

# 1 Step-by-step guide for co-production and co-creation of NBS

This part of the report shifts the focus from a conceptual towards a more practice oriented and user centric approach. The underlying idea is that scientists, experts, policy makers, practitioners, citizen and other stakeholder work together on the planning and implementation of NBS. The settings and the local circumstances in which this collaboration takes place are highly contingent. Previous chapters of the report have made clear that the planning, implementation and maintenance of NBS is challenging and that widespread evidence on successful implementation of NBS is lacking. However, there is a lot of empirical work and experience in other areas of interventions that are planned toward more sustainable systems of provision (e.g. in the area of energy) and we use that work as a point of departure for the development of a step-by-step guidance to (improve) the planning and implementation process of NBS.<sup>1</sup> These existing guides all are developed from a perspective which regards interventions and their outcomes (e.g. NBS) as the result of interactions between contextual conditions (infrastructural, physical, organizational and socio-economic and socio-cultural) and the project planners and stakeholders (including end users and citizens) involved in the planning and implementation of NBS.

We work from the assumption that citizen and stakeholder engagement is not just one step to be taken, but a necessary transversal aspect of the planning process. Through explaining the NBS planning process step-by-step we try to offer support and inspiration for those who are responsible for the implementation of NBS projects and hope to improve the outcomes. Furthermore, the planning and implementation is an iterative process. Despite NBS are considered as novel sustainable solutions to climate adaptation and mitigation, amongst others, their actual capacity to address urban challenges must be proven in operational environments. Therefore, due to the complexity of NBS as a holistic, cross-sectoral approach, learning, monitoring and evaluation should not be done ex-post and external from the planning process but are a core element of the process, allowing for adjustments and adaptations.

An NBS project can be initiated by various public and private actors, such as companies, social entrepreneurs, NGOs, local communities, citizens, (local) governments and semi-governmental organizations, or by a consortium including different actors. The dynamics of the planning and implementation process depends highly on the initiating actors that form the project organisation. The step-by-step guide outlined below focuses on projects in the public domain which are often

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<sup>1</sup> This guide is inspired by MECHANISMS (co-developed by Duneworks in FP7 project “Changing Behaviour”), which offers a step-by-step Guide to improve energy demand side management through behavioural change (see also: <http://mechanisms.energychange.info/home>). In addition, the FP7 project ‘Create Acceptance’ and the resulting participation tool (ESTEEM: <http://www.esteem-tool.eu/>) as well as additions to this tool in later projects, has been used. Finally, the guide is informed by a tool aimed at improving the quality of local participative trajectories aimed at neighbourhood improvements, “The Voicer” ([http://www.duneworks.nl/wp-content/uploads/2016/04/The-Voicer\\_duneworks\\_2016.pdf](http://www.duneworks.nl/wp-content/uploads/2016/04/The-Voicer_duneworks_2016.pdf)), which is based on the concept of environmental justice.

initiated by the (local) government, but these steps apply to projects initiated by other actors as well (e.g. NGO's, citizens' initiatives or neighbourhood communities). The process steps are not compulsory, nor is their order, but are best understood as tools that offer assistance to assess the local circumstances and requirements for the planning and implementation of NBS. For practical reasons we assume that the 'project lead' or 'project organisation' is one and the same organisation (or consortium) responsible for the whole planning and implementation process throughout the project duration. However, responsibilities might shift over time.

The success of NBS as an innovative type of intervention depends largely on how well it becomes embedded in a particular local geographical and social context. To achieve this, not only local stakeholders and the host communities should learn and adapt some of their expectations and views as part of the process. The project organisation in many cases will also need to adapt some of its initial expectations in response to learning about the particular local contextual conditions and needs. Articulating views about how the intervention 'fits' in the local context offers a starting point to discuss or negotiate the conditions under which the NBS intervention is/ becomes acceptable. Such negotiations include discussions about costs, benefits and their distribution. Different visions and expectations can be articulated and confronted and this may give rise to conflict.

A "vision" is understood as a longer-term future view that reflects what is both desirable and realistic. It can point towards the climate-adaptive goals of an NBS, but also address social challenges such as bringing diverse groups in contact with each other (e.g. in a park that offers recreational and cultural services to various socio-demographic groups) or generate local employment opportunities. It may well be that there are alternative visions about the particular local constraints, e.g. a vision in which attention is given to more stringent protective measures, or a vision in which the current unequal access to high-quality green spaces in a city is brought forward as a reason to consider the NBS on a different location.

Within the initial discussion period, a common ground is sought between these visions that aims to align the different expectations of the actors involved in the NBS implementation process. When efforts are made to explore common grounds, confrontation and negotiations are likely to become part of the process. If the project organisation adopts a purely instrumental approach aimed at persuasion, this is unlikely to increase the probability of success as it is blind for the conditions that matter to others (who have different views about how a project 'fits' in the local context). The steps proposed intend to help creating a framework for dialogue, negotiation and learning in which diverse perspectives and types of knowledge are acknowledged and recognised, where there is room to discuss the distribution of costs (including risks) and (co)benefits, and whereby an effort is done to enable and support all participants in the process to express their views. All the steps depicted in Figure 1 are discussed according to their relevance, what it entails and on how the project lead/project organisation can address the implementation process. Examples are offered about potential methods and tools that can be used along each step, although the list is not exhaustive.



Figure 1: Steps for the co-creation and co-production of NBS

## Step 1: Internal alignment

This ‘step’ remains important throughout the process. It is about establishing a learning culture within the project organisation (the initiating actor). The NBS might be initiated by a single actor or by a consortium, by public and/or private actors, by actors with relevant experience, skills, competences and resources or by actors for whom the topic is still new. In any case, it is important that within the organization a process of initial reflection, alignment of expectations and ideas, and learning is established. Organisational learning addresses the type of project organization in terms of its background, available skills, knowledge, resources and culture(s). It helps the actors that initiate the NBS to become aware of the internal (potential differences) in ideas about the actual goals, success definitions, how to achieve success and how to evaluate it. As part of this initial goal definition, the process itself is discussed as well. Right at the outset it is furthermore necessary to start the discussion about ‘the rules of the game’: next to the formal procedures that stipulate how stakeholder and citizen participation must take place, there might be a wish and room for more (timely) participation. Ideas with regard to the aim (e.g. instrumental, qualitative, democratic or a combination of these three) and scope of stakeholder participation need to be internally discussed and agreed upon, so that this can be clearly communicated within the project organization as well as externally. As for the scope of the engagement, these entail questions like: how much power will be shared, and with which stakeholders? What will be done with the input and feedback from participants during and after the process and how will this be communicated? Finally, it helps to demarcate the role and mandate for those tasked with participation/engagement and communication.

The initial steps taken here might be done by the person or department responsible for the implementation of the NBS. It is important to note that responsibilities and roles may shift over time. During this first stage of the project it is important on the one hand to achieve clarity on the focus and the scope of the projects needs to be clear. Otherwise it will be difficult to mobilize other actors and stakeholders. On the other hand, however, the initial plans might evolve throughout the project’s duration it is therefore important to maintain flexibility to adapt the project (goals) in response to changing circumstance and/or based on needs of other stakeholders.

Step 1: Internal alignment			
Process steps	Why is this important/why do we need to address this?	What does it entail?	How is it best addressed and by whom?
<b>1.1 Alignment of expectations and ideas (about the goals)</b>	Depending on the type of actor(s) initiating the project, it is important that everybody achieves a shared understanding of the initial aims, goals, needs. In addition, it is important to find out whether the available resources and competences (skills,	Check internal organisational competences: <ul style="list-style-type: none"> <li>Why is the project organisation involved in this project?</li> <li>What role does the project organisation have?</li> </ul>	The challenge is to actually reserve time and resources and speed up the internal alignment process. The initiator (usually a project officer from the local municipality) is to take the lead and can be supported

	<p>experience, expertise) fit with what is regarded necessary for a successful project</p> <p>These internal interactions within the project organisation are needed to achieve a shared understanding of the goals and expectations at recurring moments throughout the process</p>	<ul style="list-style-type: none"> <li>Does the project organisation have the right skills and capacities to lead the project or is additional expertise necessary?</li> </ul>	<p>by an external advisor or consultant who is not part of the organisational culture and internal dependencies</p> <p>A Digital Mind Map could be used to facilitate the exploration of common goals and ideas</p>
<p><b>1.2 Internal discussion and agreement about the aim and scope of stakeholder participation and the resulting mandates for those organising the participation and communication</b></p>	<p>If there is no clarity about the aim and scope of participation, conflicts can occur within the project organisation as well as between the project organisation and stakeholders. The goal and scope of participation are not self-evident</p>	<p>This entails an internal discussion and agreement about this issue, resulting in clear ideas for internal mandates and for external stakeholders (to whom the scope of the participation can be clearly communicated)</p> <p>It can result in an initial engagement and collaboration plan. Regular updates are necessary as roles and responsibilities may shift over time</p>	<p>The project organisation (initiator) is to organise this process and can be supported in this by an external advisor or consultant (if needed)</p> <p>Internal discussion/dialogue sessions resulting in an initial draft plan for engagement and collaboration</p> <p>A Digital Project management tool could be useful to create a project track record</p>
<p><b>1.3. Initial ideas about what success means and how to evaluate it</b></p>	<p>Aligning ideas about the goal and the participation process for the NBS implementations, focusing on measures of success. By making these objectives explicit the project organisation sets clear expectations which can be (clearly) communicated to external project participants. It furthermore creates a learning environment both within the project organisation, and in relation to the project participants</p> <p>If there is a shared understanding of success, then a first discussion on how to monitor and evaluate can take place. In a later phase these ideas can be evaluated and adapted based on practical experiences gained in the project</p>	<p>This entails an internal discussion and agreement about this issue, resulting in initial ideas about how to measure success throughout the process (in connection to step 6 on “maintenance”)</p> <p>In a later phase these ideas can be further developed (adapted) based on external interactions with external stakeholders</p>	<p>The project organisation (initiator) is to organise this process but can be supported in this by an external advisor or consultant</p> <p>Internal dialogue sessions and initial draft monitoring and evaluation plan</p> <p>An initial plan can be shared with internal project organisation through the digital management tool. The free form text editor can be used to collaborate on the further develop the initial plan<sup>2</sup></p>

<sup>2</sup> To be developed in work package 1 and work package 6 (task 6.2). Available at [the Nature4Cities platform December 2018](#).

## Step 2 Contextualise your problem(-s)

This step aims to address the context of the interventions, which can be of the social-economic, political, institutional, cultural, physical (e.g. infrastructural, technological) or ecological nature. with explicit attention to challenges that relate to climate change like e.g. drought, heat islands, water flooding and with attention to how things have become the way they are today (legacies; path dependencies). Relevant information shall be collected and documented about these issues, but also about stakeholders (past, present, future) that are relevant in relation to the initial problems identified (and, if possible, in relation to their expectations and ambitions). This step results in an assessment of the starting situation, that is, an understanding of the local circumstances in which the environmental impacts occur and how they are coupled to social and economic issues. In this regard, the starting situation in terms of the distribution of environmental, social and economic impacts shall be assessed, which can contribute to the subsequent development of a socially inclusive strategy that aims to positively affect this distribution.

In case project preparations have already started, an assessment of crucial moments in the process (e.g. decisive moments in which path dependencies are created) is useful so that on the basis of this and additional information collected (e.g. external to the project), the initiators reflect on the potential challenges and opportunities ahead.

Step 2: Contextualise the problem(-s)			
Process steps	Why is this important/why do we need to address this?	What does it entail?	How is it best addressed and by whom?
2.1 Localize the problem(-s)	<p>The NBS is considered a solution, so clarity is needed about what the problem(s) is (are) and how the environmental, social and economic problems are connected</p> <p>At the start an <i>initial</i> problem definition is needed (which can be adapted later on if needed) and clarity needs to be there as to <i>how</i> the NBS may address the identified problem</p>	<p>This step entails an exploration of the problem(-s) to be addressed in this project to make sure that an integral approach to these problems will be effective.</p> <p>Allow for some flexibility to make adjustments regarding the problem definition and potential solutions at a later stage</p>	<p>The project organisation (initiator) can organize internal dialogue sessions. These could be organized (or followed up) online as well with the Citizens' Say tool (consultation and management tool that includes i.e. voting modules)<sup>3</sup></p>

<sup>3</sup> To be developed in work package 1 and work package 6 (task 6.2) by Citizens' Say. Available from December 2018

<p><b>2.2 Understand the context</b></p>	<p>In order to design an intervention that becomes embedded and accepted locally, it needs to be tailored to the local needs and conditions</p> <p>Understanding the starting situation in which the NBS is to be developed is necessary to tailor the NBS to the local circumstances</p>	<p>A quick scan to understand the local context (physical, infrastructural, organisational, institutional, socio-economic, political, cultural) with attention to those conditions that seem most relevant as well as mapping relevant stakeholders and the financial resources available</p>	<p>The project organisation (initiator) takes the lead</p> <p>Conduct surveys (physical and virtual) and desk research</p> <p>Quick scan and mapping exercise with the Agent-based Modelling tool and the Colouree Tool<sup>4</sup></p>
<p><b>2.3 Which NBS solution is applicable?</b></p>	<p>There is a need to develop <i>initial</i> ideas on the type of NBS applicable (<i>initial</i> because throughout the next process steps other project partners and stakeholders may have different perspectives on the problem and potential solutions)</p>	<p>Identify the NBS that appears most suitable and make sure that the proposed NBS adequately addresses the problem(-s) identified in step 2.1</p>	<p>Use the <i>NBS Projects Observatory</i> and/ or the NBS database with pioneering cases for inspiration<sup>5</sup></p> <p>Use the pre-selection tool to get advice on possible NBS that fit in the local context<sup>6</sup></p>

<sup>4</sup> To be developed in work package 1 and work package 6 (task 6.2). Available at [the Nature4Cities platform December 2018](#).

<sup>5</sup> The observatory provides examples of pioneering NBS projects. Available at [the Nature4Cities platform](#) December 2018.

<sup>6</sup> The pre-selection tool offers advice on possible NBS and implementation models based on your urban context, objectives and constraints. Available at [the Nature4Cities platform](#) December 2018.

## Step 3 Strategize multi-stakeholder approach

Apart from very concrete ideas about the specific NBS, ideas about how the NBS is part of an envisioned future may be developed. The project initiator sketches how the expectations related to NBS are part of a broader and longer-term future view, reflecting what is desirable and realistic. Emphasis can be placed on how the NBS proposes ecological solutions, on how it provides various co-benefits, on how it is part of a larger-scope strategy (e.g. city-wide or larger). A vision is different from a plan (step 4), as the latter sets out how to achieve that future vision. A vision can be more or less detailed, it can be drawn out using imagery and storytelling. It can be confronted with expectations (and visions) of other (local) stakeholders and this is helpful to identify points of agreement and disagreement, clarifying potential conflicting expectations, interests and/or values, so that these may be further discussed and investigated. Conflicting issues can relate to diverging expectations about the NBS itself and/or the process, or they may have a connection to other conflicts that only indirectly relate to this particular NBS initiative (e.g. past experiences).

When initial ideas have been well defined, it is time to start inviting other stakeholders (e.g. from other departments or organizations, experts or scientist communities, companies and social entrepreneurship, civil society) to share ideas and start a dialogue. Such a dialogue can help to identify a common ground, and what elements of the initial ideas may need to be adapted or changed.

When inviting others to contribute to the project, it is important to discuss the ‘rules of the game’ and the roles and responsibilities of all stakeholders involved (in line with Step 1 which aims at clarifying the goal and scope of the participation within the project organization).

Step 3: Strategize multi-stakeholder approach			
Process steps	Why is this important/why do we need to address this?	What does it entail?	How to best address it? (including: who is to take action/who has a role here?)
<b>3.1 Identify relevant local stakeholders</b>	Identifying the relevant stakeholders is needed to recognize those who will be affected by the project and take action to make sure that they can participate in the process	At this stage the initial map created in step 2.2 can be further developed by adding information regarding the expected or foreseen roles and responsibilities of project participants and stakeholders: <ul style="list-style-type: none"> <li>Who is affected by the impacts of climate change in the area where the NBS will be implemented?</li> <li>Who will be affected by the NBS? Who else could contribute to (or hinder) the planning and</li> </ul>	Project organisation (initiator) can organize explorative sessions with the project team (online and physical)  A network mapping tool can be used to create an overview of project's network (including

		implementation of the NBS? Identify 'gate-keepers' both internal and external	<p>participants, stakeholders, beneficiaries, etc.)</p> <p>The Agent-based Modelling tool can be used to simulate the behaviour of NBS users<sup>7</sup></p> <p>Use <a href="#">Implementation Model Database</a> to find relevant details on the implementation of NBS projects</p>
<b>3.2 Create a communication plan</b>	As part of the collaboration with various stakeholders, communication is crucial and a plan helps to structure and organise the communication efforts	<p>Set up a communication strategy for internal and external communication:</p> <ul style="list-style-type: none"> <li>Internal: tailored to the various (groups of) people you want to involve in the project.</li> <li>External: for general and/or targeted audiences (using the stakeholder maps developed in step 2.2), identifying suitable participation and communication channels (physical and online), messages and frequency</li> </ul>	<p>Use <i>Building blocks for communication</i> (see annex II)</p> <p>The Citizens' Say consultation and management tool can be used for create a database with project participants. It has communication modules (e.g. to send invitations, reminders and follow-ups)</p> <p>At a later stage: Invite locals to become project ambassadors</p>
<b>3.3 Create a shared understanding of the proposed project</b>	At this stage a vision shall be shared and others are invited to present their ideas, as part of a dialogue process that would result in a shared understanding and common ground. As part of this process, a coalition of stakeholders in support of the NBS initiative can start to be built	<p>This step is aimed at internal and external alignment of the project goals, objectives and needs by inviting participants to share their ideas and visions</p> <p>Present the proposed plan and provide participants the opportunity to share their opinions, ideas and (additional or alternative) proposals</p>	<p>The project organisation can use various tools to create a dialogue, such as a storytelling workshop or other tools that help to explore shared values and ideas</p> <p>The Citizens' Say tool can be used to launch public</p>

<sup>7</sup> Available at [the Nature4Cities platform](#) in 2019



	<p>There will be different, sometimes conflicting opinions on the problem definitions and scope of the project which need to be managed</p> <p>Allowing stakeholders to have influence on the problem definition and the proposed solution can ultimately create shared ownership and enhances the legitimacy and support</p>	<p>The scope of their participation must be clear (room shall be left to negotiate the proposal and make changes)</p> <p>Make sure that a wide diversity of perspectives and stakeholders are invited</p>	<p>consultations, share information and receive feedback<sup>8</sup></p> <p>Paint surface and the Digital Mapping tool can be used as visual tools to discuss and negotiate plans<sup>9</sup>. This tool is particularly useful for an inclusive participation because it addresses how people look at a place and helps them to re-visualize and re-invent it</p> <p>Allow for some flexibility regarding the proposed project plan and the initial mandate of participants</p>
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<sup>8</sup> To be developed in work package 1 and work package 6 (task 6.2) by Citizens' Say. Available from December 2018

<sup>9</sup> To be developed in work package 1 and work package 6 (task 6.2) by Citizens' Say. Available from December 2018

## Step 4 Plan with Local Stakeholders

As suggested in the previous steps it is important to identify existing local networks and to make use of these when building a new network of people who are connected to the planned NBS project. The levels of involvement are multiple, as well as the stages in which project participants play a role (so as part of the iterative step 1, it can be a good idea to discuss the goal and scope of participation for different phases). There is a wide range of opportunities to involve stakeholders. Engaging citizen and stakeholder has to be more than a symbolic effort. While at some stages one-way communication merely informing citizens may be suitable. More interactive communication is more suitable at a later stage when the needs of citizens and stakeholders need to be taken into account.

At this stage of the project it is important to map the roles and responsibilities of the stakeholders and learn about their needs and capabilities to contribute to the project, bearing in mind that people (local residents, citizens, users) may be attached to the place where the NBS is planned. Hence, during the planning process, you need to pay attention to the diverse meanings, values and emotions related to the place. Addressing these can help to better understand how the new project could be tailored to the local situation, using situated, tacit and experiential knowledge and building on existing imaginaries to re-define and shape the NBS.

Having identified (in previous steps) which (groups of) people are affected by the NBS, it has become clear who is willing or would like to contribute to the planned NBS, as well as the people that are not able or willing to participate. Some may lack the capabilities to participate; others may have other reasons such as a lack of trust in the project organization or other responsibilities that consume their spare time. These problems need to be identified and possibly addressed carefully.

In this regard, it can be useful to set up a (digital) project management tool. In this step, when starting a planning process with local stakeholders, it becomes more and more important to use a planning tool because the complexity levels will increase once the stakeholder engagement has started.

Step 4: Plan with (local) stakeholders. Design and plan implementation of NBS. Translate ideas into action plan			
Process steps	Why is this important/why do we need to address this?	What does it entail?	How is it best addressed and by whom?

<b>4.1 Engage stakeholders</b>	<p>The next step after creating a shared vision on the project goals and objectives is to build a common understanding of the distribution of roles and responsibility:</p> <ul style="list-style-type: none"> <li>the capacity and capabilities of participants to participate</li> <li>to use the knowledge of local stakeholders to adapt the NBS to local circumstances</li> <li>to create acceptance</li> </ul>	<p>Discuss, explore and shape roles and responsibilities:</p> <ul style="list-style-type: none"> <li>What are the different expectations with regards to roles and responsibilities among the diverse stakeholders (including citizens/local residents)?</li> <li>What do stakeholders need to participate meaningfully?</li> <li>What responsibilities are the residents willing to take and under which conditions?</li> <li>What responsibilities are other stakeholders willing to take and under which conditions?</li> <li>To what extent are participants willing to hand over responsibilities?</li> </ul> <p>Make sure that a wide diversity of perspectives and stakeholders are invited</p>	<p>Based on what is internally discussed during step 1 (internal alignment), the project lead/project organisation can adopt several strategies to engage citizens and stakeholders depending on who needs to be engaged (when and why) and on the capacity and willingness to participate</p> <p>The map created in step 2.2 and 3.1 can be finalized. Note that socio-cultural, organizational, financial resources and contingent circumstances influence the opportunities for citizen and stakeholder participation</p> <p>Use strategies or tools to address negative perceptions and resolve conflicts (e.g. a storytelling workshop or other dialogue sessions)</p>
<b>4.2 Review and adapt planned NBS</b>	<p>Based on the input from project participants the initial project plans might need some adjustments. It can be useful to review the project goals and objectives once more and adapt where needed</p>	<p>Reflect on initial plan:</p> <ul style="list-style-type: none"> <li>Does the proposed NBS address the problems adequately and effectively?</li> <li>How can the NBS be tailored to the needs and interests of the local community? Are additional or alternative solutions needed?</li> </ul>	<p>The project organisation needs to discuss this internally as part of the internal (re)alignment and learning processes</p> <p>In addition, during stakeholder interactions this also needs to be addressed/ discussed</p>
<b>4.3 Plan with and for stakeholders</b>	<p>Distribution of tasks, and process rules (including the scope of participation) needs to be clear to all participants</p>	<p>Create an action plan that addresses the roles, mandate and responsibilities of those involved in the implementation of the NBS</p>	<p>Project organisation can organise this in iterative rounds, partially together with stakeholders.</p>

	<p>Making the project plan explicit and transparent allows for holding each other accountable for actions, roles and responsibilities</p> <p>Not all stakeholders are equally able to participate on an equal basis. They might need support or their interests need to be represented</p>	<p>Make an inventory of the capacities that are necessary to improve participation:</p> <ul style="list-style-type: none"> <li>Resources: time, money, sufficient people, meeting space, self-efficacy, etc.</li> <li>Knowledge: access to easily understandable and trustworthy information, etc.</li> <li>Skills: negotiation skills, organizational power, etc.</li> </ul>	<p>Share action plan</p> <p>The Citizens' Say consultation and management tool can be used<sup>10</sup>.</p>
<p><b>4.4 Test your ideas</b></p>	<p>Testing the NBS on a small scale can reduce risks and uncertainties (e.g. at prototype scale)</p>	<p>Find a way to test plans before implementation</p> <p>Adapt the initial project plans if timing, misalignment, or other contingent circumstances require adjustments</p>	<p>The project organisation can implement short term actions and collect feedback (e.g. workshop, focus groups, etc)</p> <p>Online questionnaires can be used and/or an online session from the Citizens' Say module can be organized to follow up the dialogue with project participants<sup>11</sup></p>

<sup>10</sup> To be developed in work package 1 and work package 6 (task 6.2) by Citizens' Say. Available from December 2018

<sup>11</sup> To be developed in work package 1 and work package 6 (task 6.2) by Citizens' Say. Available from December 2018

## Step 5 Implementation of Nature-based Solutions

At this stage actions to implement the NBS can be undertaken. This step requires flexibility and adaptive coordination and management.

Step 5: Implement Nature-based Solution			
Process steps	Why is this important/why do we need to address this?	What does it entail?	How is it best addressed and by whom?
<b>5.1 Coordination and facilitation</b>	<p>Working cross-sectoral and multidisciplinary can be challenging. Stakeholders have different skills and capacities to participate in collaborative efforts</p> <p>Facilitation and support is needed to prevent inequalities that might occur throughout the project duration</p>	<p>Activate stakeholders</p> <p>Prevent conflicts and unequal participation of stakeholders by addressing them when they occur</p> <p>Facilitate and provide help when and where needed</p> <p>Monitor resources, knowledge and skills</p>	<p>Invite citizens and stakeholders to take up responsibilities</p> <p>Work with trust, equality and reciprocity</p>

## Step 6 Maintenance

The planning and implementation process does not end with the actual implementation. To support an NBS project, maintenance and aftercare are just as important, especially on the long-term.

Step 6: Maintenance			
Process steps	Why is this important/why do we need to address this?	What does it entail?	How is it best addressed and by whom?
6.1 Plan	Maintenance needs to be planned for as well in order to ensure the continued quality of the NBS and to prevent degradation and decrease in the services it provides	<p>It entails ongoing monitoring and explicit clarity on roles and responsibilities of actors towards the continued care of the NBS</p> <p>Try to distribute and share responsibilities amongst several project participants but be aware of their capability and capacity to carry this responsibility</p> <p>Set up a contingency plan if the initial planning fails</p>	This is best addressed by the project leader Already in the first plans for the NBS, initial ideas will need to be discussed with stakeholders and adapted in the course of time where needed
6.2 Continue to engage with stakeholders	Since stakeholders are either affected by and/or involved in (have an impact on) the NBS, it is important to (continue to) engage them to	As part of an ongoing monitoring process, who is responsible for what needs to be addressed, and how that is working out in practice as well	The Citizens' Say communication tool can be used to communicate with partners on a regular basis. Interactive tools that allow for participants to share feedback are preferable <sup>12</sup>

<sup>12</sup> To be developed in work package 1 and work package 6 (task 6.2) by Citizens' Say. Available from December 2018.



<p><b>6.3 Offer support and / or assistance</b></p>	<p>In order to ensure that the NBS continues to provide all the (co-)benefits originally planned, it needs to be maintained properly. For that, resources need to be planned and reserved. In case part of this stewardship lies with the local community (residents), support and continued assistance may be needed as well</p>	<p>Make financial reservations for the maintenance or find new business models to organise and finance maintenance</p>	<p>The project organisation needs to address this already at the outset, together with relevant stakeholders who have knowledge, ideas and expertise</p> <p>The Implementation Model Database can be used to learn which business and financial models are suitable for the NBS project<sup>13</sup></p> <p>Use the Citizens' Say tool to exchange ideas and experiences with other (local) practitioners and experts who work on NBS projects<sup>14</sup></p>
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<sup>13</sup> The Implementation Model Database contains examples of implementation models (governmental, financial and business) based on case examples. Available at [the Nature4Cities platform](#) December 2018.

<sup>14</sup> To be developed in work package 1 and work package 6 (task 6.2) by Citizens' Say. Available from December 2018

## Overarching: Monitor, Evaluate and Improve

A diversity of opinions, expectations, perspectives, values and norms will recur throughout the planning and implementation process. Using open, transparent and non-judgemental dialogue settings to address this diversity of meanings and interests is crucial to negotiate and consolidate the outcome of the planning process. Several reflexive moments have already been built in the preceding steps. It is highly recommended to adopt a participatory monitoring and evaluation strategy (starting in step 1) focussing both on the process and the outcomes.

Regarding process evaluations, it is important to learn how to understand the mechanisms that inhibit or enable cross-sectoral and trans-disciplinary collaboration(-s). Do the participants agree on the procedures? And do they embrace the proposed project plans?

The evaluation of outcomes needs to address how the NBS improves and strengthens both the meaningfulness of the place where the NBS has been implemented for diverse groups in positive manners and how the trade-offs that have been negotiated in the planning process turn out. An unfair distribution can damage the mutual trust.

Monitor, Evaluate and Improve			
Process steps	Why is this important/why do we need to address this?	What does it entail?	How is this best addressed and by whom?
<b>Monitor and Evaluate</b>	Monitoring and evaluating support learning and helps to improve the process and outcomes. This can help to replicate the NBS elsewhere. The monitoring and evaluation phase should be mainstreamed throughout the planning and implementation process	A monitoring and evaluation strategy can be set up, whereby it has to be decided what is going to be evaluated, when, how and by whom, as well as the methods and indicators to be used	<p>The project organisation is to take the lead here and should start a first discussion about monitoring and evaluation stages this as part of step 1. However, input from other project partners and stakeholders is remains important throughout the duration of the project</p> <p>Recommendations:</p> <ul style="list-style-type: none"> <li>• Use Citizens' Say tool to receive feedback from participants.</li> </ul>

			<ul style="list-style-type: none"> <li>• Use Urban / Environmental / Socio-Economic Impact Assessment Tool from <a href="#">the Nature4Cities platform</a>.</li> <li>• Use <a href="#">the Geocluster4NBS</a> to identify geographical areas where you can replicate a NBS</li> </ul>
<b>Improve</b>	The long-term socio-ecological effects of NBS are uncertain. Therefore, dedicate a sufficient amount of time to consider possible adaptation because it is crucial to tailor and improve the NBS to local circumstances	Leave room to adjust or adapt the initial plans, especially in response to changing circumstances, unforeseen socio-ecological effects and novel ideas and insights	Use the Citizens Say tool at <a href="#">the Nature4Cities platform</a> to exchange ideas and experiences with other (local) practitioners and experts who work on NBS projects
<b>Develop a learning culture</b>	Since learning is important, it needs to become an inherent part of the organisational institutional setting. Step 1 is explicitly targeting the development of a learning culture, which means that time and resources are invested at recurring moments to enable this learning	Use each NBS project as a learning opportunity that helps to improve NBS projects in the future. A learning culture implies that ways to encourage and improve learning become embedded in the organisation (see also step 1). Reflecting on how this learning is organised and what works well (and what does not) is important. In addition, how to involve stakeholders in this learning and how to improve processes and procedures towards that aim	

## Overarching: Timing

NBS projects are implemented in neighbourhoods, areas and cities in which diverse (local) communities live, work, go to school, commute and recreate. These people, being citizens, residents, users may feel strongly connected to these places and there might be ongoing activities in which they participate. Moreover, the municipality, (semi-governmental) organisations and entrepreneurs may also have ongoing activities. Therefore, it is important to establish a connection between NBS projects and these activities because they are the backbone of the local community and could play a significant role in sustaining the possible NBS intervention; the more a project is embedded in the local community, the more sustainable it will be(-come).

In this regard, opportunities to collaborate depend on timing and capacity building, getting to know these local networks and create room to understand the physical, social and cultural identities existing in the local community. Note that during this step again new (groups of) people might come on board, or interesting opportunities to collaborate may become apparent, shifting the focus or the scope of the project. Some flexibility and possibly new adaptation regarding the project plans will be necessary in this case. Although the explanation of these steps is linear, the planning and implementation process of NBS is iterative, going back and forth between the various stages identified in this guide as depicted in Figure 1.

Address timing			
Process steps	Why is this important/why do we need to address this?	What does it entail?	How is it best addressed and by whom?
<b>Align with ongoing processes and initiatives</b>	Alignment of (internal) project plans with existing initiatives can help to embed the project in the local community and gain local support and create social acceptance	<p>Ensure to align the current project proposal with local projects and/or initiatives that already exist in the community (e.g. community initiatives, municipal projects, entrepreneurial activities)</p> <p>Internal and external organizational alignment (see also step 1)</p> <p>Seek opportunities to collaborate with existing initiatives, policy plans and/or projects</p>	Get in touch with existing initiatives, activities and people in the local community and explore common ground
<b>Use window-of-opportunity</b>	Organizational processes, local traditions and rituals and other occasional events	Identify (potential) opportunities and risks and use them or try to prevent them	Raise awareness: improve communication about the project



	<p>can offer opportunities (or create barriers) to start with the NBS project</p> <p>Participation in outdoor events related to the project will depend on seasonal circumstances (participants may be less inclined to participate when in adverse weather conditions)</p>	<p>Be aware of seasons while making project plans that involve outdoor activity</p> <p>Celebrate intermediate achievements (keep up the good spirit)</p>	<p>through various communication channels and diverse audiences on a regular basis</p> <p>Keep in touch with existing initiatives, activities and people in the local community on a regular basis</p>
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