their first actions in building alliances was therefore to map NBEs in Poznań and Poland and prepare a NbS guidebook to raise awareness about NbS and their benefits and promote their use. This Guidebook is mainly for decision makers and includes examples of NbS in the city. For the nature-oriented playground exemplar, they worked together with an expert in the field that was already delivering such solutions. One of the challenges here was that this expert did not want to give away all the details of their practice, but this was overcome by negotiating a contract for delivering the programme that respected their Intellectual Property Rights.

A Coruña: Once NbS were identified as important for several economic development priorities in A Coruña, it was easier for the local CN team to start building alliances within city departments. For the

training programme, they worked together with the Department of Employment, and for the pilot incubator programme with the Department of Entrepreneurship. Taking Glasgow's experience with their nature-based accelerator in consideration, the plan is to adapt an existing incubator programme. This existing programme primarily focuses on tech start-ups, and for expertise on NbS they are looking to bring in the Department of Environment. For involving NBEs in the exemplar, the Departments of Education, Environment and Employment were all involved. This work has already led to the appointment of a cross-departmental project officer to support the urban garden network, in which local enterprises will be key. Cross-departmental collaboration has also made sure that there were resources to continue the work on supporting NBE, even after a budget freeze as a result of the Covid-19 pandemic.

Nicosia: In terms of building alliances, ANEL, as a collaboration of several municipalities, is well connected. For involving enterprises in the Adopt-A-Park scheme – which is essentially a scheme for financing pocket parks, not an entrepreneurship strategy – they will link nature-based enterprises to the corporations sponsoring pocket parks. For this, they will create a catalogue of NBE, which will be distributed to the corporations. As it might be challenging to find NBEs for landscaping, it is expected that most corporations will hire NBEs from this catalogue. Moreover, ANEL will liaise to include NbS requirements for the parks for the Adopt-A-Park contracts. This will also make the case for using pre-screened NBEs. Considering the incubator programme, ANEL was approached by an existing programme, one with a focus on sustainability and climate change. There is a bank interested in providing funding for this.

Step 3: Planning, implementing, and monitoring a customised support programme

Glasgow: Together with the existing incubator programme, the nature-based accelerator was designed. Because of Covid-19, they chose to go fully online, and they had bi-weekly sessions over the course of 3 months. In total, 42 applied for this programme, 15 were selected and 10 completed it. As this was a pilot, aiming to identify NBE, the programme was quite flexible to adapt to the needs of the participants. Overall, feedback from the participants was very positive. The pilot is currently being evaluated and key learnings will be incorporated in the design of the next nature-based accelerator programme, that is currently in the planning phase.

Poznań: The training programme for landscape architects specifically focused on nature-oriented playgrounds, was launched at the Poznań Enterprise Summit in June 2021. The programme was delivered by an expert in the field that was hired by the city. The training programme is being evaluated and the learnings will be incorporated in the design of the NbS Academy programme (currently in the planning stage) that will focus on a variety of NbS sectors. Poznań works together with the Adam Mickiewicz University to evaluate impact of the NbS exemplar. This includes environmental, social, and economic indicators for capturing the multifunctional value of the exemplar. The aim is to include relevant indicators for NBE support programmes to this approach.

A Coruña: Through building alliances within the city government, awareness on NbS and NBE was created across several departments. Without this, decisionmakers probably would not have been aware of the existence of NBEs. For the involvement of NBEs in the exemplar, the type of contracts had to be changed. Smaller contracts and tenders requiring more specific knowledge and experience tend to be more accessible to local SMEs. For example, in the contract for the preparation of the school gardens,

a local NBE was favoured because of the relevant experience on urban gardening and specifically school gardening, as opposed to all-purpose landscaping companies. The pilot has started with 5 schools. In addition, the Gardeniser training programme was fully developed and delivered by the Department of Employment and resulted in a few new organisations which are now working in the urban garden exemplar. There were about 10 participants in the first cohort, and a second cohort is planned. A Coruña's incubator programme hasn't reached the planning stage yet.

Nicosia: Nicosia has not started with planning the support programme for NBE yet – the Adopt-A-Park Scheme needs to be launched first, and meetings on the design of the incubator programme will resume in early 2022.

3.2.3 Factors influencing NBE support strategies

Based on the process descriptions of each of the CN cities in Sections 3.2.1 and 3.2.2, Figure 6 summarizes the factors (barriers and enablers) influencing the NBE support strategies per step of the NBE strategy.

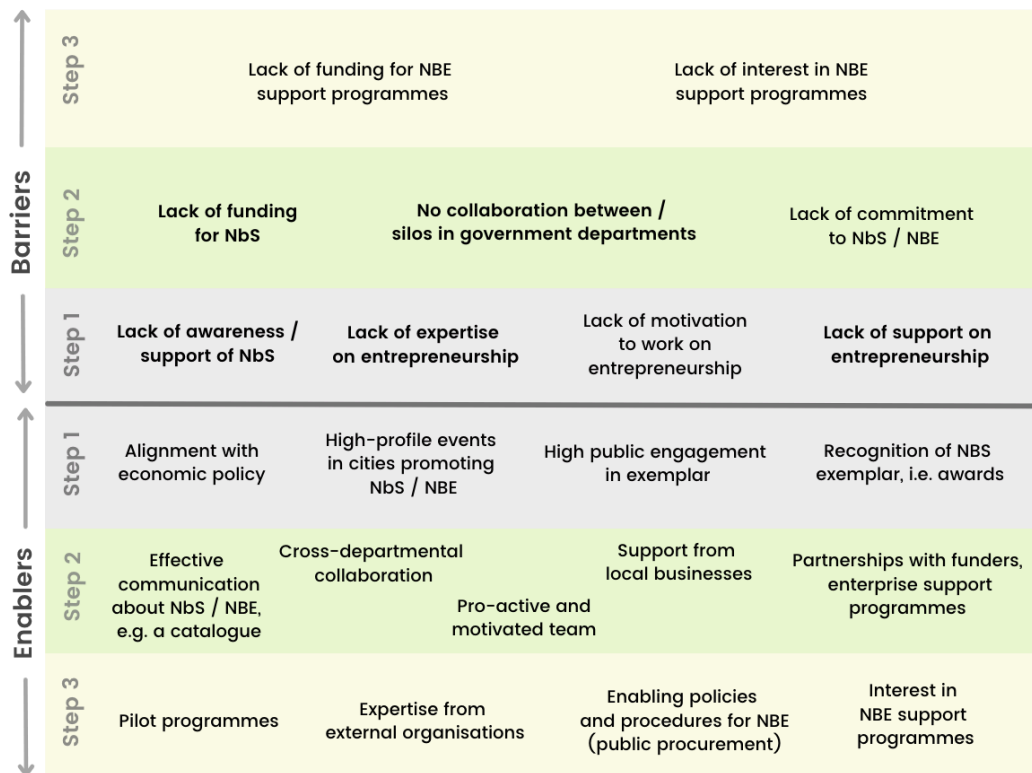


Figure 6 Factors influencing NBE support strategies in CN cities. Factors in bold were found in both cities with low and high NBE awareness.

There are more factors identified in step 1 and 2, as a large share of the cities only have had activities in these steps. None of the cities identified as having a low NBE awareness (Genk, Burgas, Ioannina, Pavlos Melas and Sarajevo) have been working on designing and implementing support programmes

yet, except for Málaga. For the cities that have implemented programmes, these have mostly been concluded quite recently and are still being evaluated.

In most cities with low NBE awareness, there was a lack of expertise and / or interest to support entrepreneurship for NbS. An important factor for this seems to be the department that the team is part of (e.g., environment vs. economic), as well as the educational background and personal motivation of the team members. Teams in horizontal departments that engage in cross-departmental work (e.g., an urban planning department) were more successful in building alliances – both internally and externally - and to ultimately deliver a NBE support programme. In terms of leveraging the NbS exemplar to support NBEs, smaller contracts and tenders requiring more specific knowledge and experience tend to be more accessible to local SMEs. Other key factors were peer-to-peer learning between the CN cities, effective communication about NbS / NBE, and bottom-up support for NbS / NBE beyond the city government, i.e., from business and the public.

3.3 Discussion and recommendations

This section discusses the results of Sections [3.1](#) and [3.2](#), in relation to the use of the NBE Guidebook, and provides recommendations. Most cities found it important to support nature-based enterprises, especially as contributors to NbS exemplars. Overall, the NBE Guidebook was found to be a useful tool for developing NBE support strategies, especially considering that it was based on preliminary research results. Not all cities followed the three-step process, for example, because opportunities arose from bottom-up (for example, other organisations taking the lead in developing NBE support programmes). Half of the cities have not planned a support programme yet and are still in step 1 or 2. The three steps in the guidebook are presented as a linear process, and there are no goals or indicators per step. This might be limiting some city teams as they might not start the next step until the previous one is finalized, and they might not know when this is the case. Cities with high awareness of NBE often plan for more than one support programme. A successful NBE strategy has multiple iterations, once a programme ends, it will be evaluated and a new, more impactful programme is planned. This is not reflected in the Guidebook steps. Moreover, Step 3 has a lot of activities included, and there is a big gap in the evaluation of the programmes and lack of feedback from programme participants.

Generally, more examples and clear objectives per step would be beneficial. This is in line with what we found in the quarterly calls with the cities and peer-to-peer learning sessions, as these provided key learnings, as well as inspiration and motivation, for delivering nature-based enterprise support. The Guidebook should also include the challenges and success factors for delivering NBE strategy in each of the steps ([Section 3.2.3](#)). The following paragraphs reflect on the three steps of the Guidebook and provide further recommendations.

Step 1 – Raising Awareness & Strategic Alignment

There are limited opportunities for NBEs in local economic policy, and support programmes are difficult to deliver on a city level. The overall market needs to be stimulated, and support for this needs to be at the scale of regional/national/EU policy. This, however, might be beyond the scope. Nevertheless, developing regional clusters to build market demand beyond the NbS exemplar (as done by Genk and Poznań) seem to be a good first step to overcome this. Where strategic alignment with policy – particularly economic policy – could be identified, it was much easier to start building alliances. Creating

a clear narrative and effective communication about NbS and NBE is essential in getting buy-in from necessary internal and external partners.

Step 2 - Taking Stock & Building Alliances

Most cities struggled with the concept of NBEs, and did not map them, even though this is essential for developing the objective of the NBE strategy. If there is a low number of nature-based enterprises or enterprises with NbS related activities, a support programme should focus on developing business ideas for NbS. If there are enterprises with NbS related activities identified, a support programme focusing on skills and knowledge development might be better suited. In both cases, it is recommended to talk to enterprises to get a better understanding of the sector and their specific needs. Getting support and involvement from the private sector – preferably from a bigger group, i.e., a cluster – has shown to be helpful in the design and delivery of NBE support programmes. Generally, nature-based enterprises are happy to contribute to support programmes, as it raises the profile of the sector.

In addition, cities generally did not cross-check the mapping of NBEs with their own needs. For example, what NbS are planned in the coming years, and what kind of enterprises could contribute to this? Based on this exercise, the city should formulate an overall goal for the NBE strategy. Without this, there is no real purpose of the NBE strategy, and building alliances will be difficult. Be clear who you need, why you need them, and when. Depending on the context, both external vs internal alliances could be necessary to successfully deliver an NBE support programme. Internal alliances are not just important for political support, but also for expertise, resources, and networks, for example, environmental department for knowledge on NbS and economic or entrepreneurship department for enterprise support programme.

Step 3 – Plan and Deliver a Customized NBE (Pilot) Support Programme

Based on the overall goal of the NBE strategy, it might be useful for city teams to break down these goals into support programmes with specific goals. Cities with high awareness of NBE often plan for more than 1 support programme. These cities start with a particular goal, for example to identify NBE, and then focus on a more impactful programme to increase uptake of NbS / NBE. Taking small steps to experiment what works and what doesn't work in the specific context of a city is essential for creating a successful NBE support strategy. In summary: start with a pilot programme, evaluate, and then plan a more impactful programme.

Even though it is very important to evaluate the results and impact of NBE support programmes, most cities struggled to do this. This could be quantitative measures, such as number of enterprises created, but also qualitative statement could be insightful, especially in programmes with a small number of participants. Because of its importance, it is recommended that this would be a separate step '**Step 4 – Evaluate the NBE (Pilot) Support Programme**' in the NBE strategy. However, it must be noted that only a few cities have delivered actual NBE support programmes, and more data on this might add to or change the recommendations for this step.

4. Uptake in Multiplier Cities and Beyond

The Connecting Nature Enterprise Strategy (Figure 1) includes promoting and supporting NBE in multiplier cities and beyond. This is accomplished through the [UrbanByNature](#) programme delivered by the global city network [ICLEI - Local Governments for Sustainability](#) and the NBE mentoring programme, delivered by [Osmos Network](#). The results of these two programmes are presented in Connecting Nature Deliverable 16 (January 2022), and a short description is included below.

4.1 UrbanByNature

The UrbanByNature Programme is an expertise-sharing and capacity-building programme for nature-based solutions active in 4 regional hubs worldwide (Brazil, Korea, the Caucasus, and China). The programme's aim is to give local governments, civil society, and businesses the opportunity to co-create a sustainable and resilient urban future using nature's innovative potential. This includes nature-based enterprises and supporting entrepreneurship for the delivery of nature-based solutions.

The UrbanByNature programme consists of seven steps (Figure 7) and reflects a co-creating approach, in which not only principles and methods are shared, but participants work together to actively engage in transforming cities and towns and making them more resilient towards climate change challenges.

The programme builds on the building blocks of the Connecting Nature Framework (Technical design, Indicators, Financing and Business Models, Entrepreneurship, Governance, Co-production and Reflexive Monitoring, Appendix II), takes into account ISO 37101 "Sustainable development in communities" and builds on relevant methodologies, such as the Green Climate City programme, the EBRD Green City Action Plan, and the CitiesWithNature Initiative.

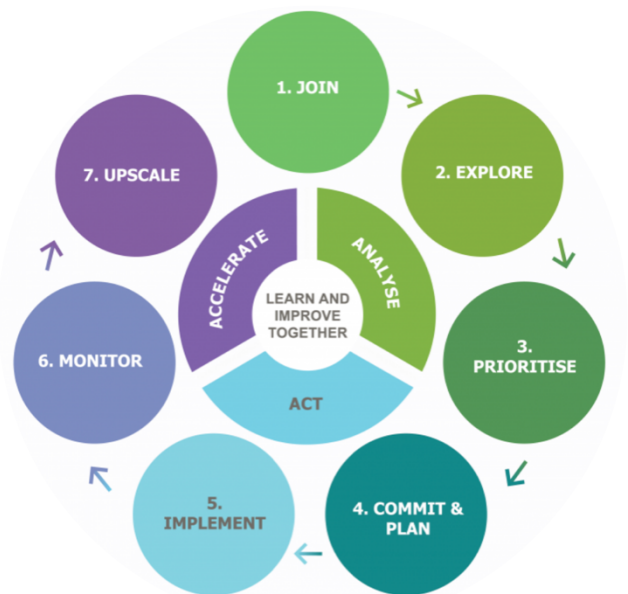


Figure 7 The 7 steps of the UrbanByNature programme

4.2 Nature-Based Enterprise Mentoring Programme

The Nature-Based Enterprise Mentoring Programme was developed as part of the UrbanByNature programme, to support Nature-Based Enterprises (NBEs) in managing the complexity of nature-based solutions. The aim is to support enterprises that were involved in the conception and development of NbS projects or businesses to gain complementary skills and knowledge in issues such as stakeholder management, communication, participation, and process management. The programme was developed for an international audience and to date, two programmes have been delivered (Brazil, the Caucasus) and one programme is planned (global).

About the Programme

The Mentoring Programme offers an overview of a wide range of methods and tools which the participants could directly apply in their daily work. The Programme consists of six sessions and is based on a simple but highly effective design methodology referred to as the ‘double diamond’ (Figure 8). This methodology is mainly used in user-centred design or services design – the approach is solution-oriented, and design is used as a mindset. The double diamond embeds empathy and contextuality into the design process in a format that non-designers can easily embrace. Using this approach ensures that enterprises and their NbS projects are adjusted to their social, economic, and environmental context. The double diamond approach thus helps participants define how to use design to address complexity, while achieving concrete results for NbS projects.

Each of the six sessions have the following structure:

1. Explanation of the respective step and discussion on how this could be useful.
2. Collaborative work which the tested theories, methodologies skills and tools related to the respective step.
3. A guest speaker from the Connecting Nature project present an inspiring project related to the respective step.

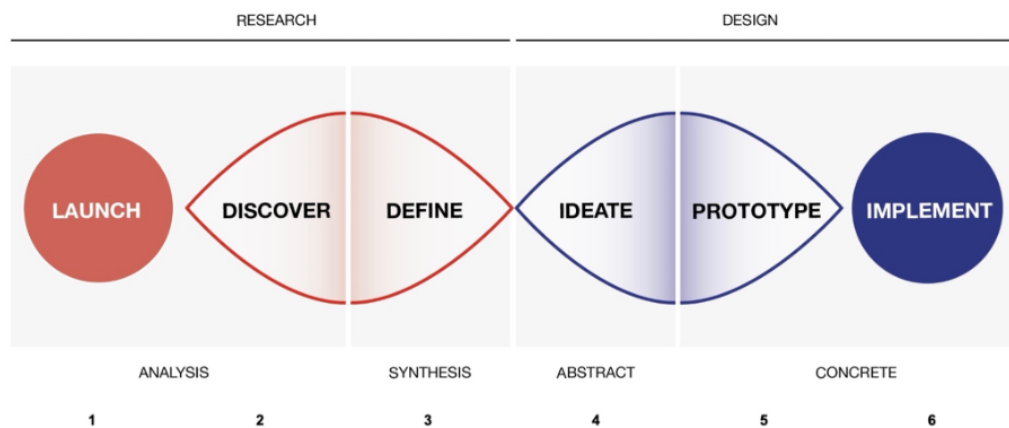


Figure 8 The ‘double diamond’ design approach used in the NBE Mentoring Programme

At end of the programme, participants should be able to adopt the methods and tools within their practice and share this within their local communities. The sessions use digital tools (e.g., Zoom, Miro, Mentimeter) that could be used for research and design. As a reference, a course manual is developed including the methodologies, theories and exercises presented in the programme. In addition, the mentoring programme offers an intimate and informal context for networking and peer-to-peer knowledge sharing and learning.

Key learnings from Programme

The Nature-Based Enterprise Mentoring Programme has been delivered twice. The first included 10 participants from 8 NBEs in Brazil (April to June 2021), and the second included 10 NBEs from Armenia and Georgia (October to December 2021). In both cases, participants came from a broad range of disciplines such as the built environment (engineering, landscape architecture and urbanism), environmental science (GIS, geography) and social sciences (sociology, anthropology). Despite the

diversity of participants, there are number of common conclusions that could be relevant to any professional interested in NbS:

- Participants found NbS to be overwhelming or despite their efforts, achieving impact was a serious challenge. Many participants felt enthusiastic about NbS but also felt isolated because of a lack of interest either with clients (both private and public sectors) or within their peer groups (because the little was known about the topic). This was unsurprising considering NbS remains a new concept, but it shows a clear challenge for professionals interested in developing a professional career around NbS.
- Participants generally struggled to clearly communicate the complexity around NbS. Most started working with NbS because of their education in architecture, engineering, or science. Despite their technical expertise, many had not gained explicit knowledge on managing complex projects. They generally had limited formal training in transversal skills that are important for NbS - such as collaboration, communication, and co-design.

Participants were extremely positive about their experience and skills learnt. The diversity of content presented meant that the material remained relevant to the mixed group, even if some participants had previous experience with certain topics. Despite the time investment from participants, of which many hold senior and management positions, participation levels remained high throughout the programme. A positive outcome in both groups was community building, with participants expressing enthusiasm to continue as a group focused around NbS after conclusion of the mentoring programme.

5. General Support for NBEs

5.1 Connecting Nature Enterprise Platform

The Connecting Nature Enterprise Platform (CNEP) was launched in October 2020 as a direct response to addressing a significant bottleneck where cities and developers seeking to implement NbS voiced their difficulty in finding and sourcing skilled suppliers of NbS. The platform provides knowledge and relevant research outcomes on the nature-based economy and nature-based enterprises. It connects market demand with the supply of NbS by organisations and enterprises, but its main focus is to maintain and grow the network of 10 communities of practice as part of the nature-based economy (Figure 9). In these communities, nature-based enterprises and other organisations operating in the same sector meet informally, network, exchange best practices and collaborate. The Platform has grown significantly since its launch, with individual users rising from 120 to over 1700 and registered nature-based enterprises rising to over 320 in November 2021.



Figure 9 The 10 active communities on the Connecting Nature Enterprise Platform

The platform's goals and functionalities are the following:

Goal 1: Provide a marketplace to match buyers and suppliers of nature-based solutions

One of the functions of the platform is to connect buyers of NbS with suppliers of NbS. This directly addresses the challenge of finding skilled suppliers of NbS and the demand for these types of solutions increases.

Functionalities:

- A **map of NBEs** and **NBE profiles** with products and services. NBEs can create a profile on the platform and showcase your products/services. On the map, suppliers can then find all the NBE registered on the platform and filter the desired results on geographic area (Country, City) and sector of activity.
- Posting and responding to **opportunities**. The platform can be used to disseminate opportunities (such as tenders, jobs) to the relevant NBE in this geographic area and/or sector. All registered NBE will be notified of the opportunity and if interested, they can respond directly through an online form. This response remains private.

Goal 2: Support communities of practice for different sectors in the nature-based economy

At the heart of the platform are the 10 communities of practice. Each community is moderated by an industry leader in the respective sector. This enterprise ambassador raises awareness about the respective sector, with the aim to advance it, and facilitates networking and knowledge exchange between the community members.

Functionalities:

- Posting and responding to relevant **challenges**. Challenges can be posted by members of the platform that are looking for inspiration or support. For example, if you're looking for new ideas about nature-based solutions for a particular site or for an answer to a technical question. Platform members can add their respond to challenges, and as the aim is to share knowledge, these responses are public.
- By organizing **Community Workshops**. Each community ambassador organizes at least 3 community workshops or webinars each year. In these events, usually a few inspiring NBE or products / services are presented, and relevant market trends, innovations, or challenges are discussed.

Goal 3: Provide knowledge on the nature-based economy and nature-based enterprises

The third goal of the platform is to provide knowledge on the nature-based economy and NBE. The aim of this is to raise awareness on both concepts, and to advance them.

Functionalities:

- Providing knowledge and relevant **resources**. This section includes relevant academic and market sector research, guidebooks, and tools, as well as the takeaways from the community workshops and webinar series.
- By organizing **thematic webinars** on the nature-based economy. These webinars address overarching challenges and are often in collaboration with experts and researchers in the field. The goal of these webinars is always to present new ideas or insights and are usually focused on policymakers.

The overall feedback from users of the platform is positive – the relevance of the platform is clear – however, the usability could be improved. Considering the 3 goals of the platform, the functionalities are working and found relevant. The next step for the platform is to secure additional funding and develop a sustainable business model (see Connecting Nature Deliverable 23).

5.2 Connecting Nature Enterprise Summit

As countries and cities adapt to living with Covid-19 and implement recovery strategies they are presented with an opportunity to build back better and to employ innovative solutions. The move to build back better has created enormous potential for nature and nature -based enterprises to be the engine for sustainable economic and jobs growth.

The Connecting Nature Enterprise Summit - as part of the Connecting Nature Summit Series - aimed to raise awareness on the nature-based economy and its different economic sectors, by exploring the

challenges and opportunities facing nature-based enterprises, cities, communities, policy makers and developers. As part of the Connecting Nature Enterprise Strategy (Figure 1), the Summit has contributed to the objectives of promoting nature-based enterprises and the nature-based economy and providing recommendations for policymakers.

The Summit was co-hosted with the Connecting Nature Enterprise Platform and the City of Poznań on 29-30 June 2021, and it was the first public event that was specifically focused on the nature-based economy and nature-based enterprises. Over 600 participants joined the event over the 2 days, that was aimed at two audiences: nature-based enterprises and policy makers supporting enterprise development. Connecting Nature Deliverable 23 reports on the overall outcomes of the Summit, and the main objectives / outcomes related to the Enterprise Strategy are described below.



Figure 10 A nature-oriented playground in Poznań

The Connecting Nature Enterprise Summit has:

1. Raised awareness on the nature-based economy and nature-based enterprises

The main aim of the Summit was to raise awareness on the nature-based economy and the potential growth and opportunities in light of the climate and biodiversity crises and ‘building back better’. The concept of the nature-based economy was presented, as well as Connecting Nature research on the definition and typology for nature-based enterprises. The alignment of the concept with the EU policy agenda, i.e., the EU Green Deal, was emphasized.

2. Provided recommendations for policy makers to support the nature-based economy and nature-based enterprises

During the High-Level Policy Roundtable, a panel of policymakers from the European Commission, World Economic Forum and other national/city policymakers were joined by researchers and industry leaders to debate the policy recommendations to support and stimulate the nature-based economy were presented⁹. Among other points, the speakers underlined that:

- The economics of nature-based solutions has evolved, but there is a need to evolve the thinking on this.
- Standards are important for deployment of solutions but are currently lacking.
- Finance is available, but there is a lack of bankable projects to invest in.
- There is a need to stimulate nature-based enterprise growth by developing public and private demand, as well as by engaging citizens.

3. Provided visibility for nature-based enterprises

The community workshops for each of the sectors on the Connecting Nature Enterprise Platform were led by industry leaders and provided insights into the specific sectors nature-based enterprises are active in. Also, on the online event platform there was an opportunity for nature-based enterprises to showcase their organization and products and services they provide. During the pitch sessions, a

⁹ Of the Draft White Paper for Consultation ‘From Nature-Based Solutions to the Nature-Based Economy’(Section 2.3)

variety of different nature-based enterprises took the stage, including: Commensalist, a farm design company, PlantParty, a comprehensive monitoring service that helps predict suitable locations and implementation strategies for future NbS, Feelgood Forest Bathing, offering training to connect to nature, and BIOTONOMY, showing innovative buildings inspired and build with nature.

4. Provided opportunities for nature-based enterprises to connect, learn and share ideas with peers, experts, and potential customers.

The community workshops for each of the sectors on the Connecting Nature Enterprise Platform provided not only examples of nature-based enterprises, but also meaningful insights into challenges and barriers faced.

The capacity building sessions explored various topics ranging from the importance of intellectual property, to financing nature-based solutions and nature-based enterprises and how such projects are included in public tenders. Given the topic of the summit, the session "Growing your nature-based enterprise" was of special interest. This session looked at how to scale up nature-based businesses by, for example, setting up action-orientated partnerships with new sectors and actors who could find nature-based solutions interesting, connecting to capacity-building structures, and engaging with the technology and innovation sectors to develop enabling tools for scaling up. Another relevant knowledge sharing session was on nature-oriented playgrounds – that although being in Polish – was widely attended by the international audience. In this session, the exemplar of nature-oriented playgrounds in Poznan was discussed (Figure 10).

The aim of the capacity building sessions was to learn and share knowledge and experiences, and in each of these sessions, both experts and enterprises took the stage. In addition, participants of the Summit could use the online platform for networking with others, including enterprises showcasing their organisations.

6. Conclusion

Nature-based entrepreneurship is a core element of the Connecting Nature Framework and supports the planning, delivery, and stewardship of large-scale nature-based solutions in cities. Connecting Nature's Enterprise Strategy (Figure 2) – consisting of NBE research, NBE support strategies in CN cities, and activities promoting and supporting NBEs in Multiplier Cities (UrbanByNature, Enterprise Mentoring Programme) and globally (Enterprise Platform, Enterprise Summit) - has been quite successful.

The NBE research provides a basis for the definition and concept of NBE, and during the recent years, this concept has become more known by policymakers and in the business community. Most Connecting Nature cities found it important to support nature-based enterprises, especially as contributors to their NbS exemplars. They see the local value that nature-based enterprises create, and how they are important for delivering NbS. The Nature-Based Enterprise Guidebook is a useful tool for cities to design support programmes for NBE and has been implemented in 10 cities. Even though the outreach activities have been established relatively recently, they are already providing visibility and support for the sector. The UrbanByNature programme mainly focuses on raising awareness of NbS for policymakers, and on NBEs as possible collaborators for NbS delivery. The NBE Mentoring Programme is running its second cohort now and has its third planned. The same goes for the Connecting Nature Enterprise Platform – the overall feedback from users of the platform is positive and the platform has been growing steadily to 1700+ users in a little over a year.

However, to be able to better support NBE, more research is needed to increase the understanding on NBE and their specific needs. Particularly research on internal barriers for NBE start-up and growth, and on NBEs in specific sectors. The NBE Guidebook needs to be updated to reflect research findings, learnings, examples, and recommendations from the implementation in the Connecting Nature cities. The objectives of NBE support strategies in CN cities varied from raising awareness about NbS, their economic potential and NBE, to delivering skills and training, generating business ideas, and/or creating opportunities for NBEs to contribute to NbS exemplars. The implementation of this had mixed results – to date, 4 of the 10 cities have delivered an NBE support programme, and 4 cities are still in the first step of the process (raising awareness & strategic alignment). Support programmes that have been delivered are a pilot accelerator programme (Glasgow), training programmes (nature-oriented playgrounds in Poznań, urban gardens in A Coruña) and a hackathon (Málaga).

We found that success factors included: effective communication to raise awareness about NbS and NBE, internal and external partnerships and collaboration, a pro-active and motivated team, and starting small with pilots. Key challenges were finding strategic alignment with policy – particularly economic policy and on the city scale - a lack of expertise and / or interest to support nature-based enterprises in the CN teams, and their department. Departments engaging in cross-departmental work were more successful in building alliances. In addition, the three-step process of developing an NBE strategy should emphasize the importance of evaluating results and impact, as most cities failed to do this. Peer-to-peer learning needs to be recognized as an important tool to share knowledge, inspire, and motivate teams in developing an NBE support strategy.



Bringing cities to life, bringing life into cities

Going forward, it is important to promote nature-based enterprises as the ‘engine’ for nature-based solutions, addressing both policymakers and the business community. This is aligned with two innovations of the Connecting Nature project: the UrbanByNature programme, that provides policymakers with information and tools for NbS implementation, and the Connecting Nature Enterprise Platform, that provides a network, knowledge, and opportunities to support NBEs. However, these types of activities are needed on a much bigger scale to promote and support nature-based enterprises and delivering NbS on a large-scale to address societal challenges.

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Appendices

Appendix I: Task 6.3 description, related milestones, and deliverables

Task 6.3: Enterprise Acceleration Programmes

Start: M1 End: M60. Lead Partner: TCD. Partners involved: DRIFT, NUA, UCD and all cities

The Connecting Nature Innovation Catalyst in TCD and the UCD/TCD Innovation Academy will work intensively with cities in the development of the following aspects of the legally binding *Accelerator Masterplans* to be developed in work package 2:

- Funding models for each city to deploy large scale nature-based solutions. This included the creation of a catalogue of finance and business models from front-runner cities (Task 2.4, Milestone 2), and of a support methodology, workshop, and guidebook - the Nature-Based Solutions Business Model Canvas (Task 3.3, Deliverable 10). This process of developing a business model and implementing other sources of financing for nature-based solution exemplars was then implemented in the fast-follower cities (Task 6.3, Deliverable 13).
- Connecting Nature Enterprise Accelerator Programmes to support the emergence, funding and growth of enterprises developing and supplying nature-based solutions This deliverable - Deliverable 24 - builds on:
 - **Deliverable 19:** An interim report on the Connecting Nature Enterprise Accelerator Programmes deployed within front-runner cities (TCD, M20)
 - **Deliverable 20:** Progress report on the establishment of enterprise accelerator programmes in front-runner and fast-follower cities, and recommendations for uptake in multiplier cities (TCD, M32)
 - **Milestone 6:** An interim report on the Connecting Enterprise Accelerator Programmes deployed within front-runner cities (TCD, M30)

Appendix II: The Connecting Nature Framework

The Connecting Nature Framework (Figure 1) places the nature-based solution at the core of an interactive process. The process runs through three distinct phases of development for a nature-based solution: planning, delivery, and stewardship. The building blocks of the Framework are the structural conditions that underpin the planning, delivery, and legacy of nature-based solutions:

- (1) **Technical design:** The nature-based solution encompasses the detailed design of the nature-based solution exemplar and its features. This can be portfolio of nature-based solutions that connected embody one systemic solution.
- (2) **Indicators:** the set of indicators that will be used as a reference for monitoring and evaluating nature-based solutions implementation and scaling that is adaptable to every city context and open to inputs over time.
- (3) **Financing and Business Models:** the different sources of finances for the implementation of the exemplar as well as its long-term plan for maintenance and operation by the city and/or other urban actors and Business model, being co-developed with cities, SMEs, and science partners to inform a new approach on the exemplar as a local business spin-off.
- (4) **Entrepreneurship: the potential of nature-based solutions to stimulate new market and business opportunities.**
- (5) **Governance:** the organisational conditions and skills for connecting different actors across sectors under the same vision of the nature-based solution exemplar for the city and facilitating that they are actively engaged and informed about the co-creation and reflexive monitoring.

These structural conditions are underpinned by 2 processes:

- (6) **Co-production:** the process of active involvement and part-taking in the making of all structural elements.
- (7) **Reflexive monitoring:** the process of facilitated, continuous and adaptive monitoring and assessment of the whole process of co-creation to capture lessons learnt and on time valorise them into the planning/ implementation process.

Appendix III: Guiding questions for developing an entrepreneurship strategy

Step 1: Awareness and strategic alignment

- What are the priorities for economic development in your city?
- How can planned NBS contribute to these economic priorities?
- For each NBS Exemplar please consider how could NBEs contribute to the planning, delivery, maintenance, and sustainability of these solutions.
- What are the challenges and enablers from a city perspective in involving NBEs in the implementation of NBS?

Step 2: Building alliances

- From an NBE perspective, what are the challenges and enablers to start-up and growth of NBEs?
- What are the internal and external barriers faced by nature-based enterprises?
- Do NBEs face specific challenges or enablers?
- Who are the main actors in the innovation ecosystem of each city?
- Open innovation approach engaging a wide variety of innovation ecosystem stakeholders in the development plan to support nature-based enterprises
- How will multiple actors be empowered in building a common vision and plan?
- How can these actors be engaged to stimulate a culture of nature-based entrepreneurship and support the emergence and growth of NBEs?
- What is the level of knowledge and skills of the Connecting Nature team in your city in terms of supporting the emergence and growth of NBE? If skills gaps have been identified, how do you plan to address them?

Step 3: Planning, implementing, and monitoring a customized support programme

- What are the primary objectives of your NBE strategy?
- How will NBE contribute to the implementation of your NBS?
- What measures are you putting in place to stimulate the emergence of a culture of nature-based entrepreneurship and to support the emergence and growth of NBEs?
- What innovation ecosystem actors have been engaged in the development of your NBE strategy and what actors are engaged in the implementation of the strategy?
- How will you know if your NBE objectives have been achieved? How will impact be measured?
- How did you translate your NBE strategy into an actionable implementation plan?
- Who will be following up with ecosystem actors and on specific measures to support the emergence and growth of NBEs? With what timeframe?
- What are the goals of a nature-based enterprise support plan? How do these align with broader strategic goals, in particular the large-scale implementation of nature-based solutions?
- Who needs to be involved to deliver this plan? How will innovation ecosystem stakeholders be involved?
- Who is going to lead on planning, development, and monitoring? Have an adequate budget and resources for piloting or full-scale implementation been assigned?
- What specific support measures will be put in place locally to address challenges and enablers? How will these connect with national or international support measures and platforms?
- How will success be measured? What are the impact indicators?