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Deliverable 10

Submission of financing applications/development of financial partnerships/establishment of financing platforms to facilitate accelerated nature-based solution delivery



Caption: A range of stakeholders engaged in Nature-Based Business Model Canvas workshop for the Growchapel community garden (Glasgow, February 2020)

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Glossary:

PES: Payment for Ecosystem Services is an innovative approach which encourages the maintenance of natural ecosystems through environmentally friendly practices that avoid damage for other users of the natural resources. (WWF)

Stewardship: stewardship of a nature-based solution is the term used to describe the ongoing participatory management and maintenance of the nature-based solution. Stewardship includes the monitoring and evaluation of the nature-based solutions. This enables you to make adaptations that ensure long term sustainability and resilience. (Connecting Nature Guidebook)

Subsidiologist: expert in identifying and pursuing grant and subsidies

Third sector: The part of an economy or society comprising non-governmental and non-profit-making organizations or associations, including charities, voluntary and community groups, cooperatives, etc. (Oxford English Dictionary)

Concessional financing: non-repayable financing from public institutions (e.g. grants from EU programmes, national or city programmes) or private institutions (e.g. philanthropists, NGOs etc) (EIB, 2020)



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Commercial financing: repayable financing from public development banks (e.g. EIB) or private financial institutions (e.g. local banks or equity funds) (EIB, 2020)

Hybrid financing: refers to financing from different sources of concessional financing.

Blended financing: refers to a mix of concessional financing and commercial financing (EIB, 2020)

Within a relatively short period of three years, Connecting Nature has had a major impact in raising the knowledge and awareness of partner cities about alternative financing and business models for large scale implementation of nature-based solutions. The cities have used this knowledge to instigate long-term systemic change within their own organisations. Significant progress has been made in putting in place strategies, programmes, plans, practices, legal and regulatory frameworks to underpin long term co-financing and co-governance of nature-based solutions. First results emerging from initiatives such as the Stiemer Deals in Genk are providing inspiration and guidance for other cities. The main findings of this three year study of the financing of nature-based solutions in three European cities are as follows:

- The public sector remains an important source of financing for large scale deployment of nature-based solutions at city, regional, national and European level. More emphasis needs to be placed on the development of long-term sustainable business models based on co-governance and co-financing.
- Public sector financing (concessional financing) is often used to leverage other sources of private or third sector financing.
- The lack of knowledge, culture and experience of collaboration between public sector organisations and non-public sector organisations is a major roadblock to hybrid or blended financing of nature-based solutions.
- External financing is not extensively used by the front-runner cities in this project for nature-based solutions.
- Nature-based solutions remain a relatively new and complex concept for many cities so public financing to demonstrate proof of concept remains important.
- Effective indicators to measure impact have long been required by cities to secure public financing but, in practice, there is a significant lack of expertise and resources available to capture such data for nature-based solutions.
- High level political and public administration support is a key success factor in ensuring long-term sustainable financing for nature-based solutions.
- Responsibility for nature-based solutions is best placed in city council departments with a clearly defined horizontal remit ideally reporting directly into the Mayor or public administration lead.
- Top down alignment of nature-based solutions with city vision and strategies is critically important to secure political and administrative support.
- Bottom up alignment of nature-based solutions with citizen needs and wider stakeholder engagement are also crucial but remain a challenge in practice in many cities.

1. Executive summary

Connecting Nature aims to support cities in securing financing to support the large-scale implementation of nature-based solutions. This report provides an update on the progress of three Connecting Nature city partners in securing financing for large-scale nature-based solution exemplars in their city:



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Genk (Belgium, population around 65.000) is developing a multifunctional blue-green urban valley – the Stiemerbeek Valley, a neglected corridor of 8 kilometres running through the city and suffering from poor water quality. The city council have approved a budget of €13.8m for four nature-based solutions pilot projects as part of the next 5-year budget planning process (2020-2025) subject to €6.5-7m co-financing being secured from other sources. Progress on securing additional financing is described in detail in the main report. In addition to the four pilot projects, Genk have developed an innovative overarching ‘Stiemer Deals’ co-operation framework which aims to stimulate and support co-financing and co-governance of individual projects between Genk City Council, citizens and other stakeholders to achieve the Stiemer objectives.

Pilot project	Amount of financing	No change in financing	Innovation in financing	Financing status
Valley Route: Bicycle route connecting different urban quarters of city and different tourist areas along a biodiverse green pathway.	€2.5m	X		
SUDS and SODA: Sustainable Urban Drainage Scheme for sustainable water management	€4.5m		X	
Gardens of Waterschei: multi-functional green ‘lung’ serving urban district of Waterschei and retail and business centres close by.	€3.6m		X	
Slagmolen: historic windmill located at gateway to nature reserve.	€3.2m		X	

Poznań (Poland, population around 540.000) aims to develop and out-scale small-scale nature-based solutions – such as natural playgrounds and open gardens in kindergartens – in different parts of the city and in this way create a rich green network. They are also beginning to proactively engage with the private sector regarding future joint development of nature-based solutions.

Pilot project	Amount of financing	No change in financing	Innovation in financing	Financing status
Implementation of nature-oriented playgrounds and ecological demonstrators in pre-schools	€380k		X	
Implementation of “open gardens” at pre-schools or other public institutions by the project end.	Varies		X	Mixed

Joint collaboration with the private sector on nature-based solutions developments	To be determined		X	
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Glasgow (Scotland, United Kingdom, population around 590.000): Glasgow's Nature-Based Solution (nature-based solutions) strategy is to develop and begin delivery of the city's Open Space Strategy (OSS) which was adopted by the City Council on 6th February 2020. Nature-based solutions are embedded as an integral element of the open space strategy which informs and is informed by the local Biodiversity Action Plan, Food-Growing Strategy and sports pitch strategy amongst a myriad of other city council plans and strategies. Glasgow will be demonstrating in practice the impact of nature-based solutions in community gardens such as Bellahouston and Growchapel and in vacant and derelict sites (through the Stalled Spaces programme).

Pilot project	Amount of financing	No change in financing	Innovation in financing	Financing status
City Deal financing	To be determined		X	
Developer contribution financing	To be determined		X	
Climate Emergency Financing	£20m		X	
Demonstration projects	Small-scale		X	Mixed

Within a relatively short period of three years, Connecting Nature has had a major impact in raising the knowledge and awareness of partner cities about alternative financing and business models for large scale implementation of nature-based solutions. The cities have used this knowledge to instigate long-term systemic change within their own organisations. Significant progress has been made in putting in place strategies, programmes, plans, practices, legal and regulatory frameworks to underpin long term co-financing and co-governance of nature-based solutions. First results emerging from initiatives such as the Stiemer Deals in Genk are providing inspiration and guidance for other cities. The main findings of this comprehensive three year study of the financing of nature-based solutions in three European cities are as follows:

1. The public sector remains an important source of financing for large scale deployment of nature-based solutions at city, regional, national and European level. More emphasis needs to be placed on the development of long-term sustainable business models based on co-governance and co-financing.
2. Public sector financing is often used to leverage other sources of private or third sector financing.
3. The lack of knowledge, culture and experience of external collaboration in city councils is a major roadblock to hybrid financing of nature-based solutions.



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4. External financing is not extensively used by the front-runner cities in this project for nature-based solutions.
5. Nature-based solutions remain a relatively new and complex concept for many cities so public financing for demonstrators remains important.
6. Effective indicators to measure impact have long been required by cities to secure public financing but in practice there is a significant lack of expertise and resources available to capture such data for nature-based solutions.
7. High level political and public administration support is a key success factor in ensuring long-term sustainable financing for nature-based solutions.
8. Responsibility for nature-based solutions is best placed in city council departments with a clearly defined horizontal remit ideally reporting directly into the Mayor or public administration lead.
9. Top down alignment of nature-based solutions with city vision and strategies is critically important to secure political and administrative support.
10. Bottom up alignment of nature-based solutions with citizen needs and wider stakeholder engagement are crucial but remains a challenge in practice in many cities



2. Introduction

Background and scope:

Deliverable 10 relates to *Task 3.3 Implementation of the Accelerator Masterplan for each of the front-runner cities (M12-M60)*. This task involves initialising the implementation of the Connecting Nature framework (formerly called Accelerator Masterplans) for the nature-based solutions exemplars identified in Box 1.

Box 1: Description of nature-based solutions exemplars to be funded in Front Runner Cities

Genk (Belgium, population around 65.000) is developing a multifunctional blue-green urban valley – the Stiemerbeek Valley, a neglected corridor of 8 kilometres running through the city and suffering from poor water quality. The objectives are to connect nature with nature, citizens with nature, citizens with citizens, and nature with entrepreneurship by facilitating connections between sites urban neighbourhoods and nature. A suite of pilot projects have been selected for implementation – including the Gardens of Waterschei, Slagmolen, SUDS and SODA and the Valleyroute – that range from redeveloping a former mill as an arts and information centre and gateway to the Stiemer, to engaging with private landholders to develop rain gardens and other sustainable urban drainage system (SUDS) features to attenuate rainwater across the Stiemer catchment. ‘Stiemer Deals’ is the name for an overarching co-operation framework which aims to support collaboration between Genk City Council and other actors to achieve the Stiemer objectives.

Poznań (Poland, population around 540.000) aims to develop and out-scale small-scale nature-based solutions – such as natural playgrounds and open gardens in kindergartens – in different parts of the city and in this way create a rich green network. Poznań’s historic city-wide system of green wedges and rings based on the Warta river valley is threatened by development pressures and the dense city core lacks green spaces. The scaled-up exemplar is an initiative led by the municipality to reinvigorate the existing green system by developing a number of green ‘stepping stones’ within the dense urban core that increase the accessibility of greenspace and enrich the multifunctionality (including recreation and cultural potential) of the green wedges. These are being developed as open gardens in kindergartens. The open gardens are complemented by educational programmes aiming to change the relationship of Poznań’s (youngest) citizens with nature and a ‘toolbox’ through which the municipality supports citizens setting up bottom-up nature-based solutions initiatives.

Partner 3 Glasgow (Scotland, United Kingdom, population around 590.000) is developing a scaled-up nature-based solutions exemplar underpinned by its strategic Open Space Strategy (OSS) and accompanying Local Context Analysis. Based on a wealth of data and spatial analysis, the OSS aims to provide a strategic vision on, and coordinate the responsibilities associated with, the open spaces to ensure a well-managed, well-located and well-connected network of open spaces that operate as part of a wider green network and offer multiple benefits and address multiple pressing challenges. The 15 Local Context Analyses show how to translate the strategic goals into operational projects within 15 areas



of the city, with the aim that local communities will be embedded in developing projects at this scale. Glasgow will be demonstrating in practice the impact of nature-based solutions in community gardens such as Bellahouston and Growchapel and in vacant and derelict sites (through the Stalled Spaces programme).

Source: Deliverable 5, DRIFT (October 2019)

The implementation of these exemplars in each of the front-runner cities aims to showcase three key elements of the Connecting Nature Framework:

- 1) The science of large-scale nature-based solutions deployment,
- 2) The organizational processes needed to make large scale deployment successful, and
- 3) **Financing (i) for cities for large scale deployments** (ii) for emerging innovations as part of the Enterprise Accelerator Programme to be put in place in Task 6.3.

This deliverable is concerned with the third element, specifically providing an update on the financing approaches of front-runner cities for large scale deployment of nature-based solutions.

The development and implementation of Enterprise Accelerator Programmes in Task 6.3 is addressed in Deliverable 19 (January 2019) Deliverable 20 (January 2020) and Deliverable 24 (December 2021).

Task 3.3 states that following the approval of the nature-based solutions Framework for each front-runner city, *“financing applications will be submitted, and co-financing partnerships and innovative market places will be established to secure financing to initiate implementation of prioritised components of the nature-based solutions Framework.”*

The objectives of this report are to:

- identify the challenges and enablers to financing nature-based solutions in each of the front-runner cities;
- report on measures undertaken by front-runner cities to address challenges and leverage enablers;
- provide an update on submission of financing applications/ development of financial partnerships/establishment of financing platforms to facilitate accelerated nature-based solution delivery;
- summarise innovations in the financing approaches of front-runner cities to nature-based solutions;
- recommend further research and innovation actions related to large-scale financing of nature-based solutions.

This deliverable builds on Work Package 2, in particular:

- Milestone 2: Catalogue of financial models for nature-based solutions from front-runner cities required for the development of the accelerator masterplans in task 2.5 (TCD, Month 12, September 2018);



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- Deliverable 5: Nature-based Solutions Framework for Front Runner Cities (DRIFT, Month 25, October 2019).

3. Methodology

4.1. Overview of methodology

This research follows a multi-method qualitative methodology – combining longitudinal case studies with processual analysis (Pettigrew, 1997a, 1997b). Longitudinal field studies are well suited to this research given their usefulness for studying processes of change and development in organisations (Åhlstrom & Karlsson, 2016). The research design pivots between cycles of deduction and induction in line with Pettigrew’s (1997) approach to processual research.

Phase 1 2017-2018:

Literature review: This report builds on and expands the initial literature review undertaken for Milestone 2.4 in 2017/2018 which involved a review of academic literature, Horizon 2020 project outputs and grey literature. The initial literature review undertaken was primarily oriented towards providing cities with a catalogue of financing options for urban development.

The findings from the initial literature review were used as guidance in the collection of baseline data on 10 case studies of financing nature-based solutions across the three front-runner cities of Genk, Glasgow and Poznan. The preliminary findings identifying challenges to nature-based solutions financing were presented at a ‘Transforming Cities’ science-policy interface conference in A Coruna, Spain in May 2018 and discussed and validated in two workshops with local government representatives from other cities across Europe in June 2018. Milestone 2.4 summarising the findings from the first phase of research was submitted in September 2018. Based on the findings of this research, tools such as the nature-based solutions Business Model Canvas and capacity building workshop were developed and deployed in front runner cities in late 2018/early 2019.

Phase 2 2019-2022:

Literature review: An updated review of academic literature pertaining to the financing of nature-based solutions was completed in May-June 2020 using the Scopus database of peer-reviewed literature complemented with a review of non-peer reviewed documentation emerging from other Horizon 2020 funded projects and other international sources e.g. EEA.

An initial search in Scopus on “nature-based solutions” identified 478 documents. A further search on “nature-based solutions” AND “financing” listed only 13 documents. An expanded search on “nature-based solutions” AND “financing” OR “financing” or “finance” resulted in 21 papers. A review of these 21 papers found that the majority of papers identified financing as a key challenge to implementation of nature-based solutions and identified the need for innovative financing approaches (Davies et al., 2017; Egusquiza et al., 2019; Frantzeskaki et al., 2019; Jepson, 2018; McVittie et al., 2018; Singh et al., 2020; Zuniga-Teran et al., 2020). The main findings from the literature review are presented in the next section.



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In addition to the ongoing literature review, reflexive monitoring methodologies (Beers & Van Mierlo, 2017; Lodder et al., 2019; Sol et al., 2018) are being used to capture ‘reality in flight’ in terms of the changes to financing, entrepreneurship and governance processes of local governments. This involves regular calls with the front-runner cities which began in January 2019 and will continue until the end of the project. There are two types of reflexive monitoring calls as presented in Table 1:

Reflexive monitoring calls led by DRIFT WP2: these calls follow a highly structured process in which the cities prepare in an internal team environment their own Dynamic Learning Agenda which identifies critical turning points during the last period, a reflection on lessons learned and follow-up actions. The content of these calls may cover any element of the Connecting Nature framework or wider issues which may crop up spontaneously. The content is determined by the cities and their identification of the critical turning points during the last period. The overall learning outcomes from these calls are analysed by DRIFT and front runner cities after each call and the main learning outcomes synthesised for wider discussion and review with WP leaders and cities every 6 months.

Reflexive monitoring calls led by Trinity (WP6): these calls are more informal. They address critical turning points, a reflection on lessons learned and follow-up actions specifically related to financing, governance and entrepreneurship. Sometimes these calls are requested by cities to deal with specific financing issues arising e.g. Slagmolen preparatory process, Growchapel workshops, etc. The notes from these calls are sent to the cities afterwards and are used as input for reflection on progress in subsequent calls. The overall learning outcomes from these calls are analysed by Trinity, discussed with front-runner-cities and presented in this Deliverable 10 (June 2020) and Deliverable 11 (December 2021)

Table 1: Table of Reflexive Monitoring calls

Front-runner city	Reflexive Monitoring Calls led by DRIFT	Trinity calls on financing, governance and entrepreneurship
Genk	6 calls 2019: Jan/Feb/Apr/Oct/Dec 2020: Mar	10+ calls: 2019: Mar/May 2019: Oct/Nov/Dec/Jan (Slagmolen) 2020: Jan/Mar/May/June
Glasgow	9 calls: 2019: Jan/Feb/Mar/May/June/Oct 2020: Jan/Mar/June	6+ calls: 2019: Sep/Nov 2020: Jan/Feb (Growchapel) / April/June
Poznan	8 calls: 2019: Feb/Mar/Apr/May/Oct 2020: Jan/Feb	6 calls: 2019: Nov / Dec (Peer2Peer Crowdfunding) 2020: January/March/May/June

A chronological table of activities undertaken is included in Appendix I.

4. Findings from literature review

The review of 21 academic papers identified some common issues relating to financing of nature-based solutions:

- **Political will:** The importance of political will as a pre-condition to a holistic approach to nature-based solutions leading to the alignment of nature-based solutions with strategic visions and objectives at city level and internally at departmental level (Zuniga-Teran et al., 2020);
- **Stakeholder engagement:** The role of stakeholder engagement in securing public support for financing and stewardship in the long term (McVittie et al., 2018; Tonks & Lockie, 2020; Zuniga-Teran et al., 2020)
- **Knowledge gaps:** Public sector understanding and expertise related to nature-based solutions should not be taken for granted given the relative novelty and complexity of the nature-based solutions concept (Davies et al., 2017; Molino et al., 2020; Zuniga-Teran et al., 2020)
- **Public sector financing** remains an important source of nature-based solutions financing in particular to support experimentation at the early stages of nature-based solutions implementation (Dignum et al., 2020).
- **Challenges to non-public financing:** Public financing increasingly requires co-financing from other sectors (Egusquiza et al., 2019) which may be challenging for a number of reasons including:
 - The public nature of nature-based solutions which makes it difficult to capture 'pay-as-you-go' type return-on-investments;
 - Individual nature-based solutions investments are often too small for investors but cities lack the knowledge to scale-up implementation (Tonks & Lockie, 2020);
 - There is a perception that nature-based solutions investment is higher risk and there is a longer timeframe for return on investment (Frantzeskaki et al., 2019);
- **Perception of higher costs of nature-based solutions:**
 - Long term maintenance costs of nature-based solutions may deter investors (Zuniga-Teran et al., 2020);
 - Sometimes nature-based solutions add substantially to the costs of infrastructure. One study noted that green roofs added 45% to the costs of new industrial buildings suggesting that public incentives and/or regulations are needed to rebalance such costs in order to arrive at a compelling case for implementation (McVittie et al., 2018);
- **Difficulty quantifying benefits:**
 - There are considerable difficulties in completing cost-benefit analysis for nature-based solutions. In particular, the methods of quantifying and communicating the non-monetary multi-functional benefits of nature-based solutions such as the contribution to social or environmental impacts. Big data tools have been identified as a potential solution to help address this challenge (Castonguay et al., 2018; Frantzeskaki et al., 2019; Zuniga-Teran et al., 2020).
 - Some studies show that budgeting decisions are currently made on the basis of installation costs rather than long term cost-benefit analysis (Castonguay et al., 2018).



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- **The importance of building business models:** “A key knowledge need is... to develop an understanding of the forms of business model that can sustain nature-based solutions over the long term and attract investment.” (Frantzeskaki & Rol, p. 463; Jepson, 2018)
 - Many cities and regions are interested in the potential of tourism as a source of financing and a sustainable business model for nature-based solutions. A review of nature-based solutions from a sustainable tourism perspective points out the need to balance financing solutions such as payment for ecosystem services (PES) with the concept of visitors willingness to pay (WTP) (Mandić, 2019).
- **The regulatory environment** has been identified as both a deterrent for nature-based solutions implementation e.g. difficulty complying with standards designed for grey infrastructure; but also potentially a source of financing e.g. fines for non-compliance with water standards have proven to be a good incentive for nature-based solutions investment and may generate financing for grants to support such investments (Zuniga-Teran et al., 2020).

Examples of innovative nature-based solutions financing solutions:

- Hybrid financing involving public authorities, property owners, NGOs, and the private sector for green corridors as part of the Wild West End project in London (Tonks & Lockie, 2020)
- Public donation campaign for tree planting and green spaces in Hamburg (Tonks & Lockie, 2020).
- Incentivising citizen investment: The Urban Forest Fund of Melbourne provides ‘greening’ incentives to private citizens in recognition of the fact that 75% of green infrastructure in Melbourne is on private land (Frantzeskaki et al., 2019).
- Environmental Impact Bond (EIB): In the US, DC Water implemented the first example of an environmental impact bond (EIB) in Washington. Using the same principles as social impact bonds, DC Water used the ‘pay for success’ model, in this case success was the reduction of run-off water into sewage overflow systems (Frantzeskaki et al., 2019).
- **Landowner collaboration mechanisms:** land ownership issues were identified as important roadblocks or enablers relating to nature-based solutions mitigating against flooding. Mechanisms such as compensation, landscape partnerships or PES to unlock land ownership were identified as potential solutions (Liski, 2019; McVittie et al., 2018).

The scale of financing for nature-based solutions can also vary significantly between very small projects such as community gardens and very large projects such as flooding mitigation schemes (Haase & Dushkova, 2018). In relation to large scale NBEs financing, organisations such as EcoShape in the Netherlands have emerged to manage public-private investment in ‘Building with Nature’ programmes targeting large scale infrastructural nature-based solutions projects (Van Eekelen et al., 2019). On a smaller scale, the challenging public sector financing situation in the UK has led individual forestry (and park management) agencies to develop creative forms of private sector collaboration including corporate sponsorship, CSR schemes, and tree management services for the private sector (Davies et al., 2017). Crowd-financing is another mechanism identified for small-scale financing of nature-based solutions (Frantzeskaki et al., 2019)



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The obvious limitation of these Scopus searches is that nature-based solutions is a relatively new concept hence the relatively low number of results. Substituting the term “nature-based solutions” with alternative phrases related to financing or financing of green infrastructure or ecosystem services or green financing may yield further results, however it may also reduce relevancy. There is much literature for example on the topic of the ‘green finance gap’ but this often refers to gaps in financing for ‘green transport’ or ‘green energy’ projects (Hafner et al., 2020). While such literature does show similar issues such as path-dependency and lock-in due to the long-term nature of large scale infrastructure projects, one of the main advantages is the well-proven capability of such projects to generate return-on-investment through customer charges for energy or transport. The challenge of excluding potential beneficiaries from using nature-based solutions is a long documented challenge of public goods and common-pool resources (Ostrom, 2005).

A review of research outcomes (publications and deliverables) from other EU projects (Green Surge, Naturvation, Nature4Cities, NAIAD and GrowGreen) showed that earlier projects (Green Surge) focused on how to provide an economic valuation of nature-based solutions whereas subsequent projects focused more on innovative financing and business models. The EU project GrowGreen published a useful catalogue of financing options for nature-based solutions (Baroni et al., 2019) while other projects made the case for focusing on the development of sustainable business models for nature-based solutions (Toxopeus & Friedemann, 2017). Naturvation and Connecting Nature developed specific tools to support cities in developing sustainable business models for nature-based solutions (McQuaid, 2019; Toxopeus, 2019). Nature4Cities and Connecting Nature research identified that financing of nature-based solutions was likely to be related to public administration models so, for example, traditional public administrations were more likely to self-finance nature-based solutions whereas ‘new public management’ administrations were more likely to seek external financing partnerships (Egusquiza et al., 2019; Egusquiza et al., 2017; McQuaid et al., 2020 (forthcoming)). Empirical research from both Naturvation and early studies from Connecting Nature indicated that hybrid financing is relatively common for nature-based solutions (Haase & Dushkova, 2018; *Urban Nature Atlas*, 2018).

5. Findings from reflexive monitoring

This section provides a summary of the findings from 18 months of reflexive monitoring with front-runner cities related to financing of large-scale implementation of nature-based solutions. This includes a comprehensive update on the status of submission of financing applications, development of financial partnerships, establishment of financing platforms and other actions underway or planned to facilitate accelerated nature-based solution delivery in each front-runner city.

One of the main limitations of this study is that the nature-based solutions being implemented in all three front cities are all related to open spaces which present specific opportunities and challenges related to financing and governance. Nature-based solutions such as green buildings may present alternative opportunities and challenges for financing but these types of nature-based solutions are not explored in this study.

Stiemer Team: The Stiemer Team refers to the core team responsible for development of the Stiemer Valley nature-based solutions. This team is funded wholly or partially by the Connecting Nature project and is situated in the Department of Environment and Sustainable Development.

<p>Nature-based solutions financing requirements</p>	<p>The Stiemer Valley nature-based solutions exemplar in Genk has been broken down into four smaller pilot nature-based solutions projects each of which may attract different forms of investment. A financing strategy has been prepared for each pilot project. The total estimated financing for the four pilot projects of Stiemer Valley is €13.8m:</p> <ol style="list-style-type: none"> 1. Valley Route (€2.5m): bicycle route connecting different urban quarters of city and different tourist areas; 2. SUDS 'n Soda (€4.5m): Sustainable Urban Drainage Scheme for sustainable water management in city districts along Stiemer Valley; 3. Gardens of Waterschei (€3.6m): multi-functional green 'lung' serving urban district of Waterschei and retail and business centres close by; 4. Slagmolen (€3.2m): historic windmill located at gateway to nature reserve. <p>Stiemer Deals is a horizontal framework which spans the whole Stiemer Valley including but not limited to the four pilot project areas. Stiemer Deals aims to stimulate and support bottom-up win-win collaborations between the city council of Genk and citizens, academics, private enterprises and other actors within the context of the Stiemer Valley.</p>
<p>Specific challenges/ enablers identified</p>	<p><i>Challenges identified:</i></p> <p>External:</p> <ul style="list-style-type: none"> • High dependency on public sector financing of nature-based solutions. Reduction in public sector financing leading to pressure to find alternative sources of financing in particular for long term stewardship of nature-based solutions; • Changing political environment leading to a higher focus (and financing) for other societal challenges perceived to be more urgent e.g. childhood poverty. <p>Internal:</p> <ul style="list-style-type: none"> • Fragmentation of knowledge within local government departments; Responsibility for nature-based solutions assigned to one department with high level of technical knowledge but at the beginning of the project, a low level of financing knowledge. In the past, this has led to over-reliance on the same sources of financing (usually public) and lack of innovation in financing; • Low level of knowledge and interest in co-financing and co-ownership of nature-based solutions in other departments; • Implementation hampered by inflexibility of internal processes and slow pace of change; • Responsibility for initiation and financing of nature-based solutions in

	<p>Genk historically lay with local government. Limited experience of collaborative governance of nature-based solutions with private sector or third sector actors.</p> <p><i>Enablers</i></p> <ul style="list-style-type: none"> • Strong political support from council members and Mayor for nature-based solutions and for experimenting with new approaches to financing and governance; • Short lines of communication facilitating rapid decision-making between nature-based solutions department and political decision-makers including the Mayor; • Stierner team open to internal and external collaboration and supported by Mayor in experimenting new approaches; • Track record in securing EU financing which helps to leverage other sources of financing.
<p>Measures undertaken to address challenges and leverage enablers;</p>	<p><i>Challenges identified:</i></p> <p>External:</p> <ul style="list-style-type: none"> • <i>Reduction in public sector financing budgets leading to pressure to find alternative sources of financing in particular for long term stewardship of nature-based solutions:</i> implementation of Stierner Deals framework to facilitate financing and collaboration with third parties; recruited business development manager to lead on collaboration with private sector and currently seeking local partners to bring forward individual collaborations with private sector • <i>Changing political environment leading to a higher focus (and financing) for other societal challenges e.g. childhood poverty:</i> as part of WP3, Genk undertook strategic policy alignment activities which led to a clearer alignment of nature-based solutions with the major policy goals of the city e.g. embedding Stierner Valley nature-based solutions as a flagship project in the Climate Action Plan of the city. Measuring the impact of nature-based solutions through the Connecting Nature indicator set will help to demonstrate the contribution to social as well as environmental and economic goals. <p>Internal:</p> <ul style="list-style-type: none"> • <i>Fragmentation of knowledge within local government departments.</i> Through capacity building workshops and recruitment the capacities of the Stierner team were increased with regard to financial planning and business modelling. This step up in skill and confidence levels became evident in terms of multi-annual budget preparation where the team took on a much increased role. They also showed increased confidence in experimenting with new financing sources and the coordination of financing bids leading to establishment of new partnerships. It remains to be seen if this increased capacity is sustainable in the long run. The preparation of budgets and policy planning at director level is time-consuming and is it unclear if the budget for additional staff for Stierner

Deals manager and business development will be sustained.

- *Low level of knowledge and interest in co-ownership of nature-based solutions in other departments.* A new governance structure for nature-based solutions has been developed to encourage co-ownership of nature-based solutions with other departments. Securing commitment from other departments is slow going and requires ongoing investment of time and energy.
- *Implementation hampered by inflexibility of internal processes and slow pace of change.* Internal process change has been frustratingly slow due in part to a lack of motivation for change / fear of uncertainty among internal staff. Some progress is being made e.g. incorporating co-creation into tendering procedures. A major breakthrough at the level of regional government funding for water management was the successful addition of a new line of grant financing for experimenting concepts like SUDS. Previously this source of regional financing was restricted only to traditional grey infrastructure solutions.
- *Responsibility for initiation and financing of nature-based solutions in Genk historically lay with local government. Limited experience of collaborative governance of nature-based solutions with private sector or third sector actors.* The Stiemer Deals framework facilitates financing and collaboration with third parties. The plan to ramp up collaboration (and financing) with private sector partners has been delayed due to the difficulties finding someone to lead on this at local level. Discussions are underway with local organisations to progress this aspect further.

Enablers

- *Strong political support from council members and Mayor for nature-based solutions and for experimenting with new approaches to financing and governance.* The Mayor has been instrumental in tackling roadblocks to progress – stepping up to promote and lobby for the Stiemer nature-based solutions and nature-based solutions in general at Flemish government level, making direct contact with other departments and external stakeholders to overcome challenges and propose solutions. Strong political support also from the deputy mayor with responsibility for environment who lobbied hard to secure full budget for Stiemer project.
- *Short lines of communication between nature-based solutions department and political decision-makers including the Mayor.* Regular meetings and phone calls with the Mayor and Alderman mean challenges are identified early and politicians take a hands-on approach in negotiating and lobbying for solutions.
- *Stiemer team open to internal and external collaboration and supported from the Mayor in experimenting new approaches.* Confident in their political support, the Stiemer team have pioneered new innovations in finance and governance, constantly pushing boundaries and challenging the status quo. Perseverance.

<p>Current status re. nature-based solutions financing</p>	<p>Budget of €13.8m for four pilot projects approved by City Council at the end of 2019 as part of planning for next 5-year budget planning process (2020-2025) subject to €6.5-7m co-financing being secured from other sources. Progress on securing financing is identified hereafter:</p> <ol style="list-style-type: none"> <li data-bbox="400 412 1426 981"> <p> 1. Valley Route (€2.5m): The Province of Limburg Cycling Fund has been clearly identified as a source of financing for the cycle route which will form a core element of this pilot project. This fund will subsidize 80-90% of the costs of the cycle path of €1.7m subject to compliance with specific conditions. The Stierner team have worked hard to meet these conditions and are presenting the project to the province at the end of June 2020. Additional potential financing for other broader nature-based solutions objectives have been identified from 'Limburg Strong Brand' (LSM) which uses corporate financing to invest in local projects. LSM usually invests in for-profit ventures but financing appears to be decided on a case-by-case basis. The Stierner team think a case can be made highlighting the contribution of the Valley Route to business and society. They have been approached to participate in other LSM applications but have decided it is better to go it alone.</p> <li data-bbox="400 987 1426 1294"> <p> 2. SUDS 'n Soda (€4.5m): This project is being implemented on a phased basis. 58% of the first €1m financing phase has been secured (€200k from Flemish government fund for surface de-sealing and €380k from Flemish Environment Agency for climate adaptation pilot). On this basis, the Stierner team are confident the City of Genk will agree to co-finance the remainder of this pilot. The Mayor and Alderman are strong believers in this pilot. The success of this pilot will then be used to attract further financing for future phases.</p> <li data-bbox="400 1301 1426 1675"> <p> 3. Gardens of Waterschei (€3.6m): The City Renewal fund, a subsidy of the Flemish government has been identified as a firm source of financing for this project. Preliminary meetings with the selection jury were positive so a proposal for up to €5m in financing is being submitted on 15th July 2020. Normally this fund requires 30% private financing to be secured. The Stierner Team are proposing to use the Stierner Deals to show they are actively investing in PPP cooperation. The Stierner team are collaborating closely with the Dept of Economy in the development of this proposal to show how nature-based solutions can leverage the development of adjacent retail streets.</p> <li data-bbox="400 1682 1426 2024"> <p> 4. Slagmolen (€3.2 million): Cultural heritage subsidies have been identified for restoration of the historic windmill on this site and a further €400k in Flemish subsidies have been identified for land development around the site. The city had agreed to a joint partnership with an NGO (Naaturpunt) to buy the site (estimated value €400-800k) and to jointly develop a business model for ongoing stewardship as part of a co-production process involving other actors and delivering multiple benefits. However due to the COVID 19 crisis, Naaturpunt have withdrawn from the deal. The city has also reduced</p>
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	<p>the overall project budget for landscape development around the site. The city remains committed to buying the site but in the current context, momentum has reduced somewhat.</p> <p>Stiemer Deals: 16 deals underway ranging from small collaborations to large collaborations.</p>
<p>Innovations in financing / systemic change</p>	<p>Stiemer Deals - collaborative financing and governance framework: Connecting Nature has led to a broader perception of the value of nature. Before the project the Stiemer team focus was on spatial planning but this has expanded to embrace the economic and social value of nature-based solutions. The team realised that to achieve these co-benefits, a proactive approach was needed. This led to the piloting of the Stiemer Deals collaborative financing and governance framework to proactively stimulate and support collaborative financing and governance of projects related to the Stiemer Valley. Stiemer Deals covers large projects e.g. co-financing of Slagmolen pilot project with external parties and small projects e.g. collaboration with local academic partner on Stiemerlab Citizen Science project.</p> <p>System change- new financing stream secured for climate change innovations: After months of political lobbying from Genk and Antwerp, a major breakthrough was achieved in securing a new line of financing from the Flemish Environment Agency for experimentation related to innovations in water/sewerage management e.g. SUDS. Multiple cities will benefit from this new fund in the future.</p> <p>Increased capacities of the Stiemer team: The capacity of the Stiemer team in StadGenk to innovate and pilot new finance, business and governance models has vastly increased with the recruitment of a social innovation specialist, a business developer (temporary contract) and currently, planned collaboration with social enterprises to stimulate new PPP partnerships.</p> <p>Mainstreaming of nature-based solutions: Inviting and involving new partners into StadGenk financing proposals and to Connecting Nature events has led to an increased awareness among these partners of the multifunctional benefits of nature-based solutions. Many of these partners have now become ‘ambassadors’ for nature-based solutions, further raising awareness and acceptance, incorporating nature-based solutions into their own initiatives and inviting StadGenk into their financing proposals e.g. New financing partnership (valued at €146.422) with local academic institution Luca School of Arts for citizen science lab in Stiemer Valley.</p>
<p>Learning Stiemer Team</p>	<ul style="list-style-type: none"> • Increased knowledge of financing and business planning for nature-based solutions – more confident in discussions with other departments and external partners; • Increased ownership and control of policy, planning and budgetary

	<p>process – Stiemer team now have a better understanding of formal and informal processes around budget preparation and have succeeded in embedding nature-based solutions into the Climate Action plan which adds weight to financing applications;</p> <ul style="list-style-type: none"> • Increased realisation of the importance of aligning nature-based solutions with city goals, • Financing bids (even if unsuccessful) can be a useful way of raising awareness and developing new strategic partnerships;. • The implementation process has revealed gaps in knowledge/existence of legal instruments to support different forms of collaboration. <p>Stiemer Deals:</p> <ul style="list-style-type: none"> + Positive – new experience of collaboration with external stakeholders and role of city as a facilitator of social innovation; - Negative – experience with Slagmolen deal shows need for clearer collaboration framework in particular larger deals.
<p>Outstanding risks and challenges</p>	<p><i>Risks</i></p> <p>StadGenk remain highly dependent on public sector financing for nature-based solutions. COVID 19 will put significant further pressure on public sector budgets. Potential risks include:</p> <ul style="list-style-type: none"> • re-negotiation of StadGenk city council financing commitment to StiemerValley (high risk – already been cut by €400k) • reduction of budget/increased competition for future public financing programmes at regional or EU level (high risk) • reduction in citizen and third sector financing for nature-based solutions (medium-high risk depending on level of reliance on public sector financing) • reduction in private sector financing of nature-based solutions (low-high risk depending on sector and duration of Covid fallout. Some private sector areas like retail have experienced an economic upturn, others have experienced a severe downturn). <p><i>Challenges</i></p> <ul style="list-style-type: none"> • A key challenge which has emerged is the difficulty in recruiting staff with transdisciplinary skill sets e.g. environmentalists with business knowledge and vice versa. This profile is essential to realise the objective of securing private sector collaboration. While this profile may exist in major cities like Brussels, recruiting this talent to work in a small city like Genk is too expensive and unfeasible. • The long-term business model to support StiemerDeals post-project needs to be explored and the business model for pilot projects. The City Renewal financing if successful may provide a financing extension for the duration of this financing which provides more time to develop the private sector financing dimension and a sustainable business model.
<p>Next actions</p>	<ul style="list-style-type: none"> • Presentation to Province of Limburg Cycling Fund for Valley Route (end



Bringing cities to life, bringing life into cities

	<p>June 2020)</p> <ul style="list-style-type: none"> • €5m City Renewal fund submission for Gardens of Waterschei (15th July 2020) • Secure StadGenk financing for SUDs n Soda and Slagmolen purchase. • Official launch of StiemerDeals in September 2020 following successful pilot. Collaboration with local enterprises on private sector deals.
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Stiemer Deal case study (see Connecting Nature website)

Poznan: Status update

Connecting Nature team: The Connecting Nature Team refers to the core team responsible for development of nature-based solutions in Poznan. This team is funded wholly or partially by the Connecting Nature project and is situated in the Project Coordination Office in Poznań City Council.

<p>Nature-based solutions financing requirements</p>	<p>Poznan aims to develop and out-scale small-scale nature-based solutions in densely populated parts of the city with limited access to green infrastructure. To date their activities have focused on two main exemplars (as identified in Deliverable 5 the CN Framework). These are the:</p> <ol style="list-style-type: none"> 1. Implementation of nature-oriented playgrounds and ecological demonstrators in pre-schools. In the school year 2017/2018 there were 123 public pre-schools managed by the City and 120 managed by other institutions subsidized by the City (105 non-public and 15 public). The Connecting Nature team aim to support the design, planning and delivery of an average of 5 nature-oriented playgrounds per year. Financing for ongoing maintenance or stewardship costs is the responsibility of kindergarten management. 2. Implementation of “open gardens” at pre-schools or other public institutions by the project end. Three projects were identified: <ul style="list-style-type: none"> • Kindergarten #42 • Kindergarten #31 • Winter Garden <p>More recently, the Connecting Nature team have begun to explore opportunities to realise their ambition of developing and up-scaling small-scale nature-based solutions through:</p> <ul style="list-style-type: none"> • Joint collaboration with the private sector on nature-based solutions developments • Proactively stimulating nature-based entrepreneurship
<p>Current status re. nature-based</p>	<p>1. Financing for nature-oriented playgrounds and ecological demonstrators (see summary table in Appendix II)</p>

**solutions
financing**



“Program for modernization and extension of playgrounds for the period 2016 to 2020”.

This program is an important source of financing for pre-schools developed by the Education Department of the Poznań City Hall and accepted by the Poznań City Council. The program allocates a yearly sum of 500,000.00 PLN for 10 pre-schools in the city of Poznań (the money is divided equally into 10 pre-schools). Every year (until 2020), public pre-schools can apply to the Education Department for money from this program. The Education Department examines all applications submitted and, according to internal criteria, selects 10 pre-school institutions in each year from 2016 and grants them 50,000.00 PLN for modernization or renovation (not only regarding playgrounds, each institution decides for itself which tasks will be realized and financed). Once a kindergarten has received money from the Program, it may not receive it again.

At the moment, it is not known whether the Education Department will continue the *Program of modernization and extension of playgrounds* in the coming years. At the budget session of the City Council, which will take place at the end of June 2020, Councillors will discuss, propose and set the budget for the next year/years – in connection with the COVID-19 pandemic, the budget will be divided first into urgent and priority tasks for the City.



Project of nature-oriented playgrounds at preschools in Poznań.

The goal of the Genesis pilot project *“Active ways of learning in preschool education – Poznan centres for sharing the knowledge and experience”* was to introduce and test innovative solutions in space arrangement based on the experience gained from cooperation with Berlin pre-schools (YALE project 2016-2019). This project involved three Poznań pre-schools (P42,P46, P87), in which the interiors and didactic rooms for pre-schoolers were modernized in the first stage, and in the second stage modernization of preschool gardens began, creating nature-oriented playgrounds. In these 3 pre-schools, natural playgrounds were created in 2018. The entire investment was financed from the budget of the city of Poznań. In addition, each of these 3 kindergartens applied and received 50,000.00 PLN in 2018 from the Education Department for additional work (as part of the *Dept of Education Program for the modernization and extension of playgrounds; see above*).

The pilot project of natural playgrounds in three pre-schools and a conference summarizing the activities of the City of Poznań in kindergarten spaces in November 2018 resulted in huge interest in such solutions the following year. Therefore, in 2019, another 10 pre-schools, which also applied to *the Department of Education Program* (and each received 50,000.00 PLN), showed interest in the natural playgrounds project and entered into cooperation with the city Team. In addition, two separate pre-schools joined, which received a grant from the Poznań Civil Budget = participatory budget (100,000.00 PLN

each) for the modernization of the preschool garden. In total there were 12 pre-schools in 2019. The financial support from Connecting Nature consists of financing the space design process by a landscape architect, also consultation and workshops for teachers. In summary **nature-oriented playgrounds** received (i) an investment of 50,000.00 PLN (*Department of Education Program ...*) or 100,000.00 PLN (grant from Civil participatory budget). (ii) a contribution of on average 8,500.00 PLN per kindergarten (financed from Connecting Nature) towards the cost of nature-based solutions design, consultation and workshops.

In 2020, once again, another 10 pre-schools received funds of 50,000.00 PLN from the *Department of Education Program*. The Connecting Nature team took the initiative to support them and proposed a project for natural playgrounds (design, consultations, workshops with an expert/landscape architect), but of these 10 only 3 decided on such a solution. In addition, two separate pre-schools joined us, which received a grant from the Poznań Civil Budget = participatory budget (100,000.00 PLN each) for the modernization of the preschool garden. In total, there are 5 pre-schools developing nature-based playgrounds in 2020. Once again the cost of designing, consultations and workshops is on average 8,500.00 PLN per kindergarten (financed from the Connecting Nature project).



Ecological demonstrators project in preschools in Poznań.

2018 – to promote and disseminate the information and objectives of the Connecting Nature project, as well as to support environmental education in Poznań pre-schools, the Connecting Nature team proposed a project of ecological demonstrators for preschools. In 2018, the Connecting Nature team contacted all 10 pre-schools who were funded by the *Department of Education Program of modernization and extension of playgrounds* with a proposal for an eco-demonstrator project (to be fully financed from the Connecting Nature project). All 10 preschools were interested in such activities, so by the end of the 2018 we installed 50 eco-elements in 10 preschool gardens. 3 of these preschools were also supported with the design and implementation of nature-based playgrounds (see previous point). Cost: 94,000.00 PLN, 10 preschools, 50 eco-elements

2019 – The 10 pre-schools chosen by the *Department of Education Program* for 2016 were approached to receive ecological demonstrators in 2019. This was done so as not to overlap with the implementation of natural playgrounds in the 10 pre-schools selected by the Education Department in 2019. These eco-demonstrators were fully financed again from the Connecting Nature project. Cost: 75,000.00 PLN, 10 preschools, 30 eco – elements installed in gardens.

	<p>2019 – in 2019, the Connecting Nature team were also successful in applying for 50% financing for eco-demonstrators as part of an ecological education financing programme supported by the Regional Fund for Environmental protection and Water Management. The remaining 50% was funded by the City of Poznan. 10 pre-schools were selected for financing from the <i>Department of Education Program</i> in 2017. Cost: 65,000.00 PLN (50% of subsidy), 10 pre-schools, 54 eco-elements In total from 2018 to 2019, 30 preschools were involved in the project installing 134 eco-elements in their gardens.</p> <p>2020 – The Connecting Nature team applied for a further subsidy from the Regional Fund for Environmental Protection and Water Management (WFOŚiGW) to provide eco-demonstrators for 11 pre-schools selected from the <i>Department of Education Program</i> in 2019 (the 12th financed in 2019 from the Civil participatory budget already received eco-demonstrators in a previous year).</p> <p>2. Implementation of “open gardens”:</p> <p> Kindergarten #42: This first open garden has now moved from the stage of planning and delivery through to the operational/stewardship stage where impact is being monitoring using indicators and processes developed in Connecting Nature. The planning and delivery phases were funded through municipal budgets at a cost of PLN 113,000.50. The costs of stewardship are managed by the local kindergarten.</p> <p> Kindergarten #31: This project was cancelled in 2020 at planning and co-creation stage as the kindergarten was re-located to a primary school where there is no opportunity to develop an open garden.</p> <p> Winter Garden: This project is at planning and design stage. It is located in a ‘green’ neighbourhood where there are multiple potential users – 2 to 3 other pre-schools, a primary school and an interested group of seniors. Preliminary architect costs for ‘simple reconstruction’ were estimated at PLN 800k (€200K)’. PLN200K (€50k) in City Hall financing was identified to cover design and planning costs in 2019/2020. Given the COVID situation it is uncertain if more City Hall financing can be allocated to this project in the next budget cycle. The Connecting Nature team planned to apply for additional financing from other sources such as the Regional Environment Fund but the criteria for this fund changed in 2019 which meant an application could not be submitted. They will have to re-evaluate if an application is possible next year. In the meantime, the project champion (a local kindergarten) has asked the Connecting Nature team if they could use the project concept to apply for financing from the Civil budget</p>
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	<p>(participatory budgeting). The Connecting Nature team agreed but do not yet have clarity on the details yet of their application. It is also unclear if the civic budget will be lower than previous years due to COVID.</p> <p> Joint collaboration with the private sector on nature-based solutions developments and proactive stimulation of nature-based entrepreneurship:</p> <p>Planning was advanced on the organisation of a Summit on Nature-Based Entrepreneurship in Poznan in July 2020. The organisation of this event has opened up many doors and potential collaborations both within City Hall and with external organisations including the Polish Association of Developers. Due to COVID, this event has been postponed to June 2021.</p> <p>The Connecting Nature team are still in discussions with other departments and the International Fair about the organisation of a workshop with and for developers and other target groups in the context of the Eco-Trend event which is part of the large POLECO annual summit which takes place each autumn. It is unclear at the moment if this event will take place due to COVID.</p>
<p>Specific challenges/ enablers identified</p>	<p><i>Challenges identified</i></p> <p>External</p> <ul style="list-style-type: none"> • High dependency on EU financing for nature-based solutions pilots. Challenging public sector financing environment due to budgetary changes and ongoing tensions between central and local governments further exacerbated by the COVID 19 pandemic. Lack of visibility on changes to financing instruments. • Lack of alignment with dominant political focus on Poznan as a dynamic, entrepreneurial city. <p>Internal</p> <ul style="list-style-type: none"> • Low level of knowledge and consequently support for nature-based solutions across other departments and at political level. • Lack of knowledge, experience and instruments to support alternative financing mechanisms with non-public sector actors. • The nature of nature-based solutions exemplars in Poznan (open gardens/nature-oriented playgrounds in primarily public locations) limits the potential for innovation in financing. • Internal resource constraints <p><i>Enablers identified</i></p> <ul style="list-style-type: none"> • Commitment and creativity of Connecting Nature team in circumventing highly bureaucratic administrative environment and negotiating a hybrid financing model for nature-oriented

	<p>playgrounds.</p> <ul style="list-style-type: none"> • Success in securing EU financing has facilitated demonstration of nature-based solutions benefits leading to increased support. • Potential interest of private sector in supporting nature-based solutions.
<p>Measures undertaken to address challenges and leverage enablers;</p>	<p><i>Addressing challenges</i></p> <p>High dependency on EU financing and uncertainty of public sector financing: Even before COVID 19, tensions between city councils and central government had led to increased pressures on city council budgets in particular related to increased obligations in education. The postponement of presidential elections due to COVID 19 is leading to continued uncertainty on the overall budget financing situation. At local level, the COVID 19 situation has vastly exacerbated the public financing situation at one stage threatening even important strategic projects requiring minimum levels of co-financing. The Connecting Nature team have little control or visibility over the continuation of important sources of financing such as the co-financing from the department of education.</p> <p>The Connecting Nature team also rely on other sources of public financing at regional or national level. They have little control of this financing as evidenced by significant lastminute changes to the conditions of application for the Regional Environment Fund, an important source of financing for eco-demonstrators (one element of nature-oriented playgrounds) in previous years.</p> <p>EU projects are another important but uncertain source of financing, innovation and expertise in Poznan and take up valuable project team resources.</p> <p>One of the ways in which the Connecting Nature team is trying to combat this uncertain financing situation is by developing a hybrid model of financing for the nature-oriented playgrounds exemplars (see innovations section) and exploring new financing opportunities outside of the public sector.</p> <p>Lack of alignment with political priorities: Poznan self-identifies as a dynamic, entrepreneurial city with a strategic focus on continued economic success. The Connecting Nature team have aligned with this strategic focus by focusing on nature-based entrepreneurship. Together with Connecting Nature partners Trinity and UCD, they are leading on the organisation of a high-profile summit, highlighting the contribution of nature-based enterprises not only to the economy but also to creating social and environmental value. The organisation of this event has opened the door to new collaborations with internal departments and with external stakeholders. Unfortunately, this event planned in July 2019 has had to be postponed due to COVID 19.</p> <p>Low level of knowledge and consequently support for nature-based solutions across other departments and at political level. The</p>

Connecting Nature team do not benefit from a vocal champion for nature-based solutions at senior political level so there is little top-down understanding and consequently support for the cross-departmental collaboration required to realise the multi-functional benefits of nature-based solutions. Poznań City Council operates in a highly structured departmentalised environment with clearly assigned responsibilities and financing for each department and little precedent of cross-departmental co-operation. This structure is poorly aligned with the potential of nature-based solutions to create social, economic and environmental benefits aligning with different departments. In contrast, the Connecting Nature team which sits within the Project Coordination and Urban Regeneration Office is highly focused on cross-departmental cooperation which is not at all typical in City Hall. The Connecting Nature team have met the challenge of lack of awareness and bridged departmental silos by focusing on practical demonstrations of nature-based solutions and inviting colleagues and politicians to hear first-hand from experts (renowned landscape architects) citizens (and voters) about the benefits of nature-based solutions. The URBACTIII project has been particularly helpful in this regard and led to the identification of potential 'green' ambassadors in different departments. Expert input has also proved helpful in convincing the department of education of the benefits of nature-based solutions leading to an agreement to co-fund the kindergarten nature-based solutions. Identifying a high-level political champion remains an outstanding challenge.

Lack of knowledge, experience and instruments to support alternative financing mechanisms: Given the traditional Weberian public administration culture of Poznań City Council, prior to Connecting Nature there was little knowledge and experience of co-production, co-financing or co-governance with non-public-sector actors. Exacerbating this challenge are the onerous legal regulations in place. This environment tends to stifle innovation. Connecting Nature has led to increased awareness, knowledge and capacities related to co-production, co-governance models and innovative financing instruments such as crowd-financing (where Glasgow provided peer-to-peer learning support). However, application of innovative governance and financing approaches in practice remains an up-hill battle hampered by the challenging financial and regulatory environment. The Connecting Nature team are currently working through the system to come up with a framework and co-operation procedure to facilitate future collaboration with the private sector in light of various opportunities.

Nature of nature-based solutions limits innovation in financing: The nature-based solution exemplars in Poznan are small-scale and focused for the most part on publicly-funded pre-schools managed by the department of education. Prior to Connecting Nature there were few precedents of co-financing from the private or third sector and limited interest and opportunities for such non-public sector financing. As part of the planning

for nature-oriented playgrounds, the Connecting Nature team support kindergarten owners in accessing other sources of financing to cover the costs of maintenance of nature-based solutions including volunteering and in-kind contributions. Privately funded pre-schools have also successfully applied for Civil budget funds (participatory budgeting) to part-fund nature-based solutions.

Internal resource constraints: Designing, planning and implementing nature-oriented playgrounds is a complex task. Delivering 12 nature-oriented playgrounds in 2019 put significant pressure on the Connecting Nature team who feel that a target of 5 nature-oriented playgrounds per year is more realistic in terms of their own capacities and the capacities of external contractors to spend adequate time on each project. This highlights also perhaps the lack of staff both internally and among contractors with the required skill set to design and manage nature-based solutions implementation. On a positive note, the reduced number of nature-oriented playgrounds in pre-schools also frees up Connecting Nature team resource to focus on new opportunities.

Enablers identified

Commitment and creativity: Despite the rigid bureaucratic environment, the Office for Project Coordination and Economic Regeneration has shown considerable creativity in coming up with work-around solutions to support third sector and private sector involvement in nature-based solutions. The team have a strong public service ethos and an unwavering commitment to nature-based solutions bolstered by the enthusiasm of parents and kindergarten directors for nature-based solutions from early demos.

EU financing facilitated pilots: given the lack of knowledge, support and financing for innovations like nature-based solutions in Poznan, EU financing was essential for pilot activities to demonstrate nature-based solutions benefits in practice. The team have been successful in leveraging these pilots to generate awareness and further financing and they are hoping to continue this success in collaborating with the department of education on applying for EEA and Norway grant financing to realise nature-oriented playgrounds in primary schools (age 7-12). EU projects such as the recent URBACTIII Health and Green space project have been very useful in opening up doors to other potential collaborators.

Interest from private sector in collaboration: The Polish Association of Development Companies have produced an 'Eco-Avengers' guidebook providing guidelines for developers on green design. There is a good relationship between this association and the Department of Urbanism and Architecture who are helping the Connecting Nature team to make connections with a view to future collaboration on common standards for the city. The Connecting Nature team have also met with the CSR department

	<p>of a chain of grocers interested in ‘green development’ and are putting together a database of other interested private sector partners.</p>
<p>Innovations in financing/ systemic change</p>	<p>Hybrid financing model: A hybrid model was developed for the nature-oriented playground nature-based solutions. It involves an agreement with pre-schools to make their grounds available as space for small-scale nature-based solutions. The design, planning and upfront development costs of these nature-based solutions are financed through a combination of financing from different public sector departments and community budgets. The costs of ongoing maintenance and management are then taken up by kindergarten managers who access direct and in-kind contributions from a variety of sources to cover ongoing stewardship costs. The Connecting Nature team are now proactively looking for similar opportunities with other departments such as Health or the Department of Business Activity and Agriculture in relation to allotment gardens.</p> <p>Recognition of co-benefits of nature-based solutions leading to co-financing of nature-based solutions with department of education: The Connecting Nature team brought in external experts to make the case for the co-benefits of nature-oriented playgrounds in an educational environment. This expert input helped to leverage co-financing from the department of education for the nature-oriented playgrounds. Until COVID 19, the Connecting Nature team were optimistic that this co-financing would be sustained for further replication in other pre-schools.</p> <p>Reduced dependency on temporary EU financing by embedding nature-based solutions implementation costs in city council policies and financing: Based on the successful piloting of hybrid models of financing and inter-departmental collaborations, Poznań City Council had agreed to take over EU financing of the nature-based solutions kindergarten exemplar in the multi-annual programme up to 2020 thus showing successful embedding of nature-based solutions in city policy and financing programmes. The Connecting Nature team were optimistic that this financing would be sustained in the next 5-year financing programme. Now however, with COVID 19 putting severe pressure on public sector budgets, this is looking increasingly unlikely and further up-scaling of nature-based solutions is likely to only take place if external financing from other sources is available.</p> <p>Transfer of costs of stewardship of nature-based solutions from public sector to other actors: In the case of nature-oriented playgrounds nature-based solutions, post-implementation responsibility for the maintenance and management of nature-based solutions has transferred from the public sector to kindergarten owners. The Connecting Nature team raise awareness in advance of the costs of maintenance and also advise</p>

	<p>kindergarten directors on potential source of financing including volunteering and in-kind contribution.</p> <p>Proactive collaboration with the private sector: the deteriorating public sector financing environment combined with the increased awareness and capacities of the Connecting Nature team has led to a proactive approach to building collaborations with the private sector. While collaborations had previously taken place in a round-about way, the Connecting Nature team are now working transparently with the legal department to create a new legal framework which can support future public-private collaborations. They are also proactively pursuing private financing collaborations with building developers and the retail sector.</p> <p>Stimulation of nature-based entrepreneurship: Poznan are taking a leadership position within Connecting Nature in demonstrating the economic potential of nature-based enterprises. The organisation of the nature-based entrepreneurship summit is opening-up doors to new collaborations both internally and externally.</p> <p>“Demonstration by doing”: Bottom-up, pilot-led approach to building systemic is slowly leading to awareness and support for nature-based solutions among other departments and politicians.</p>
<p>Learning Connecting Nature Team Poznan</p>	<p>Increased awareness of co-production, co-governance models and alternative financing mechanisms.</p> <p>Learning from peer-to-peer call with Scottish greenspace financing platform that crowd-financing is not a silver bullet – it’s more about reaching out and engaging people and developing place associations and ownership rather than raising large amounts of financing. It is more suitable for ‘cherry on the cake’ type financing where people can see a quick return rather than substantial investment in infrastructure.</p> <p>Experience of initial collaboration with private sector company showed potential for private sector financing but also highlighted in practical terms the lack of readiness for such an approach and the need to develop transparent, legally approved guidelines.</p> <p>Recognition that private sector may lose interest quickly if there is a long delay before projects can start.</p> <p>Recognition also from other front-runner cities of the value of high-level political support not just for securing financing but also for cultivating cross-departmental support for nature-based solutions.</p>
<p>Remaining risks and challenges</p>	<p>The reduction in public sector financing due to COVID 19 and continued uncertainty, lack of control and visibility of financing sources remains the most important risk to upscaling of nature-based solutions in Poznan.</p>

	<p>The lack of a political champion for nature-based solutions means that in the current uncertain economic environment, public sector financing for nature-based solutions remains at high risk of being cut.</p> <p>To offset this risk, the Poznan Connecting Nature team are pivoting to focus on new sources of EU financing and private sector collaboration on nature-based solutions. Substantial administrative road-blocks and capacity issues remain to progressing the collaboration with the private sector.</p>
Next actions	<p>Application to EEA and Norway fund to expand the concept of nature-oriented playgrounds to primary schools (aged 7-12).</p> <p>Speeding up collaboration with the private sector. Signing off on framework for cooperation internally. Putting together a database of private developers to approach re future collaboration</p> <p>Securing a political champion to advocate for sustained public sector financing for nature-based solutions.</p>

Poznan Case study (see Connecting Nature web-site)

Glasgow: Status update

Connecting Nature Team: The Connecting Nature Team refers to the core team responsible for development of nature-based solutions in Glasgow within the context of the Glasgow Open Space Strategy (OSS). This team is funded wholly or partially by the Connecting Nature project and is situated in the Development and Regeneration Service of Glasgow City Council.

Nature-based solutions financing requirements	<p>Glasgow's Nature-Based Solution (nature-based solutions) strategy is the development and delivery of the city's Open Space Strategy (OSS) which was adopted by the City Council on 6th February 2020. Nature-based solutions are embedded as an integral element of the open space strategy which informs and is informed by the local Biodiversity Action Plan, food-growing strategy and sports pitch strategy amongst a myriad of other city council plans and strategies. The OSS is a long-term strategy which recognises the city's open spaces as multi-functional assets capable of generating multiple co-benefits for citizen health and well-being, the environment in terms of increased biodiversity and climate adaptation and the broader economy.</p> <p>The Connecting Nature team's financing strategy for nature-based solutions reflects this broader strategic perspective and takes a two-pronged approach:</p> <ol style="list-style-type: none"> 1. New sources of financing for capital investment: The team are working towards putting in place internal financing instruments which can be used to fund multiple nature-based solutions projects within the context of OSS implementation. The team are also looking at a
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	<p>number of public sector financing opportunities for capital investment.</p> <p>2. Pilot projects to demonstrate return on investment (ROI): The team aim to develop a small number of pilot projects which will demonstrate hybrid financing models for nature-based solutions, supported by sustainable business models with return on investment clearly measured in terms of contribution to OSS goals and Connecting Nature indicators related to social cohesion, health and wellbeing, environment and the economy.</p>
<p>Specific challenges/ enablers identified</p>	<p><i>Challenges identified:</i></p> <p>External:</p> <ul style="list-style-type: none"> • Sustained reduction of public sector and private sector financing for parks and green spaces and lack of ring-fencing of revenues generated; • Complexity of financing bids in an ever-changing financing environment; • Lack of impact indicators for nature-based solutions; • Lack of joined up planning: focus on 'quick win' capital expenditure projects without due consideration of nature-based solutions; • Fall-out from COVID 19. <p>Internal/Organisational:</p> <ul style="list-style-type: none"> • Lack of political champions for nature-based solutions; • Output oriented performance management organisational culture; • Challenge of translating top-level policies and strategies into implementation actions requiring cross-departmental and external collaboration; • Lack of leadership within department leading to loss of status and influence; • Lack of appreciation for multi-functional benefits of nature-based solutions; • Knowledge gaps relating to financing and business models for nature-based solutions. <p><i>Enablers:</i></p> <ul style="list-style-type: none"> • Political change - increased momentum for climate change; • The Connecting Nature team are well connected across different departments facilitating the development of a cross-departmental governance structure which will provide access to different 'financing pots'; • Experienced in collaboration with external organisations leading to beneficial strategic relationships being developed; • Review of Stalled Spaces programme may yield nature-based solutions opportunities. • High profile events play a catalyst role e.g. COP26 in November 2021.

Measures undertaken to address challenges and leverage enablers;

Challenges identified:

External:

- *Sustained reduction of public sector and private sector financing for parks and green spaces:* For many years financing for parks and related services was assured year on year in annual council budgets reflecting the appreciation of Glaswegians for 'Our Dear Green Place'. Since 2008 reduced Glasgow City Council financing from central government combined with increased Glasgow City Council responsibilities has meant priorities and financing have shifted towards other priorities. This reduction in council financing has been exacerbated by a simultaneous reduction in private sector financing in part due to the lack of council financing available to leverage private sector financing but also due to tighter CSR requirements, with corporate donors looking for clear indicators of impact measurement. This deteriorating situation has led to a programme of efficiency gains and cost reductions. It has also led to creativity in terms of exploring new options like geothermal energy as a source of savings/revenue generation. However, some concerns have been raised that any revenues generated by parks or other nature-based solutions are subsumed into the overall Glasgow City Council budget and are not necessarily ring-fenced for nature-based solutions development. At a strategic level, the Connecting Nature team are also making the case for increased financing by positioning natural resources as an asset rather than a cost. However, such approaches have met with some resistance, for example, due to a reluctance to increase the insurance costs related to such assets. Some parks are valued at a notional value of £1 to minimise related insurance and depreciation costs.
- *Complexity of financing bids in an ever-changing environment:* nature-based solutions projects in Glasgow, both large and small-scale, are typically funded from multiple sources – public financing at local, national and EU level, philanthropy and charities. Preparing such bids requires time and expert knowledge of ever-changing financing opportunities and criteria. Aligning the goals of multiple partners with the requirements of multiple funders also requires considerable skill. When well-designed such collaboration can help to bring different stakeholders closer together but when poorly designed, they end us in 'Frankenstein' style 'monster' projects (pieced together to meet the ambitions of multiple creators and rarely achieving optimal outcomes for any of them).
- *Lack of impact indicators:* Nature-based solutions could help to unlock financing by demonstrating the capacity of nature-based investment to provide cost-effective approaches to climate change mitigation and adaptation, improved public health and well-being and local economic development. To strengthen the business case for financing, departments are trying to collect more solid data relating to the impact of outdoor spaces on health and equality of access for children. Until the broad impacts of nature-based solutions can be clearly demonstrated and measured in a results-oriented, risk-adverse administrative culture like

that of Glasgow City Council, changes in investment policy are unlikely. This is one of the reasons why the Connecting Nature team are prioritising the roll-out of an impact measurement dashboard as part of the OSS delivery strategy.

- *Lack of joined up planning: focus on 'quick win' capital expenditure projects without due consideration of nature-based solutions:* Glasgow's perverse financing environment has led to the emergence of some enormous financing opportunities such as the £1.13 billion Glasgow Region City Deal funded by the Scottish Government, the UK Government and local government. The initial approach to such financing opportunities has been quite reactive with a focus on achieving 'quick wins' with 'shovel-ready' projects championed by one particular department. Consideration of a nature-based solutions approach could have added significant value at little extra cost to such infrastructure projects or even helped to save costs in the long run. Often there appears to be a lack of cohesion and joined-up thinking at planning stage resulting in missed opportunities for nature-based solutions. There is a risk that the recently announced and unexpected £10-20 million budget amendment to address climate change will also focus on capital expenditure projects in a disjointed way and without consideration of how these could be constructed around long-term sustainable business models. This proposed budget amendment got the go-ahead based on a proposal of 61 recommendations which appeared to be 'a bit of a 'grab-bag' of everyone's wishes'.
- *Fall-out from COVID 19 to be determined:* At the time of writing, much of Glasgow was still in lockdown with city council staff working remotely and Connecting Nature partners like Greenspace Scotland effectively furloughed. The impact on financing for implementation of long-term programmes like the OSS is unclear at this stage but it is likely the priority for council financing in the coming months if not years will be on short-term economic stimulus packages.

Internal/Organisational:

- *Performance management culture:* Progress on large-scale demonstration of nature-based solutions in Glasgow has been slow. The Connecting Nature team are pursuing a top-down approach aimed at embedding the principles of nature-based solutions in the OSS which has now become accepted as a statutory policy document of Glasgow City Council and a legal requirement under The Planning (Scotland) Bill passed on 20th June 2019. As shown in Figure 1, the policy planning environment in Glasgow is highly complex and the OSS is intertwined with many other strategies and plans, all with their own sets of actions and outputs. The plethora of strategies and plans in Glasgow is indicative of a performance management culture. The Connecting Nature team are working hard to identify opportunities for synergies with other policies and plans and put in place a cross-departmental governance structure which

may lead to opportunities to leverage additional financing sources. As with so many other plans and strategies, however, the key to success is in the delivery of the promised outcomes. In this regard, the Connecting Nature team are well placed to demonstrate quantitative and qualitative impact thanks to the data being captured through the delivery plan (which is in the form of an interactive spatial map). A prototype of this interactive spatial map is currently being developed (target date: early 2021).

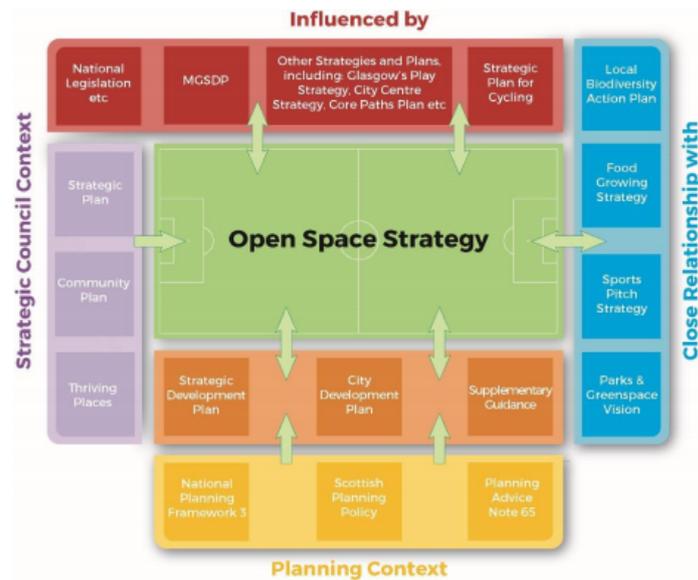


Figure 1 Complex Policy and Planning Environment

- *Challenge of translating top-level policies and strategies into work programmes for delivery:* In normal circumstances, the approval of the OSS at statutory and legal level means that budget and resources should follow for strategy delivery. Working out how to transfer the strategy into a roadmap for delivery is not an easy or rapid task however when cross-departmental and external collaboration needs to be developed and negotiated. At the time of writing, the Connecting Nature team were heavily involved in planning the work programme for delivery with council staff responsible for the overall OSS and in discussions with other departments such as Education and Neighbourhoods and Sustainability and external delivery partners such as Glasgow Life. These discussions have been delayed by the COVID lockdown but the team are optimistic that by the end of the summer, a work programme for delivery will be completed. At this stage they will be able to identify areas of the OSS that are already addressed to some extent by other departments or agencies and gaps in the OSS that need to be prioritised. Robust community engagement is planned as a first step in the identification and development of financing options as part of the OSS approach to community-led financing and governance.
- *Lack of leadership within department:* making the case for nature-based solutions has been particularly challenging as the department has been without a director or deputy director for over a year. This has meant the

Connecting Nature team do not have access to the 'top table' where executive decisions are being made and they are unaware of opportunities coming down the line. To some extent this issue has been addressed through close collaboration with other departments but, overall, the situation has led to a loss of status and influence which may hamper the speed of delivery of the OSS.

- *Lack of political champions for nature-based solutions:* Like many cities, a lot of lip-service is paid to climate change, with Glasgow City Council declaring a climate and ecological emergency in 2019. However, the continual cuts in financing for parks and other green spaces over many years tells another story. Notwithstanding these continued budget cuts, the Connecting Nature team have identified a shift in political momentum in the last year. The Green Party are currently in a unique position of power in Glasgow City Council supporting a minority Scottish National Party (SNP) administration. They have used this position, and their chairing of the Climate Emergency Workshop Group, to negotiate a budget amendment securing £10 million in borrowing to leverage £20 million in total to address climate change. Some mainstream politicians from the SNP have also become vocal spokespersons for addressing climate change and biodiversity loss. It remains to be seen how the fall-out from COVID will impact on the political environment and future financing priorities.
- *Silo gaps and lack of appreciation for multi-functional benefits of nature-based solutions.* Given the difficult financing situation in Glasgow City Council, decisions on capital expenditure appear to be closely aligned with potential to generate future income for Glasgow City Council. As such, projects requesting capital expenditure have to make a business case. With nature-based solutions, the problem has been identified that the cost sometimes sits in a different place in the public sector than the benefit. So, for example, nature-based solutions flood-mitigation projects which result in new land becoming available for development (generating future land-related taxes for the council), are more attractive than nature-based solutions projects leading to reductions in mental health costs (where the benefits would accrue for the National Health Service rather than the council). From their perspective the NHS see the responsibility for financing of parks and green spaces as the remit of councils. This lack of cohesion at local and government level hampers financing for multi-functional nature-based solutions in practice.
- *Knowledge gaps* – Glasgow City Council have much experience in building collaboration with arms-length companies, the private sector and the third sector. However, the Connecting Nature team charged with responsibility for large-scale implementation of nature-based solutions do not have in-depth knowledge of alternative financing and business models for nature-based solutions nor do they have the remit to develop them in practice. The Connecting Nature team relies largely on the interest and willingness of other departments to deliver nature-based solutions and

use their own sources of financing to do this. This is one reason why considerable time is being invested in developing synergies with the strategic plans and priorities of other departments and the construction of a cross-departmental governance structure. In the longer term, the delivery plan (geospatial map) will provide clear evidence of the impact of nature-based solutions, thus helping to secure long term financing for nature-based solutions as a core element of the OSS.

Enablers

- *Changing political momentum:* General awareness and concern about climate change does seem to be increasing in Glasgow leading to some political momentum for change. Additionally, issues such as flood risk and poor air quality are starting to be seen as reputational or posing an economic risk to the city, so this may see further increased interest and financing in the future. It remains to be seen, however, if the political momentum to address climate change and biodiversity will be sustained in a post-COVID financing environment or even be extended beyond once-off capital investment budgets to financing of long-term programmes such as the OSS. In the current circumstances, the £20m financing for climate action secured by the Green Party provides a vital lifeline and opportunity for nature-based solutions financing in Glasgow and is expected to fund projects such as green networks, biodiversity, habitat and food growing initiatives.
- *Highly experienced Connecting Nature team well connected across different departments which will facilitate the development of a cross-departmental governance structure for the OSS:* The Connecting Nature team with responsibility for nature-based solutions sit in a policy and planning department which provides horizontal support and direction to other departments. Notwithstanding the absence of departmental leadership, the Connecting Nature team in this department have forged strong mutually beneficial relationships with many other teams both within their own department (e.g. OSS team) and in other departments (e.g. Neighbourhoods and Sustainability). They have built up a good knowledge and support base for nature-based solutions and for deployment tools such as the nature-based solutions Business Model Canvas which focus on innovation in financing and business models of nature-based solutions. Securing the high-level engagement of other departments in the governance structure of the OSS will be critical to ensure future ownership, responsibility and financing for nature-based solutions in the long term.
- *Collaboration with external organisations:* Unlike the other front-runner cities Glasgow City Council benefit from considerable experience in working with external stakeholders. This has led to the development of close strategic partnerships with external NGOs like Greenspace Scotland and discussions with The Conservation Volunteers (TCV) are underway. Greenspace Scotland has played a particularly valuable role

	<p>taking on the remit of an independent NGO to host workshops exploring co-financing and co-governance of nature-based solutions although this work has come to a temporary halt during the COVID lockdown. In a wider context, volunteering organisations play a valuable role in reducing costs related to nature-based solutions in the context of reduced public sector budgets.</p> <ul style="list-style-type: none"> • <i>Review of Stalled Spaces programme:</i> the Stalled Spaces programme is a citizen-led initiative to support temporary use of stalled or vacant spaces around Glasgow. Approximately 70% of the proposals funded related to some kind of community garden or food growing project. After 10 years the council has asked the Connecting Nature team to review this programme and make suggestions for future directions. The Connecting Nature team are working with an NGO, The Conservation Volunteers (TCV), to explore how to stimulate local communities to support sustainable nature-based solutions projects in stalled spaces. • <i>High profile events play a catalyst role:</i> In the past high-profile events such as the 2014 Commonwealth Games led to an investment in capital infrastructure which generated early opportunities for nature-based solutions. It remains to be seen if the focus on Glasgow as host of COP26 in November 2021 will lead to similar opportunities for nature-based solutions investment and an opportunity to showcase the actions taken by Glasgow to address the climate and ecological emergencies.
<p>Current status re. nature-based solutions financing</p>	<p>Progress on two-pronged approach to financing nature-based solutions:</p> <p>1. System-wide financing:</p> <p>(i) Capital expenditure phase: the work programme for delivery of the OSS expected at the end of summer 2020 will identify which activities are well funded by other programmes and where the financing gaps are. Two potential routes for financing capital expenditure have been clearly identified:</p> <p> City Deal financing: If large-scale gaps are identified in the comprehensive preparation of the OSS work programme for delivery, the Connecting Nature team will work with communities to generate project proposals to fill these gaps culminating in an application for financing from the £1.13 billion Glasgow Region City Deal. The prospects for City Deal financing are strengthened by the legal requirements to deliver on the OSS combined with the availability of clear supporting data identifying gaps, opportunities and a clear mechanism to measure outcomes.</p> <p> Developer contribution policy and financing: Guidance documents are being reviewed at present which would lead to the inclusion of nature-based solutions in the short-term as an eligible use of the Glasgow City Council multi-million pound developer contribution fund within the context of the OSS. This will be an important source of capital expenditure financing to kick-start</p>

	<p>individual nature-based solutions projects across Glasgow. It is significant as the allocation of financing is within Glasgow City Council control.</p> <p> <i>In the longer term</i> (and related to the next round of programme development post-2022) the Connecting Nature team are in discussions about a different way of calculating how much the developer contributions could be. The current formula and system for taking developer contributions is related to bedroom space – it could be interesting to explore a new way which is more related to nature e.g. impact of development on nature and possibly linking this with biodiversity net gain.</p> <p> Climate Emergency financing: The Connecting Nature team are supporting colleagues in the preparation of detailed action plans to deliver on the 61 recommendations identified as part of the Climate Emergency working group. The Ecological Emergency working group have just completed their consultations and are expected to also put forward proposals for financing.</p> <p> Business model phase: Glasgow have embedded the nature-based solutions BMC as a core element of their support strategy for nature-based solutions projects. This reflects 1. a recognition of the focus on short-term capital expenditure financing; 2. a clearly understood need to move away from reliance on public sector financing and management and a move towards community co-governance, co-stewardship and co-financing through for example increased local business investment, reduction of costs through volunteering or innovative revenue generation/cost savings initiatives such as geo-thermal energy generation.</p> <p>2. Pilot projects demonstrating nature-based solutions financing and business models:</p> <p>Collaborative community gardens: permanent use of open space</p> <p> • Bellahouston Demonstration Garden opened in 2017: Glasgow City Council provided the site and a £3k seed financing to kick-start the project. Each charity received a site as contribution-in-kind from the Council and self-funded the development of this site through their own charity fund-raising activities. A co-governance model is in place with ongoing financing contributions from each charity who fund the maintenance of their own space while Glasgow City Council maintain common areas.</p> <p> • Growchapel Community Garden: A nature-based solutions BMC workshop held in February 2020 succeeded in capturing wide community interest and consensus on sources of hybrid financing and co-governance models. Unfortunately, due to COVID19, activities have indefinitely stalled but are expected to restart over the summer of 2020 as lockdown restrictions ease.</p>
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	<p>Stalled Space projects: community led proposals for temporary use of vacant or derelict land</p>  <ul style="list-style-type: none"> • Following a review of the current Stalled Spaces programme which now comes under the remit of the Connecting Nature team, it is expected that an updated Stalled Spaces programme will be launched in early Autumn 2020. The criteria for selection will be strengthening with regards to biodiversity net-gain. In addition to the long-standing contributions of Glasgow City Council (£35k) and Glasgow Housing Association (£15k) to this annual programme, the Connecting Nature team are engaging with additional external parties to raise an additional £10-15k to fund the engagement of an NGO, The Conservation Volunteers. This NGO will address weaknesses identified in the Stalled Spaces review and gaps in the OSS work programme for delivery. For example, the prototype of the delivery plan (geospatial map) may identify areas where increased tree planting would be beneficial. TCV could then help under-represented communities with tools and training to get started in building sustainable nature-based solutions projects to address these gaps.
<p>Innovations in financing / systemic change</p>	<ul style="list-style-type: none"> • Embedding nature-based solutions into official council strategies, policies and practices as a way of securing large-scale deployment; • Building cross-departmental governance structures to secure inter alia access to additional financing sources; • Use of interactive geospatial map as a delivery plan – which measures the impact of nature-based solutions implemented in open spaces and provides clear evidence to secure future financing; • ‘Necessity is the mother of invention’: reduced financing has, in a way, generated creativity e.g. using parking fees as part of the business case for investment in cycle lanes in Pollok Park or the emergence of geothermal energy as a source of savings/revenue generation for open spaces.
<p>Learning Glasgow City Council</p>	<ul style="list-style-type: none"> • Capacity building in relation to financing, business models and governance of nature-based solutions; • Constructing a business case to secure prudential borrowing; • Cutting costs by improving efficiency, changing practices and engaging more with volunteers and employability schemes of housing associations; • Construction of a dashboard to better understand opportunities across multiple departments and to visually demonstrate the impact of change; • Learning in relation to Stalled Spaces: <ul style="list-style-type: none"> ○ Need to better align with OSS and nature-based solutions; ○ Need to support the development of business models for

	<p>sustaining stalled spaces initiative (where relevant);</p> <ul style="list-style-type: none"> ○ Work with other departments and the third sector to support social enterprise development; ○ Address unequal distribution of projects between affluent and deprived areas by building up capacity of community organisations in deprived areas.
<p>Remaining risks and challenges</p>	<p><i>Risks</i></p> <ul style="list-style-type: none"> • Lack of meaningful, high-level, cross-departmental participation in the governance structure of the OSS leading to reduced financing opportunities (medium risk); <p>COVID 19 related risks:</p> <ul style="list-style-type: none"> • Risk that COVID 19 fall-out will put an already challenging council financing situation under further pressure leading to lack of financing for implementation of OSS strategy across different departments (medium-high risk); • Inability of Climate Emergency working group to leverage £10m to secure £10m loan to address the climate emergency in the light of COVID 19 (medium-high risk). • Lack of community financing for pilots in Drumchapel (medium-high risk). • Securing additional financing for Stalled Spaces demonstration with third sector partner to support under-represented communities (low-medium risk). <p><i>Challenges</i></p> <ul style="list-style-type: none"> • Sustaining political support for nature-based solutions with the Green Party and expanding support with mainstream parties. Without strong voices advocating for nature-based solutions, climate and biodiversity action, public financing will remain uncertain. • Sustaining cross-departmental support for the OSS in the face of many competing priorities • Securing long-term financing for the Connecting Nature team not just in recognition of their coordination role but more importantly in recognition of the information they provide to assist informed decision-making to multiple departments in relation to the delivery of the OSS and its contribution to multiple strategic objectives of Glasgow City Council.
<p>Next actions</p>	<ul style="list-style-type: none"> • Secure Council approval for OSS work programme for delivery (end of summer); • Secure cross-departmental engagement in governance structure (end of summer); • Post lockdown re-launch of Growchapel and Stalled Spaces demos (Autumn 2020) • Build meaningful prototype of delivery plan (geospatial map) (early 2021); • Organise high profile Connecting Nature Summit as part of concerted communication campaign to secure long term support for nature-based

Glasgow Case Study (see Connecting Nature web-site)

6. Conclusions

The objectives of this section are to summarise the overall findings and to identify emerging innovations in relation to financing of large-scale nature-based solutions implementation in front-runner cities. The final remarks reflect on the limitations of this study and next steps for front-runner cities, for academic partners and for other cities and policy makers.

Summary of findings and recommendations:

1. **The public sector remains an important source of financing** for large scale deployment of nature-based solutions at city, regional, national and European level. More emphasis needs to be placed on the development of long-term sustainable business models based on co-governance and co-financing.

Recommendation: Given the public nature of many types of nature-based solutions, it is likely that public sector financing will always be an important source of financing, at least for the capital investment phase of financing nature-based solutions. As cities move from demonstration to mainstreaming nature-based solutions, sufficient public sector budget should be foreseen for capital investment. A greater emphasis on engaging other stakeholders in the development of sustainable business models will create the dual benefits of increased co-governance and co-financing of nature-based solutions leading to reduced dependency on public sector funding in the long term.

2. **Public sector financing is often used to leverage other sources of private or third sector financing:** In the City Renewal Scheme in Genk, for example, public sector financing is contingent on co-financing from other non-public sources. Similarly, in Glasgow, hybrid financing is the norm with public financing often being used to leverage financing from other private and third sector sources. Even when unsuccessful, bringing new partners together in financing proposals has led to increased awareness of nature-based solutions and new partnerships. In cities such as Poznan, however, there is little knowledge or experience of non-public sector financing of nature-based solutions.

Recommendation: There is considerable potential to leverage public sector financing to stimulate new partnerships and attract additional financing from the private sector and third sector. Public sector grant processes should encourage participation and co-financing from private sector and third sector participants.

3. **Lack of knowledge, culture and experience of external collaboration a roadblock to hybrid financing:** Within the front-runner cities of Connecting Nature, the departments responsible for nature-based solutions lacked knowledge and experience of hybrid financing, financing and business models for nature-based solutions. While Glasgow was



Bringing cities to life, bringing life into cities

experienced in collaborating with external organisations on a partnership basis, in the other two cities of Genk and Poznan, developing joint partnership approaches to financing and governance outside of a grant context were very much an exception and the cities lacked the legal and regulatory framework to support such partnerships.

Notwithstanding this roadblock, the cities of Genk and Poznan have whole-heartedly embraced the potential of collaborative financing and governance and are developing new instruments for cooperation such as the Stiemer Deals framework. Progress is being hampered by human resources issues i.e. finding people with hybrid knowledge of nature-based solutions and financing.

Business models are also hampered by council policies which subsume nature-based solutions revenues into overall council revenues.

Recommendations:

Cities should be supported in developing legal and regulatory frameworks to support co-financing and co-governance of nature-based solutions. Case studies of successful collaboration instruments such as Environmental Impact Bonds (EIBs) should be developed.

Capacity and skills roadblocks, i.e. lack of people with hybrid knowledge of nature-based solutions and financing, should be addressed at the appropriate policy level e.g. educational and vocational education.

To support sustainable business models for nature-based solutions, councils should consider specific policies to ring-fence revenues generated by nature-based solutions for future development of nature-based solutions.

4. **External financing is not extensively used by the front-runner cities** in this project for nature-based solutions. In Genk and Poznan there is considerable expertise and a clear preference to access grant funds at regional, national and European level to fund nature-based solutions. In Glasgow, prudential borrowing (supported through loan charge support from the Scottish government) is increasingly used in preference to Private Finance Initiative or Public Private Partnership (PFI/PPP) as a route to financing capital investment. This finding support similar trends identified in the Naturvation Atlas (*Urban Nature Atlas*, 2018).

Recommendation:

Case studies of successful use of external financing should be developed and a catalogue of financing instruments made available for interested councils who do not have access to other sources of financing for nature-based solutions.

5. **Public financing for demonstrators:** Nature-based solutions remain a relatively new and complex concept for many cities. Public sector financing is particularly important in such environments to fund pilot projects which can demonstrate in practice the multi-functional benefits of nature-based solutions (Dignum et al., 2020). EU projects provide an important source of financing for innovation and demonstration. They have been successfully used effectively in all three front-runner cities to leverage further financing and support for up-scaling and out-scaling. A good example is the piloting of eco-demonstrators and natural playgrounds in three kindergartens in Poznan in 2018 which has subsequently led to



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financing or planned financing for the roll-out of such solutions to more than 40 kindergartens in Poznan by the end of 2020. Equally importantly, financing bids even when unsuccessful have led to new strategic relationships and created increased awareness of nature-based solutions among other organisations.

Recommendation:

Continued financing of demonstrators in cities unfamiliar with nature-based solutions with an emphasis on embedding nature-based solutions into public sector policies in the long term using approaches such as the Connecting Nature framework.

6. **Effective indicators to measure impact have long been required by cities** such as Glasgow to secure public financing. The demand for such performance indicators is also emerging in other European cities such as Genk. Evidence from the field also shows an increasing demand from the private and third sector for impact indicators, both economic and social. The difficulty in capturing the multiple benefits of nature-based solutions in monetary and non-monetary terms is well covered in the literature (Castonguay et al., 2018; Frantzeskaki et al., 2019; Zuniga-Teran et al., 2020) but in practice on the ground there is also a significant lack of expertise and resources available to capture such data. Without such data it is difficult to make a business case for sustainable financing. Glasgow are leading on the development of a geo-spatial map which will capture the impact of nature-based solutions as they are implemented in the open spaces of the city, demonstrating how they contribute to multiple strategic objectives thus helping to secure long term financing and supporting decision-making on local needs when implementing new indicators.

Recommendation: While the need for indicators is well known and the challenges well documented, specific financing to build expertise and resources need to be put in place at city level to ensure long-term monitoring of the impact of nature-based solutions.

7. **High level political and public administration support is a key success factor** in ensuring long-term sustainable financing for nature-based solutions (Zuniga-Teran et al., 2020) for a number of reasons:
 - Elected Mayors and councillors can advocate for nature-based solutions at council meetings making the case for public financing. In Genk, the Mayor is a champion of nature-based solutions and has taken a hands-on role in promoting the concept both internally within the city council, to other public sector agencies, stakeholders and potential financing bodies at local and regional level. His top-down support has given the Connecting Nature team in Genk considerable flexibility to innovate and experiment with new financing and governance approaches, although it has led to some resentment amongst other departments. The impact of such political support on financing is clearly evident in Genk and has recently become more evident in Glasgow with the allocation of a £20 million financing package to address climate change due to political pressure. Political awareness and support for nature-based solutions seems to be lowest in Poznan which may be one factor behind the long-term insecurity of their financing situation (even before COVID played a role). The Connecting Nature team are taking a bottom-up approach trying to garner support from



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departments and politicians through on-the-ground demonstrations and end-user (voter) feedback.

- Top level support from public administrators can help to secure the cross-departmental collaboration required to achieve the full impact of nature-based solutions. All three cities are investing considerable resources in building cross-departmental support for nature-based solutions at all levels within their council and also with other public sector agencies. The time and resources required to bridge long-standing silos remains a major challenge to nature-based solutions implementation in all three cities.

Recommendations: Initiatives such as the Covenant of Mayors should be supported and expanded with a specific focus on raising awareness of nature-based solutions at the highest level among politicians and city administrators. Specific measures tracking nature-based solutions implementation should be incorporated into the reporting of such initiatives. An emphasis should be placed on building cross-departmental knowledge at the highest levels in cities.

8. **Responsibility for nature-based solutions is best placed in city council departments with a clearly defined horizontal remit** ideally reporting directly into the Mayor or public administration lead rather than in departments who are perceived to have a vertical role and ring-fenced budget. While it still requires significant effort, Glasgow and Poznan have a horizontal remit which means they have multiple contacts with other departments, whereas nature-based solutions in Genk are seen as the responsibility of the department of Environment and Sustainable Development which competes with other departments for financing and resources. On the other hand, as Genk have their own defined budget, they have significant decision-making capacity, whereas Glasgow for example are reliant on the budget of other departments to implement nature-based solutions.

Recommendations: At an organisational level, cities should consider setting up horizontal departments supporting climate change adaptation and mitigation, reporting directly into Mayors and city administrators at the highest level, and coordinating the activities of other departments such as education, environment, transport and energy and planning relating to climate change and biodiversity.

9. **Top down alignment of nature-based solutions with city vision and strategies is critically important to secure political and administrative support.** This has been done very well in Genk who have embedded their nature-based solutions exemplar within the city's Climate Action Plan and in Glasgow who have embedded nature-based solutions in the Open Space Strategy which all cities are legally required to develop and implement.

Recommendation: All cities planning large-scale implementation of nature-based solutions should begin by clearly aligning and embedding nature-based solutions within long-term policy and planning documents.

10. **Bottom up alignment of nature-based solutions with citizen needs and wider stakeholder engagement** (McVittie et al., 2018; Tonks & Lockie, 2020; Zuniga-Teran et al., 2020) remains a challenge in many cities but is crucial to:



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- Secure political support e.g. citizen activism led to declaration of Climate Emergency in Glasgow which in turn led to the £20 financing opportunity
- Ensure sustainable business models for nature-based solutions e.g. Poznan natural playgrounds where the kindergarten directors take on the role of ongoing stewardship of nature-based solutions thus reducing maintenance costs for the council
- Identify alternative financing streams from non-public sources e.g. multiple sources of local industry financing were identified by citizens as part of the Growchapel community garden business model workshop.

In Genk and Glasgow, partnerships with external NGOs have been forged to support city councils in identify co-financing and co-governance opportunities. This has worked well in the case of Greenspace Scotland given their expert knowledge of nature-based solutions and financing but less well so in the case of Genk where the experts used had less knowledge of nature-based solutions.

Recommendation: Recognising that meaningful citizen and stakeholder engagement is the foundation of successful nature-based solutions, cities should be supported in the use of co-creation and co-production methodologies e.g. Connecting Nature Guidebook on Co-production. Cities should consider the use of external facilitators with knowledge of nature-based solutions in brokering co-financing and co-governance models for implementation of sustainable nature-based solutions.

Innovation in financing

(i) **New frameworks and instruments to support collaboration with external stakeholders in hybrid financing and co-governance of nature-based solutions:**

As identified in the previous section, a lack of knowledge, culture and experience of external collaboration constitutes a major roadblock to developing hybrid financing models for up-front capital investment in nature-based solutions and long term hybrid governance and business models to ensure the sustainability of nature-based solutions. While Glasgow have more experience in hybrid financing for capital investment, when it comes to long term stewardship of nature-based solutions historically, financing for long-term maintenance and operation seems to fall back to the city council. To address this challenge all three cities have come up with innovative approaches:

- **Systematic use of business model canvas in Glasgow to build community financing and governance models:** Glasgow have embedded the business model canvas as a core element of their OSS deployment methodology. This Connecting Nature tool is used early on in the nature-based solutions process to bring together different stakeholders to explore the wider value propositions of nature-based solutions, to identify alternative sources of financing and to explore potential collaborative governance models.
- **Strategic partnership with the private sector:** Poznan City Council have been approached spontaneously in the past by the private sector regarding nature-based solutions opportunities on privately owned green space. This experience and discussions with other potential private sector partners has exposed the lack of a clear legal framework



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for cooperation between public and private partners in Poznan. The city are developing such a framework at present and are reaching out proactively to the private sector to build collaborative partnerships to deploy nature-based solutions in privately owned green space.

- **Stiemer Deals collaborative financing and governance framework:** Genk City Council have put in place a collaborative financing and governance framework to proactively stimulate and support collaborative financing and governance of projects related to Stiemer Valley. Stiemer Deals covers large projects e.g. co-financing of Slagmolen pilot project with external parties and small projects e.g. collaboration with local academic partner on Stiemerlab Citizen Science project.

(ii) Innovation in public sector financing

- **Hybrid financing model for nature-based solutions:** Poznan have developed a hybrid financing model for capital investment and stewardship of nature-oriented playgrounds. Pre-schools make their grounds available as space for small-scale nature-based solutions. The design, planning and upfront development costs of these nature-based solutions are then financed through a combination of financing from different public sector departments such as education and community budgets. The costs of ongoing maintenance and management are then taken up by kindergarten managers who access direct and in-kind contributions from a variety of sources to cover ongoing stewardship costs.
- **Leveraging financing from other departments for nature-based solutions:** Poznan have successfully tapped into existing financing streams in the Department of Education to leverage capital investment for their nature-based playgrounds exemplar. This led to increased 'client satisfaction' levels at no additional cost to the Department of Education. The Connecting Nature team in Poznan are now proactively looking for opportunities to leverage financing with other departments such as Health or the Department of Business Activity and Agriculture in relation to allotment gardens. The Glasgow team are developing a cross-departmental governance structure to underpin delivery of the Open Space Strategy with the aim also of aligning strategic objectives in order to secure cross-departmental financing streams for nature-based solutions.
- **Accessing existing public sector funds by including nature-based solutions in selection criteria:** Genk achieved a major breakthrough in securing recognition for nature-based solutions such as Sustainable Drainage Systems (SuDS) in existing regional financing programmes for water/sewage management. Glasgow are pursuing a similar approach including nature-based solutions in the financing criteria for re-allocation of developer contribution financing and strengthening the criteria for use of nature-based solutions in existing public financing programmes such as Stalled Spaces. Such measures are very important in terms of securing long-term financing streams for nature-based solutions. Unfortunately, Poznan has experienced less openness towards financing negotiations with other departments and agencies. They must fit with the criteria of other departments or agencies without visibility or advance notification of changes which may adversely affect future financing.

Next steps

The three front-runner cities have faced many common challenges to securing financing for nature-based solutions and have taken remarkably similar approaches to tackling these challenges within the specific context of their own cities. As with the findings from Milestone 2, these findings will be shared with fast-follower and multiplier cities in Connecting Nature through a webinar and guidebook in September 2020, so that they can reflect on opportunities to apply these findings in their own city context. The experience of fast-follower cities in securing financing for nature-based solutions will be captured in a similar format in Deliverable 13 (November 2021). Together this combined knowledge will contribute to a growing body of evidence on the challenges and opportunities emerging to fund the large-scale deployment of nature-based solutions in cities across Europe.

From a policy perspective a major roadblock to innovation in collaborative financing and experience is a lack of knowledge in public sector organisations. Knowledge tends to be siloed by department, so finance departments have limited knowledge of nature-based solutions and vice versa. While the many workshops, webinars and short training course on nature-based solutions financing proliferating at present might provide a useful introduction to the topic, cities find that such knowledge quickly dissipates. Efforts to recruit personnel with in-depth hybrid knowledge of nature-based solutions and financing have resulted in failure several times in Genk. Other cities share similar experiences. Such knowledge gaps need to be addressed at the relevant policy levels i.e. educational and skill development. In order to support the widescale deployment of nature-based solutions underpinned by collaborative governance and finance models, more capacity building is needed at a European wide level.

In conclusion, it is clear that within a relatively short period of three years, Connecting Nature has had a major impact in raising the knowledge and awareness of front-runner cities about alternative financing, financing and business models for large scale implementation of nature-based solutions. The cities have used this knowledge to instigate long-term systemic change within their own organisations. Significant progress has been made in putting in place strategies, programmes, plans, practices, legal and regulatory frameworks to underpin long term co-financing and co-governance of nature-based solutions. First results emerging from initiatives such as the Stiemer Deals are providing inspiration and guidance for other cities. Systemic change takes time but the signs are clear that it is happening in Genk, Glasgow and Poznan.

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8. Appendices

Appendix I: Expanded methodology (from Deliverable 5)

<i>Financing, business models and entrepreneurship</i>	
Ongoing	Continuous literature review on sustainable business model theory, public sector management models in relation to financing and governance and comparative review with environmental governance theory.
Ongoing	Conceptualisation of 'heartbeat model' identifying three distinct phases of nature-based solution financing and challenges and enablers associated with each phase.
February – April 2018	Capacity building workshop I on Financing, Business Model & Entrepreneurship Workshops in frontrunner cities addressing pre-identified knowledge gaps and barriers and identifying barriers and enablers to large-scale implementation of nature-based solutions.
May 2018	Presentation of preliminary findings on barriers and enablers to financing of nature-based solutions and validation of findings at an international workshop as part of the 'Transforming Cities' science-policy interface conference in A Coruna, Spain.
June 2018	Preliminary findings were discussed and validated in two workshops with local government representatives from all Connecting Nature cities across Europe at the AGM in Ioannina, Greece.
June – September 2018	In response to the challenges identified in literature and on the ground in frontrunner cities, the nature-based solution Business Model Canvas tool was developed.
September 2018	Preliminary research findings were presented at the academic symposium of the Social Enterprise World Forum in Glasgow.
October – December 2018	Collection of baseline data on the public sector management models of three frontrunner cities and the financing, business and governance models of 10 case studies of nature-based solutions to complex urban challenges through on-site visits, conference calls and exchanges with each of the frontrunner cities and completion of 15 semi-structured one-to-one interviews with different departments in frontrunner cities (planning, environment, regeneration, finance), regional government agencies, independent consultants, nature-based solution investors and NGOs across all three frontrunner cities.
October – December 2018	Capacity building workshop II pilot-testing the nature-based solution Business Model Canvas tool with frontrunner cities.
October – December 2018	Entrepreneurship Strategy Workshop was piloted with frontrunner cities in workshops.
January 2019	Based on iterative feedback from capacity building workshops the nature-based solution Business Model Canvas Guidebook was co-created with frontrunner cities and first published.
January 2019	Deliverable 19 was submitted
January 2019	Capacity building webinar I on Financing, Business Model & Entrepreneurship delivered to the fast-follower cities.
January 2019	Capacity building workshop III focusing on knowledge exchange and peer-to-peer learning between frontrunner cities and fast-follower cities was delivered in Nicosia during the 'Learning Transfer Workshop'.
February – April 2019	Co-creation of the nature-based solutions Business Model Canvas and Entrepreneurship workshop format between Trinity and SME partner Horizon Nua.
April 2019	Preliminary research findings were presented in a panel on 'Public management and the environment' at the IRPM.
May 2019	Preliminary research findings were presented at the Think Nature Science-Policy Dialogue in Paris.
June 2019	Pilot testing of the nature-based solutions Business Model Canvas in fast-follower cities Bologna and Málaga.
August – December 2019	Subsequent deployment of the nature-based solutions Business Model Canvas by Horizon Nua in all fast-follower cities.
	Close collaboration with other projects (Naturvation, Nature4Cities, GrowGreen) on financing and business models facilitated by Task Force 3 e.g. contribution to GrowGreen financing guidebook and circulation to Connecting Nature cities.

Appendix II Breakdown of financing of natural playgrounds and eco-demonstrators in Poznan

The year of allocation of the money by the Education Department Poznań City Hall (PLN 50,000.00 for each kindergarten, on average 10 kindergartens every year, in total in the city budget PLN 500,000.00 per year) - <i>Program for modernization and extension of playgrounds in kindergartens in 2016-2020</i>	The year of implementing a natural playground (nature-oriented playground) in kindergartens	Costs incurred for nature-oriented playgrounds (source of funding)		The year of implementing eco-demonstrators in preschools	Costs incurred for eco-demonstrators (source of funding)
2016	-	-		2019 (10 preschools selected in 2016*)	the total amounted to 75,000.00 PLN, while the cost of the components and installation was 61,000.00 PLN (financed from the CN project)
2017	-	-		2019 (10 preschools selected in 2017*)	in total 65,000.00 PLN (50% Regional Fund for Environmental Protection and Water Management (WFOŚiGW) subsidy + 50% city budget)
2018	3 preschools in 2018 (selected in connection with participation in a project for the exchange of knowledge and experience with Berlin kindergartens)	the total investment amounted to 340,000.00 PLN - financed from city budget (2 kindergartens x 70,000.00 PLN(natural playgrounds) + PLN 200,000.00 (natural playground and open garden at P42)); in addition, each kindergarten has 50,000.00 PLN from the Education Department		2018 (10 preschools selected in 2018*)	in total 94,000.00 PLN, while the cost of components and installations was 70,000.00 PLN (financed from the CN project)
2019	10 preschools in 2019 (selected by Education Department)	in total 12 preschools in 2019	in total 89,129.00 PLN (financed from the CN project - the cost of design, consultations and workshops is on average 8,500.00 PLN; moreover, each of these 10 preschools got 50,000.00 PLN from Education Department, the rest of (2 preschools) got 100,000.00 PLN in participatory budget (PBO))	2020? - action dependent on receiving subsidy from Regional Fund for Environment Protection and Water Management (WFOŚiGW) - we will cover then 11 kindergartens in total selected in 2019*	/
	2 preschools in 2019 (grant from Poznań Civil Budget = participatory budget (PBO))				
2020	3 preschools in 2020 (selected by Education Department)	in total 5 preschools in 2020	the total amount is PLN 42,600.00 PLN (financed from the CN project - the cost of design, consultations and workshops is on average 8,500.00 PLN); moreover, each of these 3 preschools got 50,000.00 PLN from Education Department in <i>Program of modernization...</i> and 2 preschools got 100,000.00 PLN in participatory budget (PBO))	/	/
	2 preschools in 2020 (grant from Poznań Civil Budget = participatory budget (PBO))				