

Nature-Based Solutions Initiating Scaling Guidebook



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The Nature-Based Solutions Initiating Upscaling Guidebook is based on the City Retrospection, Self-reflection and Direction Process developed by [Stuart Connop](#), [Gillian Dick](#), [Agnieszka Dziubała](#), [Katarzyna Fagiewicz](#), [Eric Haas](#), [Adrian Hill](#), [Sam Jelliman](#), [Stephan Kamplmann](#), [Piotr Lupa](#), [Natalia Madajczyk](#), [Caroline Nash](#), [Lidia Poniży](#), [Paula Vandergert](#), [Katrien van der Sijpe](#), [Peter Vos](#), and [Iwona Zwierzchowska](#) as part of the Connecting Nature project

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Introduction

What is the Nature-Based Solutions Initiating Scaling Process?

The Nature-Based Solutions 'Initiating Scaling' Process is a mechanism for beginning a city's journey from one where nature-based solutions are delivered as isolated pilots of innovation to one whereby nature-based solutions are embedded in city-wide processes and practice. To begin on this scaling journey, there is a need to: establish the current expertise and experience in nature-based solutions with a city; map and engage stakeholders in a shared transitioning vision in relation to upscaled delivery of nature-based solutions; and identify learning objectives that represent challenges to upscaling. This initiation process is based upon a co-production methodology centred around a city authority team. Co-production engages a broad group of stakeholders through experiential workshops and questionnaires to explore collective experience of nature-based solutions.

What is nature-based solution scaling? Nature-based solutions are a relatively new concept. Whilst most cities will have examples of the use of nature-based solutions, these tend to be relatively small-scale pilots of innovation. Moving from this state of nature-based solution delivery to one whereby nature-based solutions are embedded city-wide requires a process of scaling. This includes changing to larger-scale design (upscaling) or larger-scale rollout (outscaling). Such a shift in scale requires interdependencies in relation to this (for example: governance, finance and technical design upscaling).

The Nature-Based Solutions Initiating Scaling Process is used as a tool to support the initial stages of planning the implementation and upscaling of nature-based solutions in cities. It has been piloted with cities engaged in the Connecting Nature² project. This guidebook supports cities in delivering the Nature-Based Solutions Initiating Scaling Process. Further support to cities planning nature-based solution scaling includes an introductory UrbanByNature webinar on 'Evaluating experiences'.

Why do you need an Initiating Scaling process for Nature-Based Solutions?

To communicate: As nature-based solutions are an emerging concept it can sometimes be difficult to explain to people who are unfamiliar with the concept. Often stakeholders can play critical roles in nature-based solution delivery, but are unaware of this link. This process helps raise awareness and sharing of nature-based solutions and their importance.

To reflect on past experience: Whilst nature-based solutions as a concept are new, there can be past examples of their application in cities. Previous experiences can be very positive, but can also be negative if not planned, delivered or managed properly. This process helps capture this past experience of nature-based solutions delivery across a diversity of stakeholders, and embed the learning from this into future planning.

To understand the current status: In order to establish long-term goals in relation to nature-based solution delivery, it is vital to establish current status and the preconditions for reaching the end goal. The process described here helps capture the current status of nature-based solutions in a city, and provides an initial assessment of the drivers and barriers in relation to upscaling and outscaling nature-based solutions to a city-wide scale.

To develop a shared vision: Scaling nature-based solutions requires the adoption of a co-production approach which extends beyond an immediate local authority team. This can involve cross-silo working within city teams and engagement of stakeholders outside of the local authority. This initiating scaling process provides a mechanism for beginning to develop the links necessary for delivering this co-production through the development of a shared vision for upscaling and outscaling.

To explore drivers and barriers: Knowledge captured through the initiating scaling process enables an exploration of the factors that have acted as drivers or assets in terms of nature-based solution delivery, and those that have hindered delivery and scaling. These represent a good foundation facilitating scaling and identifying needs and priorities.

When to use the Nature-based Solution Initiating Scaling process?

- These tools should be implemented at the inception stage when a city has recognised the value that nature-based solutions can provide and are looking to engage others to upscale and outscale delivery to bring more widespread benefits.
- It is ideal for a local authority department or team, who are keen to engage other departments and actors in the delivery of a shared vision.
- It is also as a process to help a local authority team generate greater understanding of the local context for nature-based solution delivery.

Upscaling – *“the action of increasing the size or improving the quality of something”* In nature-based solution terms we consider this increasing the size and quality of a nature-based solution pilot.

Outscaling – *“addition of new resources instead of increasing the capacity of current resources”* In nature-based solution terms we consider this increasing the rollout of a nature-based solution pilot.

Steps of the NBS Initiating Upscaling Process

Step 1: Interview process

Exploratory interviews should be carried out with a diversity of stakeholders involved in nature-based solution delivery. It is recommended that these are led by an independent intermediary organisation. For example, OSMOS (<http://osmosnetwork.com/>) were used for the pilot-testing of this process within Connecting Nature). An intermediary organisation is recommended in a facilitating role as this has been found to be an effective mechanism for maximising the value of innovation extracted from stakeholders. By adopting such an approach, the local authority partner is not seen as taking a dominant position in leading the collaborative learning process, ensuring an open and transparent platform for discussion.

Stakeholders should comprise individuals within the city team driving the process, their colleagues in the city council involved in nature-based solution delivery, and external colleagues from arms-length and collaborating organisations involved in nature-based solution delivery across the city.

Format of the interviews

The format can be flexible and should attempt to provide an opportunity for the interviewee to share their experiences of nature-based solutions in the city, both positive and negative. For the pilot interviews, approximately one hour was designated for each invitee. Notes and audio recordings were produced during the interview for the purpose of preparing a synthesis report. All opinions expressed were anonymised for reporting and data storage purposes. The interview was loosely structured based on a questionnaire (Appendix A) which included ten themes and a range of sub-questions for each theme related to nature-based solution delivery. The themes were drawn from a literature review of the current understanding of nature-based solution delivery.

Interviews did not follow the questionnaire precisely but instead allowed the interviewee to focus on the themes to which their experience most closely related. The list of interviewees for inviting was selected so as to represent a broad range of the questionnaire themes.

Tools such as stakeholder mapping and nature-based solution mapping (Figure 1) can also represent a useful part of the discussion process during the interviews.

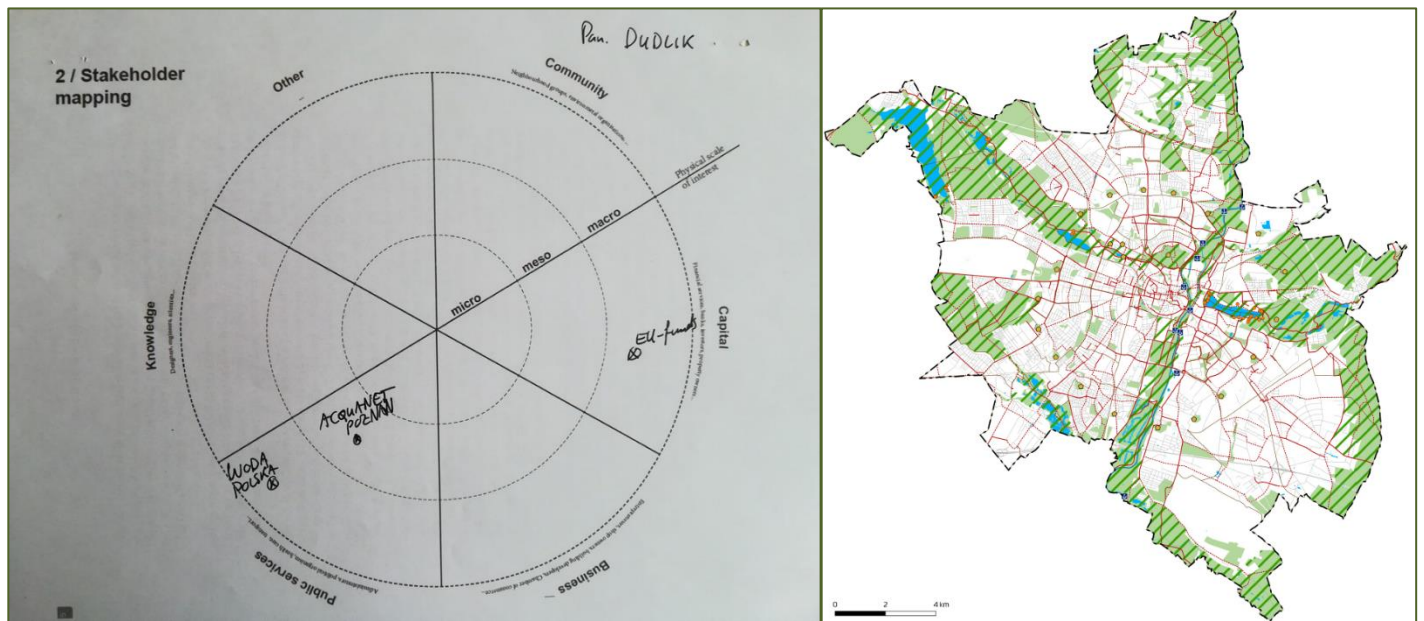


Figure 1. Example of stakeholder mapping template and city plan for NBS mapping. Resources that can help with the interview discussions.

The over-arching objectives of the interview process are:

- Promote introspection in interviewees in relation to the local city context.
- Explore nature-based solution-type projects – learning about what made good projects a success and what led bad projects to be unsuccessful.
- Connect with the local actors face-to-face and allow the interviewees to have the chance to express themselves. Gain an overview of organisational conditions.
- Identify other relevant actors (both individuals and organisations) and their

capacity/interest in contributing to nature-based solution delivery.

- Explore and define the general narrative driving nature-based solutions.
- Help define contacts and engagement strategies for stakeholders to ensure positive and constructive engagement going forward.



Figure 2. Nature-based solution interviews in the City of Poznań.

Step 2: Synthesis report

Following the completion of the interviews, a draft synthesis report should be prepared by the interviewer(s). This report should summarise the discussions and present the nature-based solution context of the city. If the interviews are run by an independent organisation, the report should then be passed across to the local authority team running the review to sense check it.

It is advised that the content should include:

1. Information regarding the interviews (date, interviewers, interviewees, etc).

2. Objectives of the interview
3. Methodology
4. Summary of results (including background to the city, and an overview of city experience with nature-based solutions. This can be organised thematically based on the themes in the questionnaire and should include a focus on assets/drivers of nature-based solutions and barriers to delivery).

Step 3: Debrief meeting

Following the local authority sense check of the Synthesis Report, a debrief meeting should be held to showcase the results of the interviews and to begin the process of bringing stakeholders together around a vision for upscaling and out-scaling nature-based solutions across the city. If possible, it is advisable to use the same independent facilitators as were used for the interviews to deliver the debrief meeting. The meeting should be used as an opportunity to invite colleagues and collaborators from across the city. This should include all of the interviewees, but can be expanded beyond this group to include a broader variety of voices. Try to include representatives of all stakeholder groups that could be involved in city-wide nature-based solution implementation.

Format of the debrief

The debrief workshop should be used to present the results of the synthesis report and to begin to develop a shared vision amongst attendees in relation to upscaling and outscaling nature-based solutions. Different engagement tools can be used to share experiences and to develop a shared vision. This can include:

- Presentations of the key themes from the exploratory interviews;
- Presentations from nature-based solution stakeholders in the city;
- A Back to the Future group exercise (Figure 3) to examine past nostalgia and trauma, and future hopes and fears associated with nature-based solution projects in the city;

- A group project environment canvas exercise (Figure 4) to begin exploring the ideas and opinions within the multi-stakeholder workshop in relation to the co-development of upscaling and outscaling nature-based solutions.

<p>“Nostalgia”</p> <ul style="list-style-type: none"> - The city’s system of green wedges and rings is a historic achievement that the people of Poznań are proud of. - The presence of traditional allotment gardens at scale (ca 19,000 individual plots in Poznań provide food and health benefits to many families) is also a strong asset that has been developed in the past. 	<p>“Hopes”</p> <ul style="list-style-type: none"> - More social gardens and pocket parks will be created around the city. - Post-industrial buildings will be transformed through attractive and mixed programmes (including housing as well as green/blue infrastructure). - Civic budgets for social and environmental initiatives will be widely available. - Rainwater problems will be solved (for instance through collection/use in new pocket parks). - The available agricultural land (ca 8,500 ha) will be preserved and put to better use for the city. - The city will solve the balance between the need for parking and greenspaces -
<p>“Trauma”</p> <ul style="list-style-type: none"> - Since the late 1990s, real-estate promoters have been engaged in a “race to development” that has reduced the system of green wedges and rings; a change in the national legislation in 2003 has exacerbated this “traumatic experience” by creating a temporary regulatory vacuum. - A flood in 2010 created damage and showed the vulnerability of the city’s approach to rainwater management. - Allotment gardens are only in theory open to the public: in practice the gardeners have tended to fence their individual plots in to prevent intrusion from outsiders. - In the past it was hard for initiatives without institutional backing to access to civic budgets. 	<p>“Fears”</p> <ul style="list-style-type: none"> - Strong economic development of Poznań will continue to “eat into” the city’s green infrastructure. This fear manifests itself in different ways: <ul style="list-style-type: none"> o Allotment gardens along major roads might be lost or moved out of the city o Parking spaces create pressure on green space o Urban sprawl and associated mobility problems will decrease quality of life - Younger generations will not be sufficiently aware of sustainability issues

Figure 3. Example of a Back to the Future group exercise from the debrief workshop in Poznań

Project	<p>Involved partners</p> <ul style="list-style-type: none"> - CN teams from AMU and City of Poznan (KPRM) - Other CN partners - Greenery Department at the Road Management Board - Urban planning experts (e.g. Lukasz Mikula) 	<p>Values</p> <ul style="list-style-type: none"> - Providing high quality of life for all Poznanians - Being a "city for everyone" - Allowing young families to live in the city center - Preserving and improving historical assets: <ul style="list-style-type: none"> o System of green wedges and rings o Allotment gardens o Agricultural land - Creating a thriving and dynamic city centre offering culture, leisure, shopping, etc - Provide better housing through NbS 	<p>Actions</p> <ul style="list-style-type: none"> - Plan and implement new social gardens, pocket parks and municipal beaches in dense areas lacking access to green space - Development of green wedge system within and beyond the city borders - Clarify/synthesize an integrated long-term development vision at the metropolitan scale - Engage real-estate developers, residential communities and NGOs in a constructive dialogue about the future of the city - Measure impact of small scale interventions regarding a range of potential benefits (quality of life, health, economic value of surrounding real estate, rainwater retention/infiltration, ecosystem quality, biodiversity, etc) - Develop educational activities on environmental benefits 	<p>Output</p> <ul style="list-style-type: none"> - Various small-scale NbS interventions around the city (including social gardens, pocket parks, municipal beaches or other forms of green space) - Clear and intelligible links between small-scale interventions and integrated development plans at larger scales (e.g. regarding rainwater management) - Broader alliance for improving all aspects of quality of life including different stakeholders (residential communities, large employers, real-estate developers, municipal agencies, etc)
	<p><i>"Integrating a diversity of small-scale nature-based solutions (such as pockets parks or social gardens) into dense neighborhoods will contribute to materialize a long-term vision of Poznan as a city of interconnected green spaces that reconcile high quality of life with sustainable infrastructures and the city's rapid economic development."</i></p>			
Environment	<p>Interest groups</p> <ul style="list-style-type: none"> - Real estate developers - Councils of residents - Young people in suburbs - Large private employers (e.g. Lech, VW, Glaxo, etc, etc) - Large public employers (City Hall and AMU) - Planning professionals (e.g. Piotr Kostka) 	<p>Needs</p> <ul style="list-style-type: none"> - Solutions to the city's mobility problems - More effective tools to limit urban sprawl and to protect green areas - Reconcile densification and quality of life in the city centre - Provide more affordable housing in the city centre - Better education on sustainability issues - Cost-effective solutions to flooding issues - Convince large employers of benefits from green and blue infrastructures at different scales - Less antagonistic relationship with real-estate developers (e.g. through win-win opportunities) - Clearer and more integrated long-term development vision at the metropolitan scale 	<p>Resources</p> <ul style="list-style-type: none"> - Green belt with agricultural land reserves and allotment gardens - New rainwater management strategy (March 2018) - Post-industrial sites in city center, (e.g. gas plant, slaughterhouse) - Civic budgets 	<p>Outcomes</p> <ul style="list-style-type: none"> - A more balanced development path that reconciles economic prosperity and environmental quality - A compact/dense city centre with less mobility problems and less flood risk - Green infrastructure providing measurable benefits to various social groups - Development model that preserves green belt and agricultural land around the city (containment of urban sprawl) - Coherence between small-scale interventions and large-scale development vision - More sustainable urban infrastructures

Figure 4. Example of a group Project-Environment Canvas exercise from the debrief workshop in Poznań, Poland. The project-environment canvas works best when developed for a specific upscaling/outscaling exemplar. It can also be used for a more general discussion on city-wide nature-based solution implementation.

The aims of the debrief workshops are to:

- Introduce a broader diversity of stakeholders to the aims and ambitions of the city in relation to upscaling and outscaling nature-based solutions;
- Provide a platform for discussing the key points arising from the summary of the exploratory interviews. In so doing, provide a mechanism for checking how different stakeholders view the summary conclusions and identify any gaps in the knowledge captured;
- Explore in greater depth past examples of nature-based solutions in the city to understand past experiences that may help facilitate nature-based solution delivery and past traumas that may have led to barriers developing;
- Begin exploration of a nature-based solution exemplar development/scaling process by exploring the key project dimensions associated with delivery in terms of the broader environment of the city.



Figure 5. Example of Debrief Meeting in Glasgow, Scotland.

Step 4: Updating and sharing the synthesis report

Following the debrief workshop, it is possible to update the synthesis report to include the findings from the debrief workshop. This can include adding the Back to the Future exercise and the Project Environment Canvas exercise to the synthesis report. Once completed, the synthesis report can then be shared within the local authority and externally, to promote the ambition and share the vision of the local authority team.

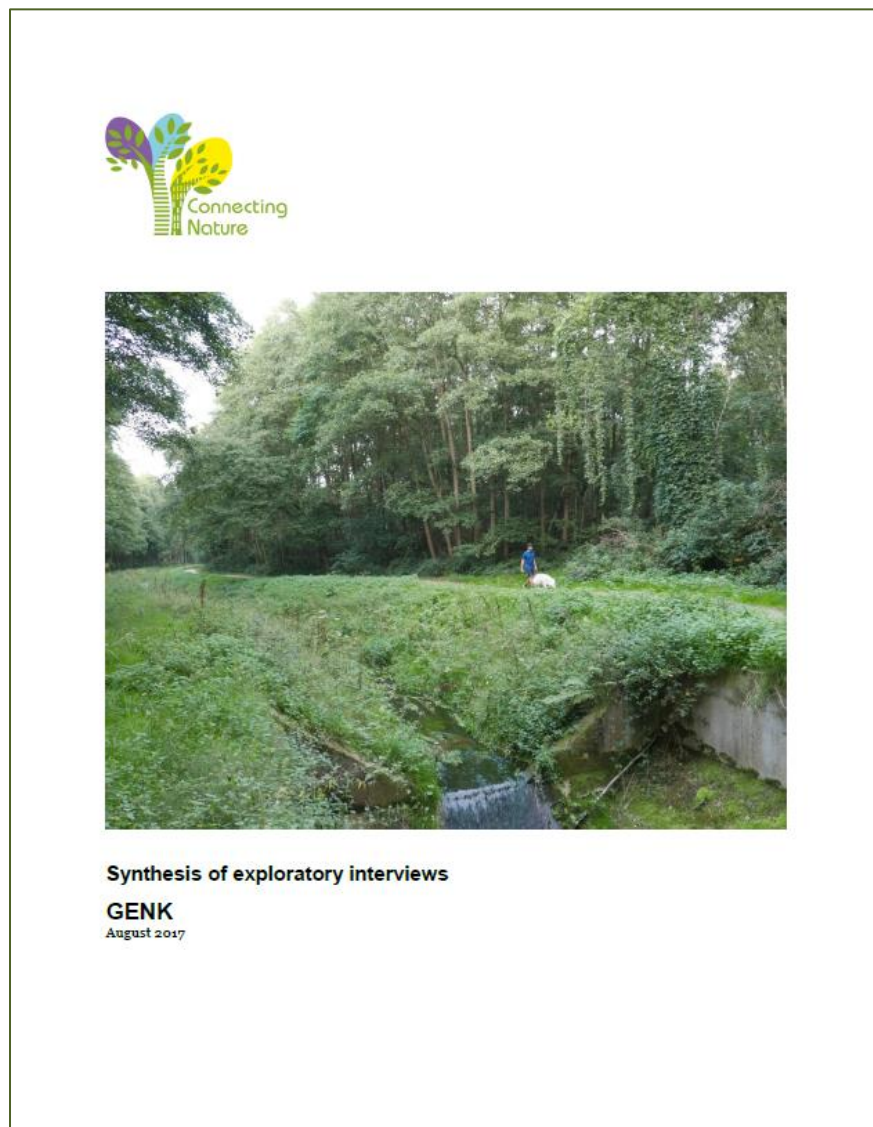


Figure 6. Completed Synthesis Report for the City of Genk, Belgium.

Next steps

The Nature-Based Solutions Initiating Scaling process is a tool to support the initial stages of upscaling and outscaling the implementation of nature-based solutions across cities. The process was developed for cities involved in the Connecting Nature project but can be used in any city hoping to increase delivery of nature-based solutions.

The process detailed represents the first steps towards mobilising the level of co-production necessary for upscaled schemes and more widespread rollout. In terms of next steps:

- If these processes were carried out successfully, the synthesis report should have identified a number of assets and drivers to nature-based solution delivery, and a number of barriers to upscaling and outscaling. It is possible to go through the report and identify these aspects and use them as a platform for identifying learning objectives and strategies for nature-based solution delivery.
- Cities globally are beginning to upscale and outscale nature-based solutions. They are also beginning to share experiences of navigating the challenges involved in this process. Once the learning objectives have been identified for your cities, it is an ideal time to explore the broader literature emerging from projects such as Connecting Nature and on the Oppla platform (<https://oppla.eu/>) to find innovative solutions to some of the barriers your city is facing.
- The next step for cities, following this investigation of learning objectives, is to begin to operationalise a series of interrelated disciplinary areas that are needed to underpin upscaled and outscaled nature-based solution delivery. Within Connecting Nature, the cities are being supported on this journey through the CN Framework.

This is framework that promotes the development of nature-based solution through consideration of Technical, Finance, Entrepreneurship, Governance, Indicators, Co-creation, and Reflexive Monitoring. Further guidebooks will be produced to support this process

We welcome your feedback on the use of the Nature-Based Solutions Initiating Scaling process and any suggestions for improvements.

For further information contact: info@connectingnature.eu

Appendix A

Questionnaire to guide discussions during the interview process, and to guide the structure of the synthesis reports. The questionnaire was developed based on a literature review identifying the reported key components of nature-based solution delivery.

1. About the city	
	Can you describe some of the major challenges / issues facing your city today? For example: jobs and employment, housing, skills availability, public space, air / environmental quality, climate change, noise pollution, social integration, mobility...
2. State of NBS	
	Based on the following definition, where are NBS opportunities in your city?
	<i>"Nature-based solutions are living solutions inspired and supported by nature that simultaneously provide environmental, social and economic benefits and help build resilience... through locally adapted, resource-efficient and systemic interventions"</i>
	Could you identify projects / plans /visions (built or in design phase) in relation to NBS in your city?
	Which do you consider to be other great examples of a success and which do you feel were very unsuccessful? Could you identify key aspects? This could be in terms of the quality of the communications process, the design, the construction period, unintended outcomes etc.
3. Relevant documents	
	Could you list documents (planning, strategy, development...) you find most relevant to the topic in your city?
	Can you choose 5-6 relevant documents that you consider important for NBS within your city? Please explain why you think these are useful.
Specific questions - only a selection of the following questions will be used during the interviews, based on the interviewee.	
4. Finance	
	How were city environmental challenges identified that NBS could address?
	How were NBS type projects determined to be implement? What benefits did you want to achieve?

	How was the scope of NBS defined?
	What was your city's experience in financing NBS
	What different sources of finance were used and how did they work out? How did you justify the investment?
	Did your city run into any problems with financing NBS at any stage?
	How did they overcome these challenges?
	What KPI's and baselines were set?
	What would be your city's lessons learnt/recommendations be for future financing?
	Looking at NBS from a cost-benefit perspective: explore your city's perspective on potential financial benefits of NBS.
	What follow up studies were conducted?
	Were the results of the project those that had been hoped for? If not, why?
	How are the benefits of NBS being communicated?
	How scalable are the outcomes?
5. Business	
	How were city environmental challenges identified that NBS could address?
	How were NBS type projects determined to be implement? What benefits did you want to achieve?
	How was the scope of NBS defined?
	What was your city's experience in supporting businesses through NBS?
	What businesses emerged?
	Did your city run into any problems with businesses at any stage?
	How did they overcome these challenges?
	What would be your city's lessons learnt/recommendations be for future supporting local businesses?
	Looking at NBS from a cost -benefit perspective: explore your city's perspective on potential business/opportunities benefits of NBS.
	What follow up studies were conducted?
	Were the results of the project those that had been hoped for? If not, why?
	How are the benefits of NBS being communicated?
	How scalable are the outcomes?
6. Community	
	How were city environmental challenges identified that NBS could address?
	How were NBS type projects determined to be implement? What benefits did you want to achieve?
	How was the scope of NBS defined?
	What was your city's experience in supporting the local communities through the NBS

	What community organisations or groups emerged?
	Did your city run into any problems with community groups at any stage?
	How did they overcome these challenges?
	What would be your city's lessons learnt/recommendations be for future supporting local communities and community groups?
	Looking at NBS from a cost -benefit perspective: explore your city's perspective on potential business / social enterprise opportunities/benefits of NBS.
	What follow up studies were conducted?
	Were the results of the project those that had been hoped for? If not, why?
	How are the benefits of NBS being communicated?
	How scalable are the outcomes?
7. Knowledge-infrastructure-environment	
	How were city environmental challenges identified that NBS could address?
	How were NBS type projects determined to be implement? What benefits did you want to achieve?
	How was the scope of NBS defined?
	What was your city's experience in dealing with technical challenges on the site related to NBS
	Were there any particular novel solutions that emerged (particularly those for novel for your organisation)? How did you attempt to maximise co-benefits and minimise trade-offs?
	Did your city run into any problems with technical solutions?
	How did they overcome these challenges? Was the technical experience available inhouse?
	What would be your city's lessons learnt/recommendations be for future dealing with technical challenges?
	What KPI's and baselines were set?
	Looking at NBS from a cost-benefit perspective: explore your city's perspective on potential technical benefits of NBS.
	What follow up studies were conducted?
	Were the results of the project those that had been hoped for? If not, why?
	How are the benefits of NBS being communicated?
	How scalable are the outcomes?
8. Governance + decision making	
	What was your city's experience in dealing with policy and decision making for enacting NBS
	Were there any particular policy or governance outcomes that resulted?
	Did your city run into any problems with governance/policy/regulation that impacted NBS at any stage?
	How did they overcome these challenges?

	What is your opinion about governance, bureaucracy and institutional competences (and overlaps) in relation to NBS in your city?
	What would be your city's lessons learnt/recommendations for governance and policy?
	Looking at NBS from a cost-benefit perspective: please explain your city's perspective on potential governance/policy benefits of NBS.
	Is there a push for NBS in your city? Who is pushing it and why?
	Are planning conditions difficult or flexible NBS?
	Which are the effective policies and tools for driving NBS (IE laws and financing)?
	What internal structures supported the planning process?
	Were any governance structures set up to facilitate delivery?
	What follow up studies were conducted?
	Were the results of the project those that had been hoped for? If not, why?
	How are the benefits of NBS being communicated?
	How scalable are the outcomes?
9. Stakeholders > Mapping exercise: Stakeholders	
	What are the major actors related to NBS in your city?
	Is there any significant friction or relationships between certain actors? If so, between who?
	Which are the organisations you collaborate with?
	How were various stakeholders included in delivery?
	What main barriers did you experience with stakeholder engagement? How did you overcome these?
10. Driving themes for NBS	
	Could you describe 3-5 action areas that could help further develop NBS in your city?

IBSN Number



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