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URBAN GreenUP

D1.13: Second Stage. Integration and articulation of the methodology

WP 1 , T 1.10

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Authors: Magdalena Rozanska (ACC ING)

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02	Esther San José Carreras, Jose Fermoso Domínguez	CARTIF	02 July 2020
02	Kaan Emir	DEM	02 July 2020
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05	Raúl Sánchez	ACC	31 July 2020

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0 Abstract

The aim of this report is to provide cities with a useful guide to the re-naturing process of cities and/or areas. It explains the URBAN GreenUP re-naturing urban planning concept (RUP). It supports the direct implementation of one or a set of NBS in a specific area of the city to address also specific challenges in a more effective way.

The document explains the different phases and steps of the methodology. It indicates clearly the objectives of each of actions needed and list all of the outputs considered. It outlines the methodology and defines the specific concepts used in this process, which includes a step-by-step guide to the main processes involved in the methodology. All the processes and actions, when linked together, enable cities to meet the main objective, which is Re-Naturing urban areas with NBS.

The URBAN GreenUP methodology, divided in three development stages, and reported in D1.12, D1.13, D1.14 and D1.17 in more detail. The idea was to maintain the methodology report continuously updated with all the project outcomes and lessons learnt coming from the demonstration and replication actions executed along the project. The final version of the methodology, and externally validated, will be delivered at the end of the project (M60).

At this stage of the project (M40) we present the second report on the methodology development. This report (D1.13) extends the methodology and structure drafted initially in report D1.12 (M20). In this second report, the WP1 methodology structure has been revised to align fully with the one proposed in WP6 Replication. The concept was validated internally with the project partners through the joint WP1 and WP6 workshop , and it will be described in report D1.16 (M40).

1 Introduction

1.1 The value of re-naturing in your city

The methodology outlined in this report provides a way to implement Nature-Based Solutions (NBS) in urban areas, which are defined by the European Commission as *"solutions that are inspired and supported by nature (Cohen-Shacham et al., 2016), which are cost-effective, simultaneously provide environmental, social and economic benefits and help build resilience. (Maes J et al., 2015)" (Source: Sustainability 2020).*

The European Commission approach NBS as a method of providing added socio-economic value to existing approaches to smart cities and communities, using ecosystems and ecological functions to address societal and environmental challenges in urban environments. The European Commission's use of 'resilience' terminology, the ability to adjust and adapt in the face of change. It couches the thinking in an understanding that the governance of urban areas is directly linked to the decisions being made regarding economic and social stability which are all tied to the inclusiveness, functionality and quality of life of urban landscapes (Kabisch et al., 2016). Thus, NBS are offered as a mechanism to promote resilience within socio-political discussions of landscape and urban development.

But, what is the real value of re-naturing in my city? How to establish the goals? How can NBS be designed and implemented? What is the step by step action plan that can help you to achieve the goals you have in your city? This document addresses these questions, and is directed toward cities who are developing plans to re-nature their cities through the use of NBS.

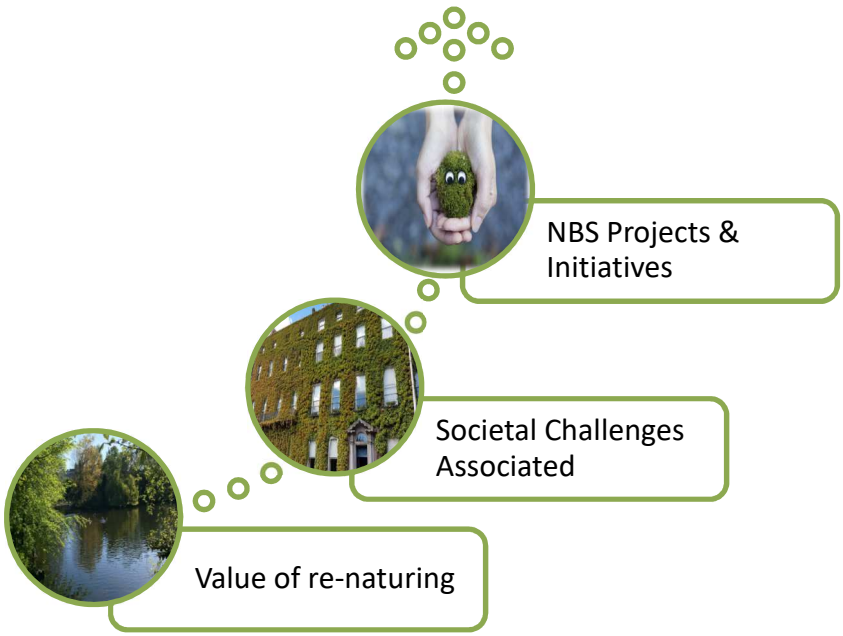


Figure 1.1: The bases to start with the re-naturing process (Source: URBAN GreenUP)

To begin to answer these questions, let´s try to answer the opposite question, what would be a potential scenario of growth for our city without consideration of re-naturing? How would your

city address challenges related to climate mitigation and adaptation? How would you address public health and well-being, air quality, urban regeneration and space management? What about the potential for a better economy; are there opportunities to develop a green economy or expand the number of green jobs in your city? The nature-based solutions (NBS) are solutions to a number of societal challenges and not only climate change issues. URBAN GreenUP approach contains 10 challenges (*Source: based on classification created by the EKLIPSE initiative*):

- Climate mitigation and adaptation;
- Water management;
- Coastal resilience;
- Urban green space management (including enhancing/conserving urban biodiversity);
- Air/ambient quality;
- Urban regeneration;
- Participatory planning and governance;
- Social justice and social cohesion;
- Public health and well - being and
- Potential for new economic opportunities and green jobs.

It is also helpful to consider how your city compares to other cities. For example, as compared to other regions, countries, is there any re-naturing aspect our city is currently strong? Do you want to maximize this? Do you want to join other cities in being a model of how to implement NBS and other innovative greening actions? What would be the potential timeline for achieving of the goal? This guide will help you with the process on exploration, diagnosis and evaluation, as well with the definition of the impact that process on re-naturing may have on your city.

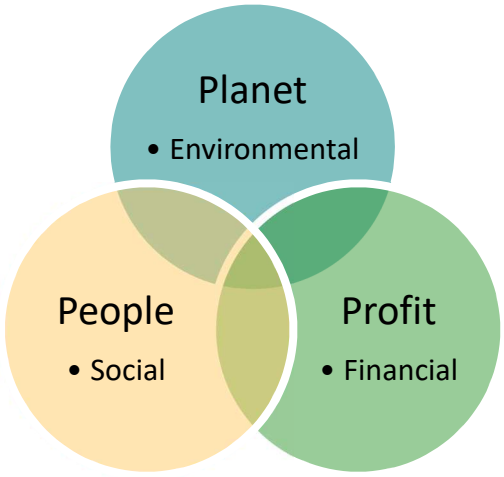


Figure 1.2: Considerations guiding NBS performance and impact evaluation (John Elkington, 2004, Source URBAN GreenUP)

The overarching aim of implementing NBS in urban areas is to achieve sustainability across the three pillars (i.e. the planet, people, and profit). Key considerations in each of these pillars deals with the environmental, the social, and the financial or economic aspects of sustainability. Enhancing sustainable urbanisation through the use of NBS can address environmental challenges as well as stimulate economic growth, making cities more attractive, and enhancing human well-being. Restoring degraded ecosystems using NBS can improve the resilience of ecosystems, enabling them to deliver vital ecosystem services and also to meet other societal

challenges. Using NBS as a means of climate change adaptation and to mitigate carbon emissions can provide more resilient responses than conventional approaches and enhance the storage of carbon et al. Improving risk management and resilience using NBS can lead to greater benefits than conventional engineered methods and offer synergies in reducing multiple risks.

1.2 The methodology to make re-naturing a reality in cities

To support re-naturing journey of the cities, URBAN GreenUP developed a systematic strategy to reach high level of impacts through the use of NBS. It aims to provide an integrated methodology to support the Urban Planning of NBS at the local city level, as a powerful strategy to contribute to increase sustainability, addressing a range of societal challenges.

URBAN GreenUP introduces the concept of Renaturing Urban Planning, which incorporates NBS alongside the traditional urban planning aspects to generate a more sustainable approach to Urban Planning. In parallel to traditional planning processes, the methodology supports cities in the direct implementation of one or more NBS in a specific area or across the city to address specific societal challenges in a more effective and ecologically sustainable way.

The social aspects are considered one of the main key elements, and the economic issues complementing the environmental one, fostering the creation of good business cases to solve the general lack of budget of the public administration. To achieve good outcomes, a co-creation approach is adopted in the definition of the methodology, from the definition and design of the technical solutions to the final assessment. This ensures that NBS are adapted to the local context, that they address local priorities and needs of stakeholders, and work within the opportunities and constraints of the local context.

Figure 1.3: The RUP methodology key elements (Source: URBAN GreenUP)

Through this report, there are a number of other questions that are addressed, i.e.:

- What is the purpose? – Development of the local (RUP) Renaturing Urban Plan answering the city challenges established.
- What is new? – The focus on NBS, projects and initiatives, as an integral part of the plan and a solution to local city barriers and functions.
- How to focus your actions? – Linked to the current city strategy and planning, in specific city environment, traditions, local character.
- What should be the process? – Cities develops the RUP plan being supported by easy to follow step-by step procedures and tools.

- Who should be involved? – City re-naturing key partners including citizens.
- How far should be considered? – This is an iterative process starting with assessment, and adjusting responses based on the lessons learnt. Proper monitoring, evaluation, and appropriate timing should be established in the planning process.

The method produces a RUP, which should be fully integrated in the city's urban planning and land use planning processes. The method also enables cities to specify a set of NBS to mitigate one or several societal challenges, ready to the tendering process.

This holistic approach to the methodology builds in part on the experience of the cities involved in Urban GreenUP. This includes both successes and problems encountered in the 'real world', and lessons learned through the process of implementing NBS in the 'leading' cities of Liverpool (UK), Izmir (Turkey), Valladolid (Spain), and simultaneously validated in 'follower' cities of Mantova (Italy), Ludwigsburg (Germany), Medellin (Colombia), Changdu (China), and Quy Nhon (Vietnam).

1.3 How to use this guide and who is it for

The Public Authorities of the local municipality can initially take the role of a leader and coordinate all of the re-naturing actions, in parallel linking them to the local goals established, identifying the team, its communication channels, and taking care about the proper dissemination and evaluation of all the results. The guide is created with this audience in mind. The residents, business and other groups of society, involved directly or indirectly into the development and implementation of city Renaturing Urban Plan, can also take advantage of this guide, as NBS developers and integrators.

Urban GreenUP methodology is developed as a modular procedure in order to achieve a clear, easy to follow method, a step-by-step procedure for re-naturing urban areas. The methodology was described by actions corresponding to each methodology phase and step. There are also identified all important methodology components to have in mind, like specific outputs to be achieved with every action.

Figure 1.4: Components of URBAN GreenUP methodology (Source: URBAN GreenUP)

List of Catalogues and Guides will help to specify the particular methodology components:

- NBS Catalogue *(URBAN GreenUP D1.1)*
- Societal Challenge Catalogue *(URBAN GreenUP D1.2)*
- Diagnosis procedure Guide *(URBAN GreenUP D1.3)*
- Baseline Calculation Guide *(URBAN GreenUP D1.4)*
- Barriers and Boundaries Guide *(URBAN GreenUP D1.5)*
- Zoning and Mapping Guide *(URBAN GreenUP D1.6)*
- Tendering Process Guide *(URBAN GreenUP D1.9)*
- Scaling UP Guide *(URBAN GreenUP D1.10)*
- Co-creation and Co-development Guide *(URBAN GreenUP D1.11)*

List of the Tools

- NBS scenarios generation Tool *(URBAN GreenUP D1.7) with KPIs prioritization criteria Guide (URBAN GreenUP D1.8)*
- Co-creation and Co-development Tools *(URBAN GreenUP D1.11)*

1.4 Main Concepts Definition

Re-naturing City Methodology – methodology for supporting the Re-naturing of the cities and/or areas, that will include new concepts as Re-naturing Urban Plans RUPs that will let embrace the climate change challenges.

NBS – Nature-Based Solutions - can provide a multitude of benefits that influence human health, lifestyle and well-being, can improve air quality, reduce local temperatures on a small

scale, act as carbon stores, help on mitigation of climate change, reduce flooding disasters overcoming the adaptation to climate change and be an important habitat for wildlife.

RUP – Re-naturing Urban Plans – which incorporates the urban planning aspects directly related with nature-based solutions as major strategy to fight against climate change. It will be part of the Sustainable Urban Planning and totally integrated with the urban strategy for dealing with the main city challenges.

Methodology Component – All components needed for methodology developments, those could be activities, but also, catalogues, guides, decisions.

Methodology Processes – methodology activities that analyse/ define/ evaluate the methodology concept, and create corresponding outputs, in many cases, basing also on inputs from different activities.

Methodology Procedure – methodology output related to the systemized step-by-step activity for Re-naturing Methodology Implementation.

Input – Information coming from other project processes, or external, not developed in the project but needed for methodology definition.

Output – Information created in a project process, could be an input to other project process.

Work Flow – relation among different project processes and components. It also indicates the correct direction to implement the methodology.

Assets – green infrastructure that is delivering a function or functions in an area of identified need. For example, woodland that is intercepting and storing water in an area of flood risk is a water management asset; it is providing functions that help to reduce the risk of flooding.

Pinch Points - Area where a need has been identified and where green infrastructure could provide part of the solution to address the need but at present is not.

Zoning – The term “zoning” has a number of meanings and can often be used to identify areas that have statutory policy in place for their development and management. In other cases, zoning can be a generic term for identifying “areas of focus” or interest that have no statutory implications. In this document the term zoning is used to refer to targeting areas for NBS.

Co-creation - an advanced, modern form of community engagement.

Scaling up – The term “scaling up” in its pure definition it is to make something larger in size, amount etc. In this document the term “scaling up” referring, the set of processes, methodology based, providing a larger scale of implementation of NBS strategies. The viability of the scaling up, will be identified according to how, “Credible, Relevant, Relative advantage over existing practices have, Easy to adopt, Compatible and Able to be tested” the methodology is.

2 Methodology Components

2.1 How to effectively start the re-naturing

"Citizens are at the heart of a city and also at the heart of the challenges cities face through on-going urbanisation and demographic mix, consumption habits as well as increasing expectations as regards quality of life. Citizens must therefore also be at the heart of the solution"(Source: European Innovation Partnership on Smart Cities and Communities - Strategic Implementation Plan, 2013).

Co-creation is an advanced, modern form of community engagement. Collaboration of diverse stakeholders such as governments, NGOs, scientists, interest-groups, philanthropists and charities are likely to enhance the social and environmental outcomes of NBS. Involving of the residents, business and other groups of society taking part in the development and implementation of your Renaturing Urban Plan can also greatly improve its chances of success. When citizens are engaged in shaping their public spaces, services, and there is a true culture of empowerment and co-creation between citizen and local authorities, then NBS are thought to be more effective in addressing societal challenges. Citizens are central stakeholders because they not only help to build the cities and the services to better focused their (users) interest, but also will automatically protect the environment once created. Collaboration of diverse stakeholders such as governments, NGOs, scientists, interest-groups, philanthropists and charities are likely to enhance the social and environmental outcomes of NBS.

As a first step, and once identified the key stakeholder groups and their aspirations, the different techniques for engaging these groups need to be considered. The choice of each method or technique should come from an examination of approaches that are likely to be beneficial for the stakeholders as well as supporting the desired decision or co-creation outcome.

The team involved in developing the RUP can then start to define the main targets for the city, and to translate them into the language of challenges, and select the ones that will most positively affect the city environment and its habitants. The process will allow the identification of the different nature-based solutions that are the best option to the city environmentally, socially, technically and economically.

2.2 Diagram summarising the methodology

The URBAN GreenUP methodology process is referring to the strategic planning framework of the city, with the aim to introduce the re-naturing concept by means of NBS, towards the EU sustainable politics. It enables the city administration to perform an effective step by step urban action plan.

The methodology is divided into phases and steps and leads to the creation of the "Renaturing Urban Plan" (RUP) of the city

Table 2.1: Graph to the methodology main components by phases, steps, actions and RUP chapters (Source: URBAN GreenUP).

How to start?	1st. Understand your present	2nd. Choose your future aspirations	3rd. Integrate RUP and keep	"Renaturing Urban Plan"
A. Engage and Co-create	Action 1A. Identify and involve stakeholders	Action 2A. Prepare for co-delivery		Chapter I. Introduction to Re-naturing
B. Explore	Action 1B. Understand your "city" needs	Action 2B. Choose your "city" targets	Action 3B. Prepare RUP Plan integration into the Urban Plans of Local Municipality	Chapter II. City Targets
C. Diagnose	Action1C. Understand your "city" capacity	Action 2C. Evaluate NBS Scenarios and select one	Action 3C. Define list of NBS Projects and Actions	Chapter III. City NBS Adopted Scenarios
D. Visualize	Action 1D. Map challenges	Action 2D. Set spatial priorities for NBS	Action 3D. Prepare assessment of the Impact and Risk	Chapter IV. City Impact
E. Plan	Action 1E. Establish Baselines	Action 2E. Choose how success will be monitored	Action 3E. Prepare the Up-scale Plan	Chapter V. Monitoring Program and Action Plan
F. Inform	Action 1F. Promote the initiative	Action 2F. Publish the RUP	Action 3F. Define budget, roles and responsibilities	Chapter VI. Roles and Responsibilities
A. Engage and Co-create	Action 3A. Assess lessons learnt and validate the strategy			Chapter VII. Processes and reforms

2.3 How to follow the step by step process

The methodology consists of 18 actions, organized in phases (1- 3), and strategic steps (A- F). The phases deal with the maturity of the objective of the re-naturing in time (from present to future), while the steps develops the specific technical components of the methodology process (from engagement to plan).

Table 2.2: Graph to the methodology main components and simplified (Source: URBAN GreenUP).

Actions organized at horizontal axis by phases:	Actions organized at vertical axis by steps:
i. **Understand your present** ii. **Choose your future aspirations** iii. **Integrate RUP and keep**	A. Engage and Co-create B. Explore C. Diagnose D. Visualize E. Plan F. Inform

Depending on the current status of each municipality, the point of departure can vary as some methodological steps might have been previously completed as part of other planning processes. In addition, the way of following of the methodology by different re-naturing team may vary. They may choose to follow it vertically or mainly in horizontal order. One of the important analysis consist in evaluation of the current situation regarding this process.

You may follow the methodology in different ways:

1. **Vertically, gradually by steps (Steps A→StepsB→StepsC…→StepsF)**
2. Horizontally, systematically by phases (Actions1→Actions2→Actions3)
3. Diagonally, progressively both the phases and steps

The re-naturing process followed in a particular city will depend on a number of factors. For example, it will vary depending on the specific structure of the municipality, e.g. the execution of the re-naturing plan, and its different phases, steps and actions, can be associated to different departments of municipality, or selected multidisciplinary groups, supported by key experts or a team leader (RUP coordinator). In addition, the interactive and co-creation activities between them established will support the coherence between all the actions, its outputs and inputs needed.

In this document, the methodology is described following the vertical order (Table 2.1) , and the action plan to RUP is described according to the results achieved in each methodology step (Outputs from A-F).

The names and contents proposed for the chapters are:

- Chapter I. Introduction to Re-naturing– collects the actions description and main outputs for Step A. Engage and Co-create step initial actions.
- Chapter II. City Targets – collect the actions description and main outputs for Step B. Explore
- Chapter III. City NBS Adopted Scenarios – collects the actions description and main outputs for Step C. Diagnose.
- Chapter IV. City Impact – collects the actions description and main outputs for Step D. Visualize.
- Chapter V. Monitoring Program and Action Plan - collects the actions description and main outputs for Step E. Plan.
- Chapter VI. Roles and Responsibilities - collects the actions description and main outputs for Step F. Inform.
- Chapter VII Process and reforms – collects the actions description and main outputs for Step A. Engage and Co-create step, but this time the evaluation actions and lessons learnt.

All the descriptions contains the indication to the potential helping tools, and most important tips and links.

2.4 The outputs by phases and steps

The methodology proposes the outputs (phase and step linked) to be delivered once you have completed the specific action. The link between the different actions is indicated in Chapter 3.0 below the section ***List the Action/s linked,*** which describes the Action Inputs and Outputs. The supporting tools, in preparation of the outputs of the step B. Explore, step C. Diagnose, Step D. Visualize, are listed.

Table 2.3: The main outputs of actions taken by phases and steps. (Source: URBAN GreenUP).

How to start?	1st. Understand your present	2nd. Choose your future aspirations	3rd. Integrate RUP and keep	"Renaturing Urban Plan"
A. Engage and Co-create	• List of key stakeholders groups. • List of capabilities, interests, relationships for each group.	• Co-creation plan.		**Chapter I.** Introduction to Re-naturing
B. Explore	• The city re-naturing goal.	• The city challenges and sub-challenges and why they're prioritised.	• The legal constrains. • The public procurement processes. • The funding opportunities. • The outline to the integration of the RUP methodology into the Municipality Planning	**Chapter II.** City Targets
C. Diagnose	• City profile definition.	• NBS scenario. Use the URBAN	• NBS Scenario Report	**Chapter III.** City NBS Adopted Scenarios
D. Visualize	• Key focus areas for NBS	• List of green assets and pinch points	• NBS Risk Assessment	**Chapter IV.** City Impact
E. Plan	• Plan for collecting baseline data across a defined set of indicators	• KPIs prioritization for NBS	• The up-scale plan	**Chapter V.** Monitoring Program and Action Plan
F. Inform	• Internal stakeholders, external groups and community groups. • Promotion of the initiative among the stakeholders. • The early list of NBS for consideration.	•Plan to Urban Renaturing (RUP)	• The organizational structure of the Municipality for the implementation of the RUP. • Local Communication and Dissemination plan. • Define the financial plan.	**Chapter VI.** Roles and Responsibilities
A. Engage and Co-create	•Assess lessons learnt and validate the strategy.			**Chapter VII.** Processes and reforms

2.5 The tools supporting the outputs development

The URBAN GreenUP project includes the tools and guides that supporting the methodology process, and help in the development of the outputs in actions 1B, 2B, 1C, 2C, 3C, 3D, 3A.

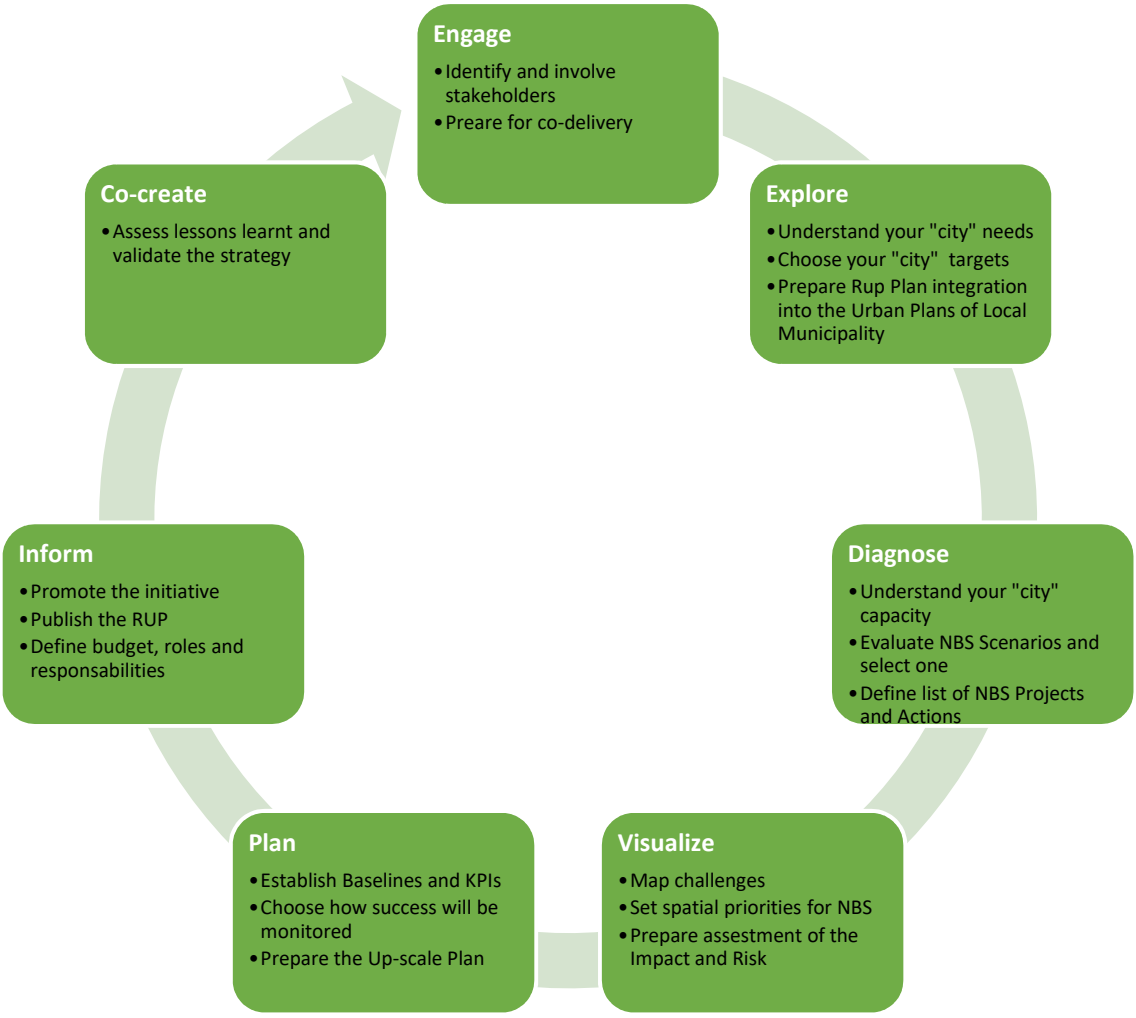
Table 2.4: Supporting tools and guides by phases and steps. (Source: URBAN GreenUP).

How to start?	1st. Understand your present	2nd. Choose your future aspirations	3rd. Integrate RUP and keep	"Renaturing Urban Plan"
A. Engage and Co-create		**Action 2A.** • **Co-creation plan.** *(Source UGU D1.11)* *! Supporting all the actions!*		**Chapter I.** Introduction to Re-naturing
B. Explore	**Action 1B.** • The city re-naturing goal. **Supported by:** • **1st Kick-off Workshop of the City** *(Source UGU D1.3)*	**Action 2B.** • The city challenges and sub-challenges and why they're prioritised. **Supported by:** • **URBAN GreenUP Societal Challenges Catalogue** *(Source UGU D1.2)*		**Chapter II.** City Targets
C. Diagnose	**Action 1C.** • City profile definition. **Supported by:** • **2nd Workshop of the City** *(Source UGU D1.3)*	**Action 2C.** • NBS scenario. Use the URBAN **Supported by:** • **URBAN GreenUP NBS Scenario Tool** *(Source UGU D1.7)*	**Action 3C.** • NBS Scenario Report **Supported by:** • **URBAN GreenUP NBS Catalogue** *(Source UGU D1.1)*	**Chapter III.** City NBS Adopted Scenarios
D. Visualize			**Action 3D.** • NBS Risk Assessment **Supported by:** • **URBAN GreenUP NBS Selection Tool** (Source UGU WP6 Tool, D1.11)	**Chapter IV.** City Impact
E. Plan		**Action 2E.** • **KPIs prioritization for NBS** **Supported by:** • **URBAN GreenUP NBS Scenario Tool** *(Source UGU D1.7)*		**Chapter V.** Monitoring Program and Action Plan
F. Inform	**Action 1F.** • **Promotion of the initiative among the stakeholders.** **Supported by:** • **URBAN GreenUP Info Channel** *(Source UGU D1.11)*			**Chapter VI.** Roles and Responsibilities
A. Engage and Co-create				**Chapter VII.** Processes and reforms

2.6 How to maintain the methodology over time

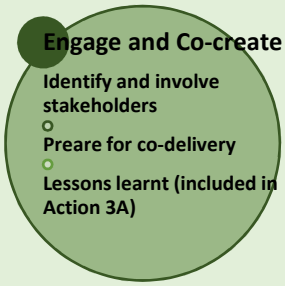
This step-by-step methodology is not conceived as linear process, but as circular one. The step A (Engage and co-create step) is considered at the beginning and at the end of vertical actions.

The Action 3A “Assess lessons learnt and validate the strategy” give continuity to repeat the process in time and guarantee “scaling up”, “replication” and City Green Goal maintenance.



3 Methodology process and RUP Plan

3.1 Chapter I. Introduction to Re-naturing

STEP A. Engage and Co-create	
Which level of development of the RUP we are?	I II III IV V VI VII
STEP A Main Objective: **The objective of this step is to deliver trans-disciplinary and community-based stakeholder engagement strategy including the social sciences and humanities best practices in the co-design, co-development and co-implementation of the city´s NBS projects.** **The engagement-oriented program focuses on the social benefits of engaging with nature, biodiversity and green spaces in cities. Key elements of this program are the development and execution of BioBlitz type activities in which citizens are encouraged to observe, document and provide feedback on the biodiversity and other ecological elements present in the project´s NBSs.** **This methodology step establishes the bases on co-creation and co-developments to all the steps in continuation.**	
Phase 1. Understand your present	**Action 1A. Identify and involve stakeholders**
Main outputs: • **Output 1A-1. List of key stakeholders groups.** • **Output 1A-2. List of capabilities, interests, relationships for each group.**	Identify all key stakeholders for your RUP, including teams inside your organization, the general public, businesses and relevant agencies in other levels of government.
Phase 2. Choose your future aspirations ***Phase 3. Integrate RUP and keep***	**Action 2A. Prepare for co-delivery**
Main outputs: • **Output 2A-1. Co-creation plan.**	This Action involves preparing a clear engagement Plan which outlines clearly how your stakeholders will be involved in preparing and delivering the RUP.

3.1.1 Action 1A. Identify and involve stakeholders

Action Objective:

Identify all key stakeholders for your RUP, including teams inside your organization, the general public, businesses and relevant agencies in other levels of government.

Main Outputs List:

- Output 1A-1. List of key stakeholder groups.
- Output 1A-2. List the capabilities, interests, and relationships for each group.

Outputs Description:

Output 1A-1. List of key stakeholder groups.

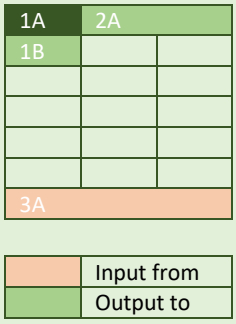
Description:

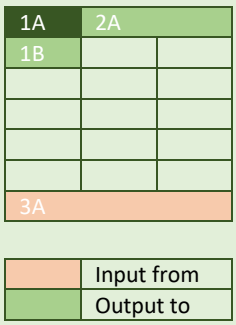
Local people and experts can hold highly relevant knowledge for the management of NBS, ranging from cultural history to geomorphology. Involving a range of stakeholders can offer much needed trans-disciplinary approaches to tackle complex modern problems. Collaboration of diverse stakeholders such as governments, NGOs, scientists, interest-groups, philanthropists and charities are likely to enhance the social and environmental outcomes of NBS.

Once identified, this list of stakeholders becomes a central part of your project, as many of these groups will be involved in the development and implementation of the RUP at some level. It is important to identify these parties early and plan to involve them appropriately in your project.

Key Facts/Figures regarding this action:	**Tool related:**

Our guidelines for successful engagement of a wide range of stakeholders, involve asking the following questions:
• **Who are your stakeholders? These are those who are impacted by or interested in the project. For example, these groups are often important:**
  • **Local residents**
  • **Local workers**
  • **Resident groups**
  • **Business groups and chambers of commerce**
  • **Relevant not-for-profits, charities and social services**
  • **Scientific agencies or peak bodies**
  • **Internal teams such design, engineering and maintenance**
  • **Road agencies**
  • **Heritage agencies**
  • **Key internal executives**
  • **Key politicians**
	Refer to the interim Co-Creation Toolkit (D1.19).

• Technical specialist firms/consultants • Which stakeholders who may have been excluded from decision making in the past? • Tricky participants: the 'Unsocial, Uninformed, Unheard and the Objectors' • How can you ensure a diverse group of stakeholders?	
Direct Link to Other Action: **Once all stakeholders are identified (Output 1A-1) and their interests have been identified (Output 1A-2), we can use this knowledge to plan engagement as part of Action 1B.** ➢ ***Action 1B. - Understand your "city" needs*** **The stakeholders identified (Output 1A-1) will participate in preparation of the Co-creation Plan** ➢ ***Action 2A. - Prepare for Co-Delivery***	**List the Action/s linked:** 

Output 1A-2. List the capabilities, interests, relationships for each group.	
Description: **This step involves working to understand your stakeholders, so that you can plan to appropriately involve them in developing and implementing your RUP.**	
Key Facts/Figures regarding this action. **We recommend finding out the following information:** • ***Interest in the project*** • ***Power to influence decision making*** • ***Stakeholder capacity and limitations*** • ***Appropriate methods of engagement*** • ***Barriers to engagement*** • ***Additional resources /upskilling required***	**Tool related (if any).** Refer to the interim Co-Creation Toolkit (D1.19).
Direct Link to Other Action: **If you now know your stakeholders well, you are ready to use Action 1B to prepare a co-creation plan.** ➢ ***Action 1B. Understand your "city" needs*** ➢ ***Action 2A. Prepare for Co-Delivery and*** **These outputs form the basis of engagement plans**	**List the Action/s linked:** 

Tips to Municipality:

- It's not enough to just engage the powerful and vocal players. We recommend considering what resources you might need to encourage previously uninvolved stakeholders, such as language interpreters. Using different formats of communication will be useful in attracting a broader range of participations.
- Online platforms such as social media can be useful, as well as physical flyers that can be placed in local community hubs and in existing parks.
- Be ready to 'snowball' by using one group of key people to identify other key participants.
- For groups you know are going to be either very influential, very obstructive or very difficult to reach, this is a good time for the project champion to reach out to key individuals and start establishing relationships and trust. Meet with them informally, on their terms, and spend most of your time listening.
- It's important to try to find all your key stakeholders early, but almost every project will discover a few new stakeholders as the project progresses. This is OK and it's important that your stakeholder list is a live document that can include new groups as they are discovered.
- Talk to colleagues that have done projects in your target areas. They will know important stakeholders and may also have contact details and trust.

Key facts & figures regarding this action:

-

Main Actors:

- Municipality Project team & Engagement team

Connection to URBANGreenUP deliverables:

The inputs prepared based on the developments in T1.9.

- **Co-creation and Co-development Guide** *(URBAN GreenUP D1.11), Source: URBAN GreenUP, May 2022 (on-going);* ***URBAN GreenUP, December 2019 Interim ver. D1.19,*** *currently available,* https://www.urbangreenup.eu/resources/deliverables/

3.1.2 Action 2A. Prepare for co-delivery

Action Objective:

This Action involves preparing a clear engagement Plan which outlines clearly how your stakeholders will be involved in preparing and delivering the RUP.

Main Outputs List:

- Output 2A-1. Co-creation Plan.

Output 2A-1. Co-creation Plan.

Description:

A co-creation plan outlines how you will involve each stakeholder identified in step 1A, when you'll involve them, and how.

This Action is critical to the success of your RUP because delivering NBS is a very collaborative, multi-stakeholder process. A co-creation plan is a very important tool in working successfully with the stakeholders in your organization, as well as in other agencies and the general public.

Key Facts/Figures regarding this action:

Urban GreenUP includes a template for a Co-Creation Plan. The co-creation plan applies to every step of the methodology – in almost all steps, it is possible and may be appropriate to involve your stakeholders.

Key sections:

- **Purpose of the plan**
- **Stakeholders for co-creation**
- **Timing of activities**
- **Location of activities**
- **Outline of activities**
- **Evaluation**

We also provide a co-creation toolkit that offers detailed advice on filling each of these steps.

Tool related:

D1.19 Co-Creation

Direct Link to Other Action:

The co-creation plan is an important foundation for your RUP and will be reflected in many sections of the document.

- ***Action 2B. Choose your "city" targets***
- ***Action 2C. Evaluate NBS Scenarios and select one***
- ***Action 2D. Set spatial priorities for NBS***
- ***Action 2E. Choose how success will be monitored***
- ***Action 2F. Publish the RUP***
- ***Action 3A. Assess lessons learnt and validate the strategy***

List the Action/s linked:

Action 1A

1A	2A	
1B	2B	
	2C	
	2D	
	2E	
	2F	
3A.		

	Input from
	Output to

<u>Tips to Municipalities regarding this action:</u>

- Co-creation is something that happens when you're preparing your RUP, and when you're implementing your RUP. This means that you're first co-creating a plan for NBS, then co-creating the NBS themselves. These are quite different kinds of co-creation but they're both really important. Your co-creation plan must consider both of these steps.
- Once you have identified your stakeholders and drafted a plan for co-creation, you may want to run one or more kickoff meetings to discuss the project and confirm their roles. This will be the beginning of a lot of important stakeholder relationships.

- You should plan thoroughly and carefully for co-creation. However, we recommend that at each phase of the methodology, you revisit your co-creation plan and revise it as necessary. This is because as you work, you will learn more about your stakeholders and gain insight into how to work well with them.
- Invite your local leaders to events. They can help show the public that you are serious. They also attract people. Lastly, involving your politicians and letting them see the public's interest will help ensure you have political support.

Main Actors:

- Municipal NBS team, supported where possible by municipal community engagement team

Key facts & figures regarding this action:

-

Connection to URBAN GreenUP deliverables:

The inputs prepared based on the developments in T1.9.

- **Co-creation and Co-development Guide** *(URBAN GreenUP D1.11), Source: URBAN GreenUP, May 2022 (on-going);* ***URBAN GreenUP, December 2019 Interim ver. D1.19,*** *currently available,* https://www.urbangreenup.eu/resources/deliverables/

3.2 Chapter II. City Targets

STEP B. Explore	
Which level of development of the RUP we are?	I II III IV V VI VII
STEP B Main Objective: **The objective of this step is to define the aspirations for re-naturing process of the city. The Societal Challenges and NBS solutions will be proposed, to answer the city/area different criteria, characteristics, problems, targets, budget, social issues, climate, previous experiences, etc.** **Those analyses is somehow the brainstorming base to the next methodology step on Diagnosis, where the societal challenges will be crossed with the barriers and boundaries of the city.**	
Phase 1. Understand your present	**Action 1B. Understand your "city" needs**
Main output: • **Output 1B-1. The city re-naturing goal.** **Supported by: Organization of the 1st Kick-off City Workshop *(Source: UGU D1.3)***	Understand the "value" of the re-naturing for your particular city. Identify the main "city" tendency and the main goal.
Phase 2. Choose your future aspirations	**Action 2B. Choose your "city" targets**
Main output: • **Output2B-1. The city challenges and sub-challenges and why they're prioritised.** **Specific targets will be selected for each challenge.** **Supported by: Societal Challenge Catalogue *(Source: UGU D1.2)***	Identify the "city" targets and translate them into the URBAN GreenUP language of challenges and sub-challenges.
Phase 3. Integrate RUP and keep	**Action 3B. Prepare RUP Plan integration into the Local Municipality Urban Planning Legal Elements.**
Main output: • **Output 3B-1. Output 3B-1. The legal constraints associated with the adoption of the NBS proposed.** • **Output 3B-2. List of the main constrains to the public procurement processes.** • **Output 3B-3. The funding opportunities.** • **Output 3B-4. The outline to the integration of the RUP methodology into the Municipality Planning.**	Identify the regulatory framework that restricts the implementation of the City Urban Plan – RUP – with NBS selected. This includes all the legal elements for the municipality including international and national level (standards, laws, regulations) and local level (rule, norm, ordinance, plan), identify the procurement

	processes and the funding's opportunities.

3.2.1 Action 1B. Understand your "city" needs

Action Objective:

Understand the "value" of the re-naturing for your particular city. Identify the main "city" tendency and the main goal.

Main Outputs List:

- Output 1B-1. The city re-naturing goal.

Outputs Description:

Output 1B-1. The city re-naturing goal.

Description:

This output identify the city specific character of grow to be chosen in reference to the world re-naturing tendencies and examples. The imaginary scenarios will help with the decision according to the re-naturing go or no go potential milestones.

The aim is to list the most important smart city re-naturing trends, to wonder about the real value of the re-naturing actions, and to decide on the most interesting scenario for the city. The common picture of the future city trends should be created, indicating the relevant and uncertain trends and developing the four resulting scenarios in details (see picture below). The local scenario is created with different NBS solutions proposed in "NBS Catalogue", in the context of possible imaginary situation of both, compliance and non-compliance of the goals and the deterioration of the city´s resilience in sense of the goal.

The works can be supported by the specific city workshop with the group of interest identified in the Action 1A. The following information will be useful in the development:

- **Key city areas to reform (identification zones&sector)**
- **List the challenges (e.g. flooding, urban renewal**
- **Prioritisation of challenges**
- **NBS main groups and examples (NBS possibilities)**
- **Prepare the current re-naturing initiatives (if exsist)**
- **Prepare previous lessons learnt (if exist)**

The Stakeholder consensus should be reached in accordance to the listed aspects above, and the list of the challenges and its prioritisation should be proposed. The Action 1A is linked to the Action 1B where the list will be evaluated in deep in accordance to the specific challenges.

Key Facts/Figures regarding this action:

What if? 4 Scenarios to be considered:

Re-naturing systemic strategy yes/no
Tendency Focus (CC linked) yes/no

-re-naturing + CC tendency	***+ re-naturing + CC tendency***
-re-naturing - CC tendency	***+re-naturing - CC tendency***

Figure 3.1: Flowchart of the different scenarios in the goal analysis process. (Source: URBANGreenUP D1.3).

Tool related:

- **1st Kick-off Workshop of the City** *(Source UGU D1.3)*
- **SWOT analysis** *(Source UGU D1.3)*

Direct Link to Other Action:

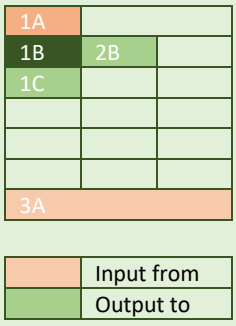
Once the value of re-naturing is established, the right "city" targets can be decided.

- ***Action 2B. Choose your "city" targets***

Once the value of re-naturing is established, the focused "city" diagnosis can be realized.

- ***Action 1C. Choose your "city" capacity***

Link Chart:



Tips to Municipalities regarding this action:

- Try to organize the first meeting between the Group of Interest identified in the previous Action 1A
- Try to wonder on what if we do not have actions to "re-naturing"
- Try to consider the period of at least of 10 years
- Try to recuperate the previous lessons learnt (if exists)

Main Actors:

- Local representatives of different sectors: Municipality Leaders for Environment, Health, Industry, Construction, Municipality Leaders for Local Politics, Architects, Engineers

Key facts & figures regarding this action:

- *EU initiatives,* Supporting Documentation according to Local/EU re-naturing politics and plans
- *Local Agenda/ Action Plan to re-naturing actions*
- *Local Action plan for the Climate Change, Health (other related to the CC)*
- *-Local Diagnosis and Action Plan Suggestion in view of 10 years*

Connection to URBAN GreenUP deliverables:

The inputs prepared based on the developments in T1.1 and 1.3.1

- **NBS Catalogue *(URBAN GreenUP D1.1), Source: URBAN GreenUP, May 2018,*** https://www.urbangreenup.eu/resources/deliverables/
- Diagnosis procedure Guide *(URBAN GreenUP D1.3), Source: URBAN GreenUP, September 2020 (on-going)*

3.2.2 Action 2B. Choose your "city" targets

Action Objective:

Identify the "city" targets and translate them into the URBAN GreenUP language of challenges and sub-challenges.

Main Outputs List:

- Output 2B-1. The "city" challenges and sub-challenges and why they're prioritized. Specific targets will be selected for each challenge.

Main Outputs Description:

Output 2B-1. Identify challenges and sub-challenges and why they're prioritised.

Description:

This output "translates" and classifies the city targets into the societal challenges and sub-challenge identification, in accordance to the societal catalogue developed.

For instance, city target: Nitrogen dioxide levels in the City Center, then one important city challenge will be Air Quality.

The URBAN GreenUP catalogue for the standardization of a method, to identify and classify the main societal city challenges, will allow examining these challenges in a simple way. The information is included on how these challenges might affect the cities and how and why cities might come to understand urban vulnerability.

URBAN GreenUP approach contains 10 challenges (based on classification created by the EKLIPSE initiative):

1. **Climate mitigation and adaptation;**
2. **Water management;**
3. **Coastal resilience;**
4. **Urban green space management**
5. **Air/ambient quality;**
6. **Urban regeneration;**
7. **Participatory planning and governance;**
8. **Social justice and social cohesion;**
9. **Public health and well - being and**
10. **Potential for new economic opportunities and green jobs.**

This process will allow the user to identify *what*, *where* and *why* the challenge is crucial as well as *how* and in what way the different nature-based solutions studied within URBAN GreenUP framework may contribute to dealing with them, considering different criteria.

***WHAT*: Definition of the challenge and relevant information.**
***WHY*: Explanation about why each challenge is key for the cities and the reasons for choosing it to deal with NBS are described in this section.**
***HOW*: Prioritisation (up to 5) of the potential NBS to deal with it and expected impacts.**
***HOW MUCH*: Which KPIs can be used to measure the impact of the NBS in the challenge.**

Key Facts/Figures regarding this action:

Example of the definition of the city challenge selection.

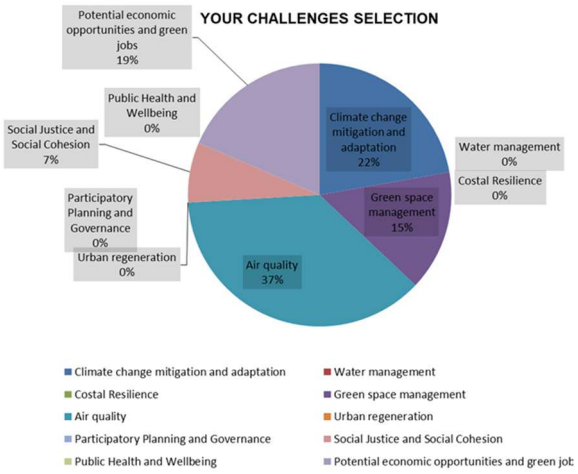


Figure 3.2: City Challenges Impact (Source: URBAN GreenUP)

Tool related:

• URBAN GreenUP Societal Challenges Catalogue
(Source UGU D1.2)

Direct Link to Other Action:

This action is directly linked to the action 2C by transferring challenges and sub-challenges identification throughout the UGUTool to be used in this following action.

- ***Action 2C. Evaluate NBS Scenarios and select one***

List the Action/s linked:

	2A	
1B	2B	
	2C	
3A		

	Input from
	Output to

Tips to Municipalities regarding this action:

- *Involve at the beginning of the process all the related stakeholder groups in the municipality.*
- *Keep the same team during all the process.*
- *Try to involve also citizens and other relevant stakeholders in the city within the process.*

Main Actors:

- *Municipality areas, Municipality politicians, Stakeholders*

Key facts & figures regarding this action:

Some references where can be found key facts and figures about the city challenges are:

- *URBAN GreenUP deliverables describing baseline definition and city challenges for the front-runner cities, Valladolid D2.2, Liverpool D3.2 and Izmir D4.2.*
- *EKLIPSE Impact Evaluation Framework (https://ec.europa.eu/research/environment/pdf/renaturing/eklipse_report1_nbs-02022017.pdf).*
- *Case Studies in OPPLA Platform (https://oppla.eu/).*

- Ecosystem Services Approach Methodology (Millennium Ecosystem Assessment, (MA). (2005). "Ecosystems and human well-being: the assessment series". Island Press, Washington DC.).

Connection to URBANGreenUP deliverables:

The inputs prepared based on the developments in T1.2

- **Societal Challenge Catalogue *(URBAN GreenUP D1.2) , Source: URBAN GreenUP, July 2018***, https://www.urbangreenup.eu/resources/deliverables/

3.2.3 Action 3B. Prepare RUP Plan integration into the Local Municipality Urban Planning Legal Elements

Action Objective:

The main objective of this action is to clearly identify the regulatory framework that restricts the implementation of the City Urban Plan – RUP – with NBS selected. This includes all the legal elements for the municipality including international and national level (standards, laws, regulations) and local level (rule, norm, ordinance, plan), as well as identifying the procurement processes and the funding's opportunities.

"Research and innovation into governance practices including decision-making processes, constraints and opportunities related to institutional and regulatory frameworks, as well as the development of new financial instruments are all necessary to create a market for Nature-Based Solutions" (Source: Nature-Based Solutions & Re-Naturing Cities. European Comission).

Main Outputs List:

- Output 3B-1. The legal constraints associated with the adoption of the NBS proposed.
- Output 3B-2. List of the main constrains to the public procurement processes.
- Output 3B-3. The funding opportunities.
- Output 3B-4. The outline to the integration of the RUP methodology into the Municipality Planning.

Main Outputs Description:

Output 3B-1. The legal constraints associated with the adoption of the NBS proposed.
Description:

This output aims to firstly identify the legal framework that applies in the municipality where a RUP is being considered. The city must identify and handle the legislation at different levels: local, regional, national and supranational.

- ***Supranational law***

The first two distinct groups are EU countries and Non-EU countries.
The EU countries are regulated by the rule of law of the European Union. Every action taken by the EU is founded on treaties that have been approved democratically by its members. EU laws help to achieve the objectives of the EU treaties and put EU policies into practice. There are two main types of EU law – primary and secondary.
EU legal acts are the EU Treaties, Regulations and Directives (all compulsory for all the EU countries), Decisions (compulsory for the determined countries) and Recommendations and Opinions (both have no binding force).
Each Member State of the European Union (EU) has its own law and legal system. Member State (MS) law can comprise both law at the national level (or national law, which is valid anywhere in a certain Member State) and laws which are only applicable in a certain area, region, or city.

- ***National law***

Most countries have a national database of their law. Countries' law derives from various sources, in particular the constitution, the statutes or legislation (which can be adopted at national, regional or local level), and/or regulations by government agencies, etc.

- ***Regional and Local law***

Local law is a law limited in application to a particular district within a territory called also local act. Regional laws are shared laws among a common territory. Local Urban Planning is included in this type of regulation, as well as rules, norms, ordinances or other plans.
Applicable laws that refer to the RUPs and implementation of NBS can include the following categories: urban planning, construction and architecture, heritage, environment, biodiversity, health and safety, management of resources such as water or energy and public procurement, among others.

Key Facts/Figures regarding this action:

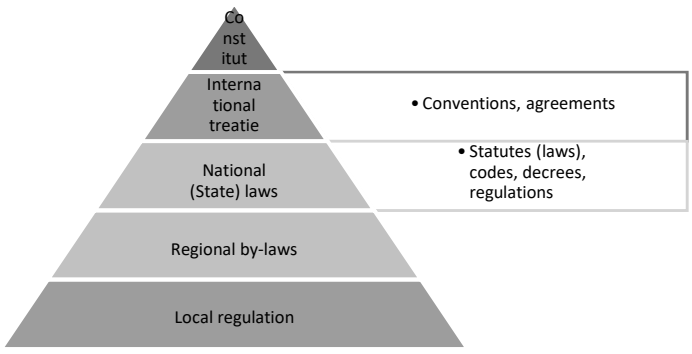


Figure 3.3: The Laws pyramid (Source: URBAN GreenUP)

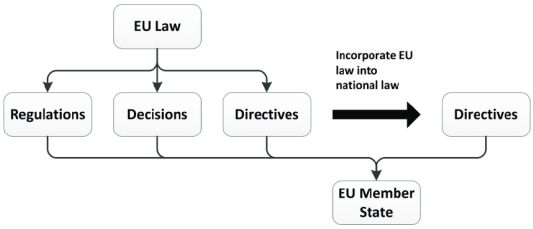


Figure 3.4: EU law diagram (Source: Researchgate, Joel Lööw)

Tool related:

- *Deliverable D1.9 Guidelines to tendering process specification (Report)*

Direct Link to Other Action:

Once the legal constrains are established, the initiative can by promoted through the information channels in the own municipality departments and information to other stakeholders. The information is transferred by internal meetings (council), as well as through the communication media (TV, radio, social media). The information will therefore crossed with the final list of NBS Projects and Actions.

- ***Action 1F. Promote the initiative***

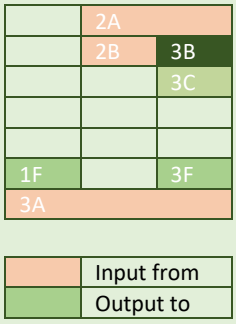
Once the legal constrains are established, the budget, the actors roles and responsibilities can be specified in the different departments of the municipality structure to implement the RUP.

- ***Action 3F. Define budget, roles and responsibilities***

It is worth mentioning that when the list of NBS projects and actions is defined, that must be crossed with the legal, procurement and funding constraints identified in Action 3B.

- ***Action3C. Define list of NBS Projects and Actions***

List the Action/s linked:



Output 3B-2. List of the main constraints to the public procurement processes.

Description:

The execution of NBS in the municipalities is through public procurement processes. For this reason, municipalities must know the regulations that apply to municipal and administrative management.
Public procurement may be defined as the Governments' activity of purchasing the goods and services which it needs to carry out its functions. Standard public procurement process comprises 5 key stages:

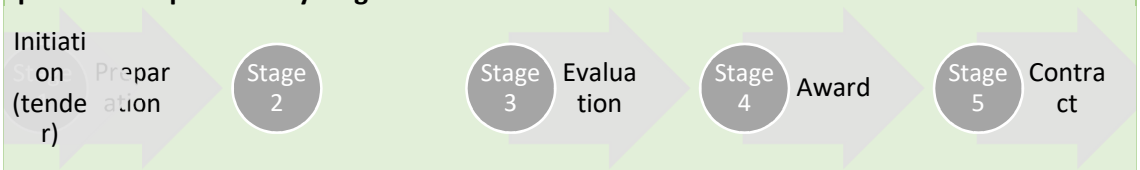


Figure 3.5: Stages in the standard public procurement process for URBAN GreenUP

- **Preparation and planning: Includes Scope or work, Project plans, Procurement method and planning, Budget, Market studies and Public hearing info.**
- **Initiation (tender): Includes Documents preparation, Specifications, Line items, Publication (advertising), Requisition, and Enquiries.**
- **Evaluation of tenders: Includes Submission of tenders, Selection of tenderers, Bid evaluation process and Assess.**
- **Award: Includes Details of Award, Bidder information and Values.**

- **Contract implementation: Includes Contract formation, Amendment, Values, Contract Administration, Project updates, Completion info.**

Procurement is divided into three broad categories, whose approach is largely different: (a) Goods, (b) Works, and (c) Services. NBS are regulated mainly by works contracts.

The procurement and contract administration process are prone to risks, which may deliver in negative consequences for the public administration and the tenderer. That way, the risks could be treated as potential barriers. Potential barriers initially identified include delays in the different stages, money wasted, time lost, complaints from tenderers or legal actions. The risks can be handled by implementing preventive actions.

Key Facts/Figures regarding this action:

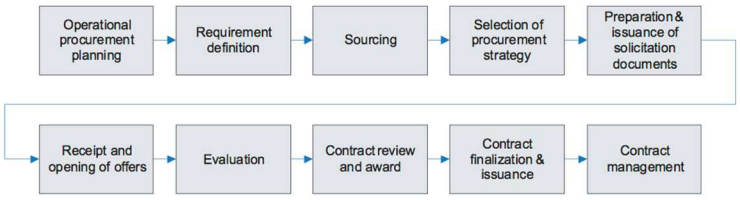


Figure 3.6: Flowchart of the stages in the procurement process (Source: UN Procurement Practitioner's Handbook).

Tool related:

- *Deliverable D1.9 Guidelines to tendering process specification (Report)*
- *Deliverables D2.5, D3.5, D4.5 Tender documents of demo cities (Valladolid, Liverpool, Izmir)*

Direct Link to Other Action:

Once the legal constrains are established, the initiative can by promoted through the information channels in the own municipality departments and information to other stakeholders. The information is transferred by internal meetings (council), as well as through the communication media (TV, radio, social media). The information will therefore crossed with the final list of NBS Projects and Actions.

- ***Action 1F. Promote the initiative***

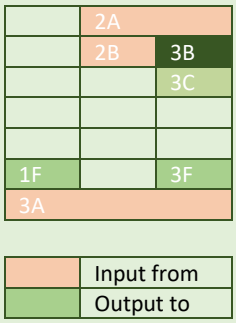
Once the legal constrains are established, the budget, the actors roles and responsibilities can be specified in the different departments of the municipality structure to implement the RUP.

- ***Action 3F. Define budget, roles and responsibilities***

It is worth mentioning that when the list of NBS projects and actions is defined, that must be crossed with the legal, procurement and funding constraints identified in Action 3B.

- ***Action3C. Define list of NBS Projects and Actions***

List the Action/s linked:



Output 3B-3. The funding opportunities.

Description:

The search for funding to implement NBS by local entities is one of the main points of concern. Finance is often provided by public bodies, private organisations and communities/citizens, as well as combination of them.

The value proposition for urban NBS depends on who is providing financing:

- **Public bodies: de-risking (water retention, urban heat).**
- **Private firms: real estate value capture & stewardship.**
- **Citizens/communities: symbolic & educational.**

External, profit-seeking finance does not play a significant role in the NBS funding. Perhaps real estate developers using innovation grants.

Possible financial instruments for NBS are:

- **Individuals / communities: Donation & reward crowd-funding, Lease (greening as a service), Subsidies / tax breaks for households, Access to bank loans?, Mortgage incentives (like Energy label)**
- **Private organisations, Bank loans / equity (real estate development); Institutional investors (pension funds).**
- **Public organisations, Bank loans, Green bonds.**

(Source: Naturvation project).

Key Facts/Figures regarding this action:

Types of value	Source of investment: Public organisations	Private organisations	Communities / individuals
Water retention	Municipal subsidies to stimulate green roofs	Investment into green roofs as part of building requirement	
Health value	UFF: Matched funding for tree cover on private urban areas	Increased employee health through multifunctional green roof	Crowdfunding of neighbouring roofs
Biodiversity	Innovation subsidies for real estate development with biodiversity		
Stewardship		Adopting biodiversity goals	
Monitoring	Funding for bee health monitoring (Urban Observatory)	Investment into bees as immission monitoring indicators	
Aesthetic value		Green roofs for added customer value (i.e. higher rent)	Crowdfunding of neighbouring roofs with a view
Symbolic value			(Adopt) meaningful / specific trees, bees and gardens; tree mapping
Educational value			Gardens, plots, bees for building (child) awareness & stewardship
Social capital			Reducing anti-social behaviour using bees; donations for common cause
Sale of produce		Honey sales	Honey sales

Figure 3.7: Types of value x Investment Sources (Source: Naturvation project. How to finance Nature-Based Solutions? www.naturvation.eu).

Tool related:

- *Naturvation project: How to finance Nature-Based Solutions?*
- *GrowGreen project: Approaches to financing nature-based solutions in cities.*
- *Connecting Nature project: Financing and business models.*
- *Tool: Nature-Based Solution Business Model Canvas And Guidebook (Connecting Nature project)*

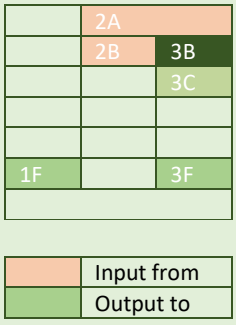
Direct Link to Other Action:

Once the legal constrains are established, the initiative can by promoted through the information channels in the own municipality departments and information to other stakeholders. The information is transferred by internal meetings (council), as well as through the communication media (TV, radio, social media). The information will therefore crossed with the final list of NBS Projects and Actions.

- ***Action 1F. Promote the initiative***

Once the legal constraints are established, the budget, the actors roles and responsibilities can be specified in the different departments of the municipality structure to implement the RUP.

List the Action/s linked:



➢ ***Action 3F. Define budget, roles and responsibilities*the RUP.** It is worth mentioning that when the list of NBS projects and actions is defined, that must be crossed with the legal, procurement and funding constraints identified in Action 3B. ➢ ***Action3C. Define list of NBS Projects and Actions***	

Output 3B-4. The outline to the integration of the RUP methodology into the Municipality Planning.

Description:

A good governance structure at the local level ensures the implementation of NBS in the cities. NBS require a collaborative governance approach. NBS are often initiated by local governments and require multiple actors to be designed, implemented and linked to urban life. For implementing NBS in the municipality there is a need to develop a systemic approach that combines technical, business, finance, governance, regulatory and social innovation.

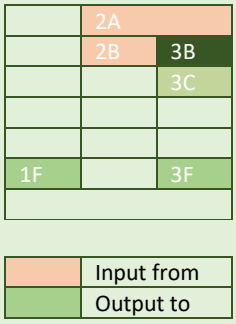
NBS are innovative concepts supported by other closely related concepts and policies, such as the ecosystem approach, ecosystem services, ecosystem-based adaptation and mitigation, and natural, green and blue infrastructure. In order to be effective, NBS and those concepts must also be successfully embedded into society, business and policy. This requires an adequate integrated institutional and legal frameworks and governance structures, so that the multiple benefits arising from NBS are captured.

To achieve more systemic urban governance, it is important to use a multistakeholder approach. There is a need for overarching coordination in the municipal government, in order to innovate cities with NBS while adopting a systemic, multi-stakeholder and transdisciplinary approach.

In the municipal government structure there is a need to adapt a broader holistic framework and thinking, to promote systemic solutions and system resilience, which establishes the local framework to implement the NBS. Long-term decision-making that weighs human well-being, not just economic benefit, must be handled. Municipalities have to link Public Health agendas with Nature Agendas.

NBS require a collaborative approach to their planning and implementation.
Increase knowledge about the benefits of the NBS and awareness in the own municipal institutional body is also necessary to achieve successful implementation.

Key Facts/Figures regarding this action:	**Tool related:**
 ***Other possibly related: Culture and Tourism Area; Education, Childhood, Youth and Equality Area; Planning and Resources Area*** **Figure 3.8: Example to the Municipality Departments co-related to RUP**	- *Naturvation project: The Governance and Politics of Nature-Based Solutions*

Direct Link to Other Action:	List the Action/s linked:
Once the legal constrains are established, the initiative can by promoted through the information channels in the own municipality departments and information to other stakeholders. The information is transferred by internal meetings (council), as well as through the communication media (TV, radio, social media). The information will therefore crossed with the final list of NBS Projects and Actions. ➢ ***Action 1F. Promote the initiative*** **Once the legal constrains are established, the budget, the actors roles and responsibilities can be specified in the different departments of the municipality structure to implement the RUP.** ➢ ***Action 3F. Define budget, roles and responsibilities*** It is worth mentioning that when the list of NBS projects and actions is defined, that must be crossed with the legal, procurement and funding constraints identified in Action 3B. ➢ ***Action3C. Define list of NBS Projects and Actions***	

Tips to Municipalities regarding this action:

- Go to the legal department of the city council for professionals to identify all applicable regulations
- Arrange a multidisciplinary team within the City Council, which mixes technical (design and implementation), legal (regulations) and administrative (procedures) capacities
- Use an inclusive narrative that can bridge knowledge and agendas across different departments of the city and tackle with departmental disputes
- Plan budget requirements in advance so that they are compatible with the annual items

Main Actors:

- Local Government (Mayor, Councilors). Public workers: Communication Department; Legal Department; General Administration Area designated for renaturalization management (if any). Investors.

Key facts & figures regarding this action:

- European Union Law (European Commission) for EU Member states https://ec.europa.eu/info/law_en
- Public Procurement in the European Union (European Commission) https://ec.europa.eu/info/policies/public-procurement_en
- United Nations Procurement Practitioner's Handbook https://www.ungm.org/Areas/Public/pph/index.html

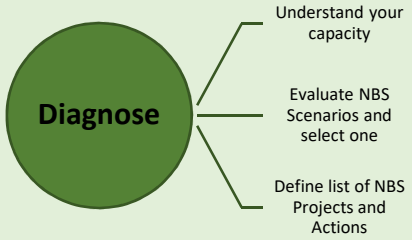
- Public Procurement in the OECD https://www.oecd.org/gov/public-procurement/
- Funding opportunities (European Commission) https://ec.europa.eu/info/funding-tenders/funding-opportunities_en
- Funding opportunities for NBS (Naturvation Project) https://ec.europa.eu/environment/biodiversity/business/assets/pdf/Part%203_2_Naturvation.pdf
- Approaches to financing nature-based solutions in cities (Growgreen Project) http://growgreenproject.eu/wp-content/uploads/2019/03/Working-Document_Financing-NBS-in-cities.pdf
- Financing and business models (Connecting Nature project) https://connectingnature.eu/financing-and-business-models
- The governance and politics of Nature-Based Solutions (Naturvation project) https://naturvation.eu/sites/default/files/news/files/naturvation_the_governance_and_politics_of_nature-based_solutions.pdf

Connection to URBAN GreenUP deliverables:

The inputs prepared based on the developments in T1.7

- Tendering Process Guide *(URBAN GreenUP D1.9) , Source: URBAN GreenUP, December 2020 (on-going)*
- *Tender documents of FR cities (Valladolid, Liverpool, Izmir), (URBAN GreenUP D2.5, D3.5, D4.5), 2019, https://www.urbangreenup.eu/resources/deliverables/*

3.3 Chapter III. City NBS Adopted Scenarios

STEP C. Diagnose	
Which level of development of the RUP we are?	I II III IV V VI VII
STEP C Main Objective: **The objective of this step is to deliver a detailed diagnosis of the city/area in respect to the societal challenges selected for a city in the previous step. The deep analysis on barriers, boundaries and opportunities for corresponding NBS indicated will complete the study. The information will allow the selection of the city societal challenge scenarios with selected NBS. The systemic method proposed and the tools developed with will support the process.** **As a result, we will get the NBS Catalogue offer adapted to the local city conditions. The URBAN GreenUP NBS catalogue, as a base, it includes all possible characteristics of each NBS identified (technical, economic, environmental, and social). The features considered into the catalogue indicating also the potential scale of value for each societal challenges selected in the previous step.**	
Phase 1. Understand your present	**Action1C. Understand your "city" capacity.**
Main output: • **Output 1C-1. City profile definition.** **Supported by: Organization of the 2nd City Diagnosis Workshop *(Source: UGU D1.3)***	The main goal of this action is to detail the city profile and to prepare it for deep analysis in respect to the NBS implementation.
Phase 2. Choose your future aspirations	**Action 2C. Evaluate NBS Scenarios and select one**
Main output: • **Output 2C-1. NBS scenario.** **Supported by: Use of the URBAN GreenUP NBS Scenario Tool *(Source: UGU D1.7)***	The main goal of this action is to provide the user with a list of the best NBS for the needs, targets and capacities of the city (diagnosis/challenges/barriers/enablers). Using this list the user will refine the NBS list if needed.
Phase 3. Integrate RUP and keep	**Action 3C. Define list of NBS Projects and Actions**
Main output: • **Output 2C-1. NBS Scenario Report** **Supported by: Use the URBAN GreenUP NBS Catalogue *(Source: UGU D1.1)***	The mail goal of this action is to generate a report with all the needed information that the user needs to define the project.

3.3.1 Action1C. Understand your "city" capacity

Action Objective:

The main goal of this action is to detail the city profile and to prepare it for deep analysis in respect to the NBS implementation.

Main Outputs List:

- Output 1C-1. City profile definition.

Output 1. City profile definition

Description:

This action will start with the analysis of the different factors of the city and surrounding the potential NBS implementation. The database of city information covering aspects such as:

- **Site analysis (geomorphology, water, subsoil, vegetation, but also and for specific climate definition, solar impact, average temperatures, wind direction)**
- **Zoning analysis (construction and public spaces balance, and equipment's, build environment character, use of soil, construction elements available for NBS)**
- **Local legal regulations NBS related**
- **Other related specific city data**
- **List of weaknesses, strengths, opportunities and treads identified**

Depending on the specific city context (including political, technical, legal, social, and financial implications), as well as different NBS characteristic and needs, we will have to consider some influential advantages and disadvantages of their potential integration. Some NBS strategies will work better in some situations, being unnecessary until damaging the functioning in others.

The user will classify the Strengths, Weaknesses, Opportunities, and Threats (SWOT) prioritizing the most urgent and important, and also those improbable, for NBS implementation in the local city context.

The SWOT analysis was selected for diagnosis process and selection of the best strategies supporting RUP. This methodology allows cities to analyze the problem from the point of view of the different influential positive and negative factors:

- ***Offensive (to eliminate all Weaknesses and Threats)***
- ***Orientation (to take advantage of Opportunities, and improve the Weaknesses)***
- ***Defensive (to protect the Strengths and minimise the Threats, or avoid them)***
- ***Of survival (to avoid Threats and to reduce the Weaknesses)***

This step is crucial during the previous analysis process, as defining the potential limits for some implementations at the early beginning and accuracy of the NBS proposed, as same indicating the steps needed to be taken to potentially overcome the obstacles and increase the potential of success for the RUP`s planning.

To start with the evaluation, and having the previous data recollected, try to answer the following questions:

- ***Are you a city leader in any aspect related re-naturing?***

- ***What would be your strategy for re-naturing?***

In the diagnosis of the close and immediate environment there are problems often repeated, however, it is also common to detect opportunities. It is not always possible to avoid all threats or to exploit maximum the strengths. The option to take advantage of opportunities and improve the weaknesses seems to be the balanced option at different scales: city, area, district or street.

As a result an early list of NBS for City NBS scenarios definition. The information also help in preparation of the City Baseline in accordance to the local goals and the NBS selected. The systematic procedures used in the identification of the barriers and boundaries, can be replicated into the same city process, thanks to the identified questionnaires'.

Key Facts/Figures regarding this action:

	Strengths	***Weaknesses***
Opportunities	***Offensive*** *(to eliminate all Weaknesses and Threads)*	***Orientation*** *(to take advantages from opportunities, and improve the weaknesses)*
Threads	***Defensive*** *(to perfect the Strengths for minimizing of Threads and avoid them)*	***Of survival*** *(to avoid Threads and to reduce the Weaknesses)*

Figure 3.9: SWOT analysis chart (Source: Web)

Tool related (if any).

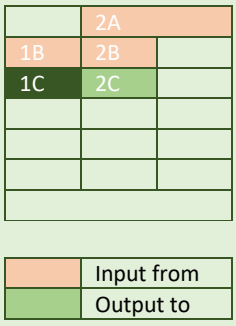
• 2nd Workshop of the City
(Source UGU D1.3)

Direct Link to Other Action:

Once the diagnosis is performed the list of Challenges and NBS can be crossed with the city real capacity for NBS adoption.

- ***Action 2C. Evaluate NBS Scenarios and select one***

List the Action/s linked:



Tips to Municipalities regarding this action:

- *The key aspect, list of the city barriers well prepared and risk evaluated*

Main Actors:

- *City planners*

Key facts & figures regarding this action:

-

Connection to URBAN GreenUP deliverables:

The inputs prepared based on the developments in 1.3.1

- Diagnosis procedure Guide (URBAN GreenUP D1.3), Source: URBAN GreenUP, September 2020 *(on-going)*

3.3.2 Action 2C. Evaluate NBS Scenarios and select one

Action Objective:

The mail goal of this action is to provide the user with a list of the best NBS for the needs, targets and capacities of the city (diagnosis/challenges/barriers/enablers). Using this list the user will refine the NBS list if needed.

Main Outputs List:

- Output 2C-1. NBS scenario.

Main Outputs Description:

Output 2C-1. NBS scenario.

Description:

This action will start with the generation of a list of the NBS interventions according user requirements (city capabilities, challenges and sub-challenges and barriers, boundaries and enablers). This list will be generated by the ToolUGU. The objective of the process is to identify those NBS solutions, supporting city/area different criteria, characteristics, problems, challenges, budget, social issues, climate, previous experiences, etc.

This action will need inputs from actions 1B, 2B and 1C to get information about city diagnosis, city challenges and targets and barriers, boundaries and enablers. By processing these data, the tool will create the NBS candidates as an intermediate output of the action.

The user will validate and refine the list selecting the NBS according to no identify criteria in previous actions. This validation and refinement will serve to correct a lack of barriers selection or an unspecific selection of city challenges. This refinement is also needed when the list shows a big number of possible adequate NBS. This process generate a NBS scenario and ToolUGU will estimate the impact of the NBS scenario.

The ToolUGU, as a part of the evaluation method for NBS scenarios definition, is a base guide to evaluate different city NBS scenarios sets. In consequence, it allows the selection of one or several NBS alternatives previously identified, working in an integrated way, and solving possible city problems holistically.

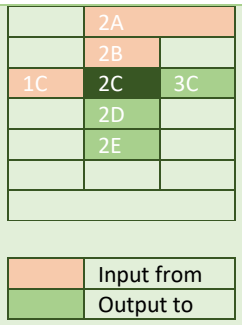
Key Facts/Figures regarding this action:	**Tool related:**
Figure 3.10: ToolUGU logo.	• **URBAN GreenUP NBS Scenario Tool** *(Source UGU D1.7)*
Direct Link to Other Action:	**List the Action/s linked:**

This action is directly linked to the action 3C by transferring the user NBS scenario to be used in this following action.

- ***Action 3C.*** ***Define list of NBS Projects and Actions***

This action is also linked to the actions 2D and 2E, where the NBS scenario can be specified and deeply analysed establishing the special priorities and assigning the KPIs prioritization.

- ***Action 3D.*** ***Set spatial priorities***
- ***Action 2E.*** ***Choose how success will be monitored***



Tips to Municipalities regarding this action:

- Try to make a proper diagnosis, city challenge and barriers identification.
- Read carefully ToolUGU user's guide before starting.
- Keep the same team during all the process.
- Take your time to assess several scenarios before generate the final one.

Main Actors:

- Architect, Engineers, Consultants, Municipality areas

Key facts & figures regarding this action:

Some references where can be found key facts and figures about the city challenges are:

- URBAN GreenUP deliverables describing the ToolUGU D1.7 and RUP methodology D1.13.
- Case Studies in OPPLA Platform (https://oppla.eu/).
- Case Studies in ThinkNature platform (https://www.think-nature.eu/).

Connection to URBANGreenUP deliverables:

The inputs prepared based on the developments in 1.6

- **Societal Challenge Catalogue *(URBAN GreenUP D1.2) , Source: URBAN GreenUP, July 2018***, https://www.urbangreenup.eu/resources/deliverables/
- NBS scenarios generation Tool *(URBAN GreenUP D1.7) with KPIs prioritization criteria Guide (URBAN GreenUP D1.8), Source: URBAN GreenUP, September 2020 (on-going)*

3.3.3 Action 3C. Define list of NBS Projects and Actions

Action Objective:

The mail goal of this action is to generate a report with all the needed information that the user needs to define the project.

Main Outputs List:

- Output 3C-1. NBS scenario report.

Main Outputs Description:

Output 3C-1. NBS scenario report.

Description:

In this action, the user will select all the information needed to be included in the NBS Scenario Report. Then, it can be annexed to the Renaturing Urban Plan or any other planning tool. The users provides the information, and self-completing the inputs needed.

The report can include the following sections:

- **NBS Scenario identification title.**
- **Links to NBS information Cards.**
- **Links to case studies for the selected NBS.**
- **Summary with the results of the diagnosis process including the city challenges and barriers identification.**

The NBS outline will be crossed with the constraints considered into the previous step on legal constrainst:

- **The legal constrains associated to the adoption of the solutions proposed (Output 3B-1)**
- **List of the main constrains to the public procurement processes (Output 3B-1).**
- **The funding opportunities (Output 3B-1).**
- **The outline to the integration of the RUP methodology into the Municipality Planning (Output 3B-1).**

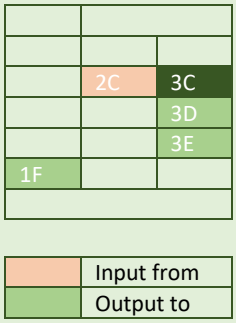
Finally, it will help in elaboration of the further city strategy, definition of the budget, roles and responsibilities, as well the potential up-scaling actions.

Key Facts/Figures regarding this action:

Figure 3.11: Report Output (Source: URBAN GreenUP).

Tool related:

- **URBAN GreenUP NBS Scenario Tool** *(Source UGU D1.7)*
- **URBAN GreenUP NBS Catalogue** *(Source UGU D1.1)* published on-line.

Direct Link to Other Action:	List the Action/s linked:
This action is directly linked to the action 3D by transferring the user NBS projects and actions for further Impact and Risk analysis. ➢ ***Action 3D. Prepare assessment of the Impact and Risk*** **This action is also linked to the actions 3E, where the NBS projects and actions will be proposed for scaling-up and replication.** ➢ ***Action 3E. Prepare the up-scale plan***	

Tips to Municipalities regarding this action:

- *Try to make a detail diagnosis, city challenge and barriers identification.*
- *Keep the same team during all the process.*
- *Take your time to be sure that your NBS Scenario fits your targets.*

Main Actors:

- *Architect, Engineer, Consultant, municipality areas*

Key facts & figures regarding this action:

Some references where can be found key facts and figures about the city challenges are:

- *URBAN GreenUP deliverables describing the ToolUGU D1.7 and RUP methodology D1.13.*
- *Case Studies in OPPLA Platform (https://oppla.eu/).*
- *Case Studies in ThinkNature platform (https://www.think-nature.eu/).*

Connection to URBANGreenUP deliverables:

The inputs prepared based on the developments in 1.6.1 and 1.1

- **NBS Catalogue *(URBAN GreenUP D1.1), Source: URBAN GreenUP, May 2018,*** https://www.urbangreenup.eu/resources/deliverables/
- *Technical Specifications of Demos (Valladolid, Liverpool, Izmir), (URBAN GreenUP D2.3, D3.3, D4.3), 2019, https://www.urbangreenup.eu/resources/deliverables/*
- *Tender documents of FR cities (Valladolid, Liverpool, Izmir), (URBAN GreenUP D2.5, D3.5, D4.5), 2019, https://www.urbangreenup.eu/resources/deliverables/*

3.4 Chapter IV. City Impact

STEP D. Visualize	
Which level of development of the RUP we are?	I II III IV V VI VII
STEP D Main Objective: **The objective of this process is to visualize the re-naturing process objectives considered in the previous step B and C. The zoning constrains and specific rules will complete the diagnosis from special perspective.** **The information will allow the definition of different kind of zone, getting as result, a multipurpose zoning that can be visualized through a GIS tool.** **In consequence, the accuracy and functionality of the NBS solution intervention will be checked. The risk associated the NBS implementation will be assessed and the final impact of the NBS scenario will be evaluated.**	
Phase 1. Understand your present	**Action 1D. Map challenges**
Main output: • **Output 1D-1. Key focus areas for NBS**	The main goal of this action is to define the green infrastructure picture, identifying the key areas of focus for each challenge and NBS.
Phase 2. Choose your future aspirations	**Action 2D. Set spatial priorities for NBS**
Main output: • **Output 2D-1. List of green assets and pinch points**	Action Objective: The main goal of this action is to identify the priority precincts for action – where will the NBS go.
Phase 3. Integrate RUP and keep	**Action 3D. Prepare assessment of the impact and Risk**
Main output: • **Output 3D-1. NBS Risk Assessment** **Supported by:** **Use the URBAN GreenUP NBS Selection Tool *(Source: UGU WP6, D1.11)***	The main goal of this action is to prepare the assessment of the Risk and potential Impact for selected NBS.

3.4.1 Action 1D. Map challenges

Action Objective:

The mail goal of this action is to define the green infrastructure picture, identifying the key areas of focus for each challenge and NBS.

Main Outputs List:

- Output 1D-1. Key focus areas for NBS

Main Outputs Description:

Output 1. Action 1D. Map challenges

Description.

Mapping challenges is a crucial step in the development of the RUP. Understanding the range, scale and complexity of the challenges facing a city is essential if arguments for NBS are to be made and resources found to implement NBS.

This action aims to map these challenges and so spatial data is required wherever possible for each of these challenges. Where spatial data is not available, it may be possible to use the information to provide context for the RUP, but this is always going to be less useful and less robust than mapped data.

Data is often available from local or national government for many of the challenges that may need to be addressed in a city. This data has the advantage of being linked to statutory plans and strategies and therefore tit will have been scrutinized and accepted and as a robust dataset.

Gathering new data can be expensive and may only be an option for well-resourced projects. A less well-resourced RUP might look at key statutory documents and national/regional policy in Step 2, with limited engagement on the priority challenges.
A basic RUP may simply look at national/regional strategy and policy and assess how these are being addressed locally.

The advent of lower cost aerial and satellite data is enabling faster and lower cost mapping of challenges.

Use of Geographic Information Systems is, in almost all cases, essential. There are a number of commercial and also free to use systems available, of varying functionality, that can support the mapping of city challenges.

Key Facts/Figures regarding this action:	**Tool related:** *This action identified a number of GIS tools that could be useful. A selection is provided here.*

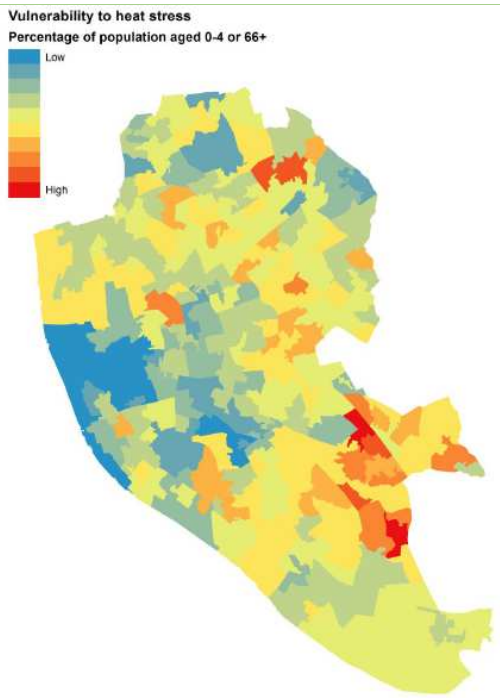


Figure 3.12: Example of a Challenge Map in Liverpool showing the spatial distribution of communities most vulnerable to heat stress (Source: CFT).

- **GvSIG** has a user-friendly interface, being able to access the most common formats.

Source:

http://www.gvsig.com/es

- **QGIS** offers an easy-to-navigate GUI for importing data, running analyses, editing data, modifying the map layout by joining multiple datasets based on their spatial relationships.

Source:

https://www.qgis.org/en/site/

- **GeoServer**: is the reference system of the Open Geospatial Consortium (OGC) Web Feature Service (WFS) and Web Coverage Service (WCS) standards, as well as a high performance certified compliant Web Map Service (WMS)

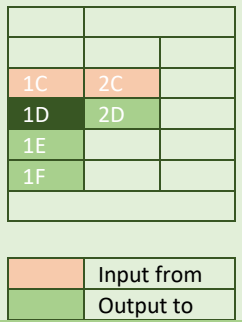
Source: http://geoserver.org/

Direct Link to Other Action:

This action has direct links to several other actions within the RUP. Because the Challenge mapping directs activity at specific locations, so that NBS can overcome a particular challenge, it underpins the delivery of NBS in a city.

- ***Action 2D. Set spatial priorities***
- ***Action 1E. Establish Baselines***

List the Action/s linked:



The data gathered from this action is useful to a wide range of services within a city. It can help to join up activity across departments so that more resources can be targeted at areas where the challenges are seen to be greatest. ➢ ***Action 1F. Promote the initiative***	

Tips to Municipalities regarding this action:

- *Ensure that you a clear scope is provided for gathering data. There is a vast array of data available and it is easy to gather more and more date – sometimes more does not mean better. Gather fewer, high quality data sets that clearly show the scale and distribution of the challenge.*
- *If possible, ensure that your project budget allows for a GIS specialist to manage data and produce the challenge maps.*
- *Catalogue the data gathered and describe how it is used to produce the challenge maps. The data for the RUP has to be robust and defensible.*

Main Actors:

- *Project Co-ordinator, GIS Specialist, Wider project team*

Key facts & figures regarding this action:

-

Connection to URBANGreenUP deliverables:

The inputs prepared based on the developments in 1.5,

- **Zoning and Mapping Guide *(URBAN GreenUP D1.6), Source: URBAN GreenUP, May 2020***, https://www.urbangreenup.eu/resources/deliverables/

3.4.2 Action 2D. Set spatial priorities for NBS

Action Objective:
The mail goal of this action is to identify the priority precincts for action – where will the NBS go.

Main Outputs List:

- Output 2D-1. List of green assets and pinch points.

Main Outputs Description:

Output 2D-1. List of green assets and pinch points.
Description:

The concepts of Pinch Points and Assets uses the mapping undertaken in Action 1D. The mapping of the challenges identifies area of "need" and the mapping of the existing green infrastructure and its functionality describes what NBS are already in place across the city.

From the data and mapping of needs and green infrastructure functionality we can start to look at differing needs across the city, starting to "zone" the city, based on need, into areas of:

- **Assets –the term "asset" is used to describe green infrastructure that is delivering a function or functions in an area of identified need. For example, a woodland or wetland that is intercepting and storing water in an area of flood risk is a water management asset; it is providing functions that help to reduce the risk of flooding.**
- **Pinch Points - Pinch Points are identified as areas where a "need" has been identified, for which green infrastructure functionality could provide a solution, but where that functionality is not provided now. This is where NBS interventions can be targeted.**

Assets and Pinch Points need different approaches. Assets require safeguarding or enhancement of the benefits they are already providing.

Pinch Points require interventions, evidence-based NBS, to help to overcome the challenge identified. A strength of NBS is that well-designed projects can overcome several challenges in an area.

Key Facts/Figures regarding this action:

From this simple graphic we can show how we define Pinch Points and also Assets, describing actions that we can take to overcome Pinch Points and safeguard Assets

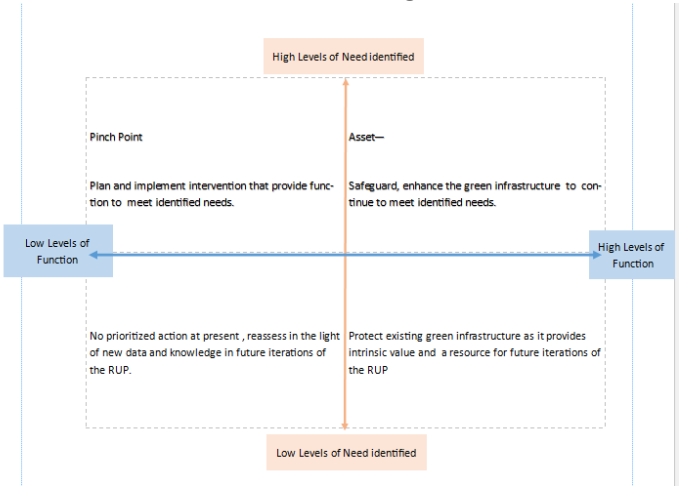


Figure 3.13: Green infrastructure chart

The Pinch Point Flow diagram (I can make this clearer if it is useful to have this in here

Tool related:

The tool developed for this approach is a simple graphic to help to describe the process shown in the flow diagram to the right of this box.

This uses a simple grid, with axes representing need or challenge in the city and the level to which that need is being addressed by green infrastructure already.

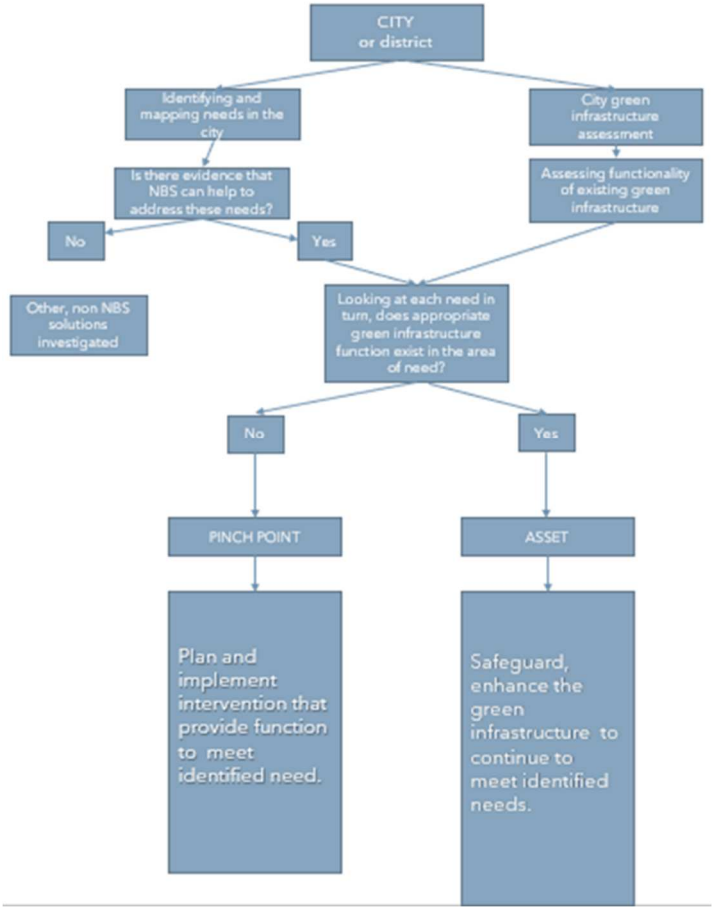


Figure 3.14: Logic chart to Asset and Pinch Point (Source: CFT)

Direct Link to Other Action:

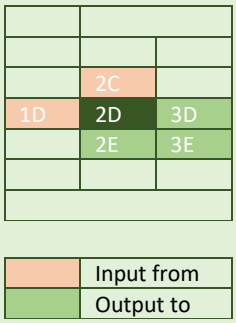
Similar to output 1D-1, this action has direct links to several other actions within the RUP. Because the Challenge mapping directs activity at specific locations, so that NBS can overcome a particular challenge, it underpins the delivery of NBS in a city.

- ***Action 3D. Prepare the assessment of the Impact and Risk***

The Pinch Point approach can be used to focus discussion across wide partnerships. In theory, this could lead to greater levels of support from a wider range of potential funding streams for these locations.

- ***Action 2E. Choose how success will be monitored***
- ***Action 3E. Prepare the up-scale plan***

List the Action/s linked:



Tips to Municipalities regarding this action:

- Agree the Pinch Point approach early. The approach is a simple one, but it is worthwhile describing how Pinch Points and Assets are defined and what actions are appropriate for each so that there is a good understanding of the outputs.

- Remember that this is a model! It should inform activity, it does not need to constrain the project. *("All models are wrong, some are useful" George Box)*

Main Actors:

- *Project Co-ordinator, GIS Specialist, Wider project team, NBS specialists*

Key facts & figures regarding this action:

-

Connection to URBANGreenUP deliverables:

The inputs prepared based on the developments in 1.5,

- **Zoning and Mapping Guide *(URBAN GreenUP D1.6), Source: URBAN GreenUP, May 2020***, https://www.urbangreenup.eu/resources/deliverables/

3.4.3 Action 3D. Prepare assessment of the impact and Risk

Action Objective:

The main goal of this action is to prepare the assessment of the Risk and potential Impact for selected NBS.

Main Outputs List:

- Output 3D-1. NBS Risk Assessment

Output 3D-1 NBS Risk Assessment

Description:

This action will start with the generation of the list of priority barriers according to the NBS list identified in the previous steps and confirmed into the NBS city scenarios.
To complete the previous analysis the barriers should be scorred to determine the possible difficulties during the NBS design, development, evaluation and integration process.

The potential barriers and boundaries for integration of the NBS have been clustered into the following categories for further examination:

- **Political barriers**
- **Technical barriers**
- **Legal / Organizational barriers**
- **Social / Cultural barriers**
- **Financial barriers**

All of the barriers, currently identified during the diagnosis step and linked to the particular NBS, will be scored to identify and evaluate:

- **The potential (negative) impact during any of the phase of the process**
- **The probability of occurrence (or existing contingency in case occur)**

Finally, the package of reforms that should be used to address barriers and enable smooth procurement should be considered. The level of the risk, and the decision "NBS go/ no go", should be identified.

One of the main barriers under the political barriers category is the disconnect between short-term actions and long-term goals, which is often a result of a number of factors, such as:

- **Coordination between departments of the local public administration.**
- **Political interests in electoral campaign periods.**
- **Interventions construction in the short term with visible results in the long term.**
- **Slow periods for public tendering processes.**

The disconnect between short-term actions and long-term plans is another political barrier, which can be related to the following factors:

- **Frequent changes in local authority or other governing administration.**
- **Disconnect of governance with national policy.**
- **Disconnect of governance locally.**
- **Austerity and funding cuts.**

Revisions of the long-term strategic plans of the city are also considered to be political barriers for implementation of NBS.
There are two subcategories under technical barriers. The first are related to infrastructure challenges, which include:

- **Current technical/operational practices of city governments.**
- **Buildings structural capacity to support the weight of green infrastructure.**
- **The existence of construction companies with demonstrated experience in NBS construction in the local environment.**
- **Technical barriers associated with arboreal and plant interventions.**

The other subcategory is the location of the interventions in the urban space, which includes barriers related to:

- **Lack of space in the urban environment.**
- **Difficulties finding suitable places in the urban space.**

For the legal and organizational barriers; the legal barriers to implement NBS in open spaces or urban city areas can include: Compliance with local basic legislation, land ownership, lease agreements, covenants, local permits for construction work, rights of way, maintenance and duty of care, possible lack of ordinances and local regulations, public private collaboration. Organizational barriers can include: Departmental / Institutional silos, Vertical/Horizontal Hierarchy, work culture, lack or absence of a capacity for organizational learning, lack of engagement with programs.
In terms of social and cultural barriers there are 8 main barriers to action for NBS, which are:

- **Knowledge Gaps - Fear of the Unknown**

- **Lack of Awareness**
- **Green Gentrification and Social Inclusiveness**
- **Paradigm of Growth**
- **For the financial barriers, two subcategories listed to investigate the barriers in more details and these are:**
- **Perception of Eco Services Valuation**
- **Public Private Partnership**

Key Facts/Figures regarding this action:

Enter Name For Area 1			
Select Challenges		Priority	Comments (Optional)
1	None	please select an option)	
2	None	please select an option)	
3	None	please select an option)	
4	None	please select an option)	

*note: if scoring your challenges as equal priority, all must be assigned equal priority.

Enter Name For Area 2			
Select Challenges		Priority	Comments (Optional)
1	None	please select an option)	
2	None	please select an option)	
3	None	please select an option)	
4	None	please select an option)	

Success factors	Our calculator's score out of 10	Our estimate of your capability	Any critical issues	Your score out of 10 (if you disagree)	Approximate meaning of your score	Comment
Stable executive and political support	Please Complete Step 3		No Critical Issues			
Suitable internal processes/standards/regulations/policy	Please Complete Step 3		No Critical Issues			
Staff have time and motivation	Please Complete Step 3		No Critical Issues			
Advanced community engagement skills	Please Complete Step 3		No Critical Issues			
Alignment of internal departments	Please Complete Step 3		No Critical Issues			
Culture of innovation and risk tolerance	Please Complete Step 3		No Critical Issues			
Supportive departments in other level of government	Please Complete Step 3		No Critical Issues			
Access to suitable technical skills	Please Complete Step 3		No Critical Issues			

Figure 3.15: Nature Based Solutions selection tool vs risk assessment.

Tool related:

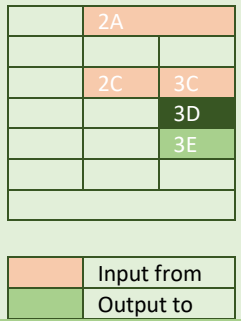
- **URBAN GreenUP NBS Selection Tool** (Source UGU WP6 Tool, D1.11)

Direct Link to Other Action:

Once the assessment of risk is established, the potential up-scaling action can be evaluated estimating the impact and city up-scaling character.

- ***Action 3E. Prepare the up-scale plan***

List the Action/s linked:



Tips to Municipalities regarding this action:

- *The key aspect, list of the city barriers well prepared and risk evaluated*

Main Actors:

- *City planners, local authorities with help of the consultants*

Key facts & figures regarding this action:

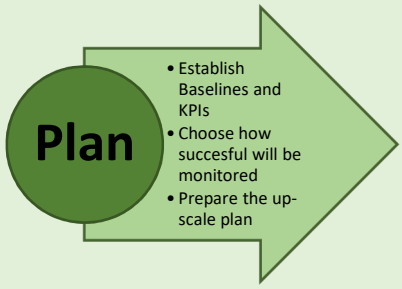
-

Connection to URBAN GreenUP deliverables:

The inputs prepared based on the developments in 1.3.1 and 1.4 and WP6

- **Barriers and Boundaries Guide *(URBAN GreenUP D1.5), Source: URBAN GreenUP, July 2018***, https://www.urbangreenup.eu/resources/deliverables/
- Diagnosis procedure Guide (URBAN GreenUP D1.3), Source: URBAN GreenUP, September 2020 *(on-going)*
- **Co-creation and Co-development Guide** *(URBAN GreenUP D1.11), Source: URBAN GreenUP, May 2022 (on-going);* ***URBAN GreenUP, December 2019 Interim ver. D1.19,*** *currently available,* https://www.urbangreenup.eu/resources/deliverables/

3.5 Chapter V. Monitoring Program and Action Plan

STEP E. Plan	
Which level of development of the RUP we are?	I II III IV V VI VII
STEP E Main Objective: **The objective of this step is to deliver the evaluation plan for the NBS scenarios generated. It will include the KPIs prioritization criteria. The information generated will allow the calculation of the KPI´s corresponding each NBS. The level reached with respect to the targets defined and the baseline calculation will be identified. The procedure implementation will allow the continues monitoring of the NBS integrated into the City Urban Plans RUP and its evaluation, Scaling UP and replication to the other City Zones, Districts, Cities.** **The process is based on the diagnosis procedures developed into the previous steps B-D, and takes into account the social, economic and more specific technical criteria.**	
Phase 1. Understand your present	**Action 1E. Establish Baselines**
Main output: • **Output 1E-1. Plan for collecting baseline data across a defined set of indicators**	The main objective of this task is to establish the baseline condition in the locations where the interventions will be implemented, e.g. within a region, city, or neighbourhood.
Phase 2. Choose your future aspirations	**Action 2E. Choose how success will be monitored**
Main output: • **Output 2E-1. KPIs prioritization for NBS** **Supported by: Use of the URBAN GreenUP NBS Scenario Tool *(Source: UGU D1.7)***	The main goal of this action is to help cities to choose and prioritize KPIs. In addition, with this action, a framework will be drawn on monitoring the results of NBSs to be implemented, taking into account the challenges and needs of the cities.
Phase 3. Integrate RUP and keep	**Action 3E. Prepare the up-scale plan**
Main output: • **Output 3E-1. The up-scale plan**	The main goal of this action is to prepare the up-scale action plan in accordance to the assessment of the Risk and potential Impact for selected NBS.

3.5.1 Action 1E. Establish Baselines

Action Objective:

The main objective of this task is to establish the baseline condition in the locations where the interventions will be implemented, e.g. within a region, city, or neighbourhood.

This action must therefore include the development of key performance indicators (KPIs) for monitoring this baseline condition, to allow for direct comparison before and after the interventions. It must also link to the diagnosis process and provides clear links between the identification of key needs, opportunities and barriers to investment in NBS.

Main Outputs List

- Output 1E-1. Plan for collecting baseline data across a defined set of indicators

Main Outputs Description:

Output 1.

Description:

This action focuses on developing a baseline understanding of the current conditions in the city, in order to monitor the impact of the interventions. It builds on the diagnosis (actions 1C, 2C, 3C), focusing on the defined list of NBS project and actions to understand whether the NBS interventions are successful. The baseline will need to consider the capacity of the city and the type of NBS that are planned, in order to develop a clear list of KPIs that need to be monitored, including a clear description and rationale for their selection. Cities should consider what their priority challenges are and where these are located, based on an analysis of assets and "pinch points" (Action 2D), to identify the monitoring locations.

This action outlines the process of establishing the logic chain and/or decision-making framework needed to define a coherent set of KPIs and targets for improvement, which need to link to both a city's priority challenges and the specific types of NBS that are being planned.
This action should include development of a user-friendly monitoring protocol, which describes the rationale behind each KPI and will be built upon in step 2E with the development of methodologies, based on best practice in the natural, physical, and social sciences. The baseline and KPIs must also be context-driven, and developed in light of any legal, technical, and social considerations within the city (e.g. staffing, expertise, physical conditions of the site).

Key Facts/Figures regarding this action:

What should be defined is the relation between the demand and current reference

Demand	*Current Reference Level*	*Improvement Recommendation*
By aspect related	*City/Region/European/World*	*By levels from →to*

Figure 3.16: Chart to Base Line evaluation (Source: URBAN GreenUP) ***SEE BELOW the full graph***

Tool related:

This action establishes a decision-making framework to guide this process, which can be used in conjunction with other tools (e.g. Tool 1.6, the Urban GreenUP climate change catalogue, and the KPI vs NBS

	spreadsheet developed by DEMIR).
Direct Link to Other Action: **As noted previously, the baseline must be built on the diagnosis (1c, 2c, 3c) and also links to 2d and 2e (as shown in the diagram below).** **Once the key elements of the baseline are defined, the actions 2E and 3E can be specified with the average data according to the current KPIs levels but also the future ones proposed.** ➢ ***Action 2E. Choose how success will be monitored*** ➢ ***Action 3E. Prepare the up-scale plan***	**List the Action/s linked:** 1C 2C 3C 2D 3D 1E 2E 3E 1F Input from Output to

Key figure for above box – logic chain for the development of a baseline calculation

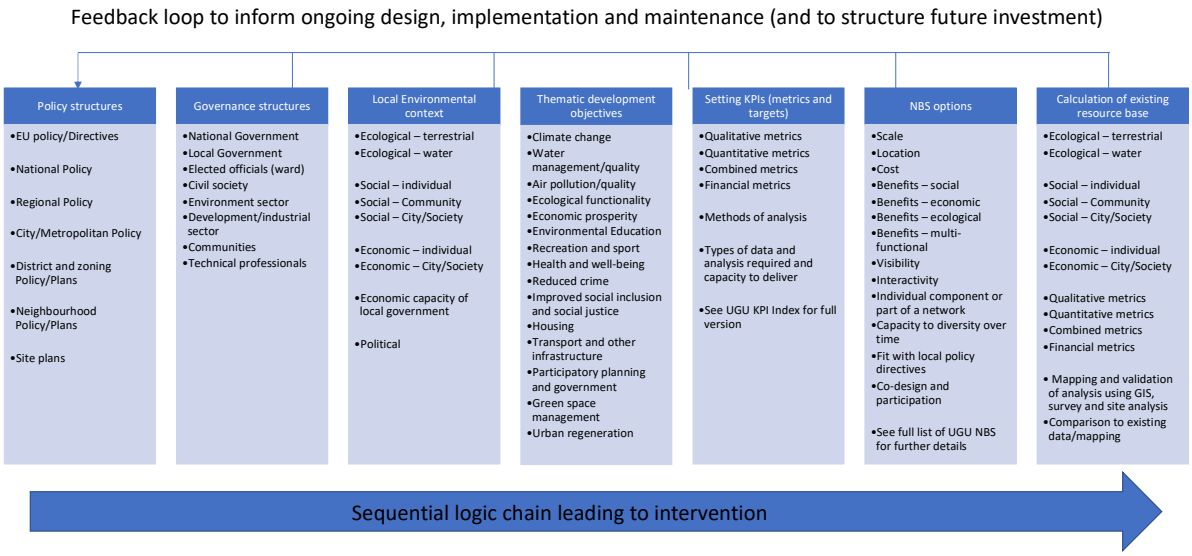


Figure 3.17: Logic chain for the development of a baseline calculation (Source: URBAN GreenUP)

<u>Tips to Municipalities regarding this action:</u>

- *Identify a coherent, meaningful and appropriate set of KPIs that are responsive to city/local context*
- *Focus on the most relevant KPIs in relation to your project*
- *The creation of a baseline position for the calculation of benefits requires a clear definition of the current state of the location, the objectives for the project, and the proposed outcomes, to assess what 'success' means (and looks like)*
- *Seek advice from experts on whether your KPI and methodology will establish the baseline conditions effectively*
- *The baseline may reveal new issues that you did not identify in the diagnosis, so there is a need to be flexible and allow for changes based on what you find*

- *Within the monitoring protocol an acknowledgement that not all NBS can be monitored individually. Some NBS can only be monitored across a whole area, e.g. perceptions of NBS and improvements in health and well-being cannot be connected to a single NBS.*

Main Actors:

- *Local government and city administrators*
- *Project partners, including cities and, where possible, researchers*
- *Technical staff who will be responsible for monitoring*
- *Communities who will co-design/co-produce the locations/design of investment (and be the end users)*

Key facts & figures regarding this action:

This action will require cities to include the local, regional, national, and international laws, policies, and standards that they need to meet within each challenge area. These will have a range of targets that the cities must meet but will be highly variable across the world.

Connection to URBAN GreenUP deliverables:

The inputs prepared based on the developments in 1.3.2 but also the rest of tasks

- **NBS Catalogue *(URBAN GreenUP D1.1), Source: URBAN GreenUP, May 2018,*** https://www.urbangreenup.eu/resources/deliverables/
- **Societal Challenge Catalogue *(URBAN GreenUP D1.2) , Source: URBAN GreenUP, July 2018***, https://www.urbangreenup.eu/resources/deliverables/
- Diagnosis procedure Guide *(URBAN GreenUP D1.3), Source: URBAN GreenUP, September 2020 (on-going)*
- Baseline Calculation Guide *(URBAN GreenUP D1.4), Source: URBAN GreenUP, September 2020 (on-going)*
- **Barriers and Boundaries Guide *(URBAN GreenUP D1.5), Source: URBAN GreenUP, July 2018***, https://www.urbangreenup.eu/resources/deliverables/
- **Zoning and Mapping Guide *(URBAN GreenUP D1.6), Source: URBAN GreenUP, May 2020***, https://www.urbangreenup.eu/resources/deliverables/
- Tendering Process Guide *(URBAN GreenUP D1.9) , Source: URBAN GreenUP, December 2020 (on-going)*

3.5.2 Action 2E. Choose how success will be monitored

Action Objective:

The main goal of this action is to help cities choose and prioritize KPIs. In addition, with this action, a framework will be developed to monitor the results of NBSs to be implemented, taking into account the challenges and needs of the cities.

Main Outputs List:

- Output 2E-1. KPIs prioritization for NBS

Main Outputs Description:

Output 2E-1. KPIs prioritization for NBS

Description:

The prioritization of the KPIs will be performed throuth the design monitoring program to track indicators to confirm progress (KPIs prioritization) and definition of the processes for review and adaptive management as milestones are met/missed and learnings are derived.

The cities will select the challenges as defined by the EKLIPSE methodology (and as re-adapted in URBANGreenUP T1.2-D1.2). This should also be based on previous studies of the cities for the project, from the drop-down list. For each challenge selected from the list, the KPIs previously determined in WP5 monitoring studies will automatically appear as a drop-down list in the next column. With the choices they will make on this column, the Challenge vs. KPI match will be completed for their city. This part results with output 1. Then, for output 2, with taking into consideration the pre-determined prioritization questions, scoring will be made between 1 and 5 for each KPI to determine the priority of this KPI for the city. The list of the questions and their explanations are given in the table below.

List of Questions	Comments / Explanations
Q1 - Is the methodology/KPI credible?	Who uses this method? Is it recognized as best practice or widely accepted/used in decision making or compliance monitoring?
Q2 - Is it practical, reliable and replicable?	Can one/two people do this quickly and accurately?
Q3 - Does other similar data exist for comparison and benchmarking?	Here or in other comparable cities or partner cities. Are there accepted thresholds?
Q4 - Does it offer good value for time/money invested?	Can we get results quite quickly? Are consumables and parts affordable? Is it resource efficient?
Q5 - Will it further our understanding / add value to the NBS solutions? How much does it tell the story of the NBS solutions?	Is it meaningful? Is it appropriate? Is it understandable? Is it convincing?
Q6 - Do we have the expertise/software/time to make the analysis?	Can this be done in-house? Is there a training need?

Figure 3.18: List of Questions and comments relevant in the process of KPI prioritization (Source: URBAN GreenUP D1.8)

In addition to the questions, cities should indicate the scale (Regional - R, Metropolitan - M, Urban - U, Street - S, Building - B) at which they assess the importance of KPIs. The output of this entire process will reveal a result similar to the example table below.

Challenge	KPIs	Scale	Value - Q1	Value - Q2	Value - Q3	Value - Q4	Value - Q5	Value - Q6	Average
CH_1	HEATWAVE RISK	R	5	3	4	2	5	2	3.50
CH_1	TEMPERATURE REDUCTION (PROJECTION)	S	3	3	3	3	3	3	3.00
CH_1	CARBON STORED	M	4	4	2	5	4	4	3.83
CH_7	SOCIAL LEARNING	U	2	2	2	2	2	2	2.00
CH_8	CRIME REDUCTION	R	2	4	5	3	1	2	2.83
CH_6	BENEFITS FROM INTERVENTIONS	S	2	2	2	2	5	2	2.50

CH_9	CYCLING AREA INCREASE	M	1	1	1	1	1	1	1.00
CH_4	PEOPLE LIVING WITHIN 300 m TO GREEN AREAS	U	1	1	1	1	1	1	1.00
CH_5	ANNUAL MEAN LEVELS OF FINE PM10 PARTICULES	R	5	5	4	4	5	5	4.67
CH_2	POPULATION EXPOSED TO FLOOD RISK	S	3	3	3	3	3	3	3.00

Figure 3.19: Example to the evaluation to the process on KPIs prioritization (Source: URBAN GreenUP D1.8)

As seen in the far-right column of the table above, the average value will be determined as a result of the scoring for 6 questions. Scoring will be made by project teams of each city by internal discussions. Based on these averages, the city's KPI prioritization will be visualized as follows via the spider diagram given in below key facts/figures section. The average score can be interpreted as follows:
Between 1.00 and 2.50; minor priority
Between 2.50 and 3.75 medium priority
Between 3.75 and 5.00 high priority

Cities should put high priority KPIs at the forefront to allocate resources. Following the results of these KPIs will play a more key role than others to understand the project outcomes.

Key Facts/Figures regarding this action:

The figure below visualizes the results of scoring by answering 6 questions described above.

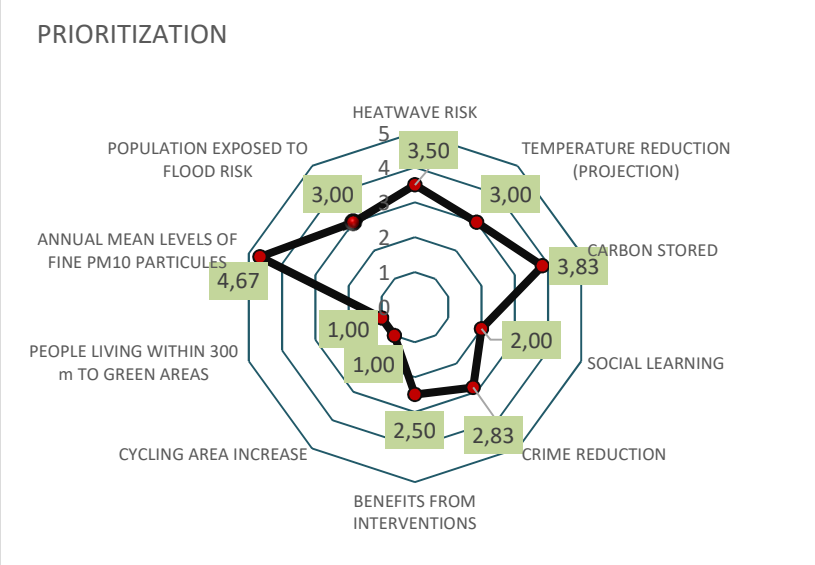


Figure 3.20: KPIs prioritization chart (Source: URBAN GreenUP)

Tool related:

- **URBAN GreenUP NBS Scenario Tool** *(Source UGU D1.7)*

Direct Link to Other Action

This action directly related to the tool described under action 2C which is also related with action 1C. The list of NBS from action 2C will be directly used for KPIs evaluation and its prioritization.

Once the periodization of KPIs is established the up-scale plan can be evaluated, and the values calculated.

List the Action/s linked:

1C	2C	3C
	2D	3D
1E	2E	3E
		3F

➢ ***Action 3E.*** ***Prepare the up-scale plan*** **Once the periodization of KPIs is established the socio-economic savings can be established and budgets proposed.** ➢ ***Action 3F.*** ***Define budget , roles and responsibilities***	Input from Output to

Tips to Municipalities regarding this action:

- *Try to focus on at least two KPIs for each challenge for a better understandable benchmark between challenges.*
- *Do not try to select every challenge described in EKLIPSE methodology. For example, you might not have any opinion for the challenge, coastal resilience, if there are no coastal areas within your project area and/or city.*
- *During the scoring please include all related partners of KPIs in discussions. You can also ask those questions to external consultants if necessary.*
- *If exists, please consider previous experience about each KPI during scoring.*

Main Actors:

- *City Partners: Municipalities, Universities, ICT partners, other institutions responsible with NBS design, implementation and monitoring*

Key facts & figures regarding this action:

Some references where can be found key facts and figures about the city challenges are:

- URBAN GreenUP deliverables describing baseline definition and city challenges for the front-runner cities, Valladolid D2.2, Liverpool D3.2 and Izmir D4.2.
- EKLIPSE Impact Evaluation Framework (https://ec.europa.eu/research/environment/pdf/renaturing/eklipse_report1_nbs-02022017.pdf).
- URBAN GreenUP deliverables describing monitoring program for each city. Deliverables 2.4 for Valladolid, 3.4 for Liverpool and 4.4 for Izmir.
- URBAN GreenUP deliverable D5.3 City Diagnosis and Monitoring Procedures.

Connection to URBANGreenUP deliverables:

The inputs prepared based on the developments in 1.6.2

- NBS scenarios generation Tool *(URBAN GreenUP D1.7) with KPIs prioritization criteria Guide (URBAN GreenUP D1.8), Source: URBAN GreenUP, September 2020 (on-going)*
- Diagnosis procedure Guide *(URBAN GreenUP D1.3), Source: URBAN GreenUP, September 2020 (on-going)*
- Baseline Calculation Guide *(URBAN GreenUP D1.4), Source: URBAN GreenUP, September 2020 (on-going)*
- **Barriers and Boundaries Guide *(URBAN GreenUP D1.5), Source: URBAN GreenUP, July 2018***, https://www.urbangreenup.eu/resources/deliverables/

- Technical KPIs definition (URBAN GreenUP, D5.1), City Diagnosis and Moitoring Procedures (URBAN GreenUP, D5.3), *Source URBAN GreenUP, 2019, https://www.urbangreenup.eu/resources/deliverables/*
- Monitoring Program of Demos (Valladolid, Liverpool, Izmir), *(URBAN GreenUP D2.2, D3.2, D4.2), 2019, https://www.urbangreenup.eu/resources/deliverables/*

3.5.3 Action 3E. Prepare the up-scale plan

The main goal of this action is to prepare the up-scale action plan in accordance to the assessment of the Risk and potential Impact for selected NBS.

Main Outputs List:

- Output 3E-1. The up-scale plan

Output 3E-1. City profile definition

Description:

Selecting the right NBS for a city is a very important part of a RUP. There are big differences between cities in Europe, and around the world. An NBS that is very successful in one city may completely fail in another.

Understanding how a city may replicate NBS that have been successful in other cities requires a good grasp of the factors that make NBS suitable for different contexts. We have conceptualised three key suitability criteria for replication, as conceptualised below:

- **Cities have different organisational strengths and weaknesses, and different NBS place different demands on those NBS. Important factors like political support, legislation and organisational integration are vital determinants of what NBS are suitable.**
- **Cities also have different challenges that they are facing. A city facing heat island effects and flooding may require very different NBS to a city that is seeking to deliver urban renewal and improve the health and wellbeing of its residents.**
- **Finally, each city will have different abilities to pay for the construction and maintenance of new NBS.**

A characterization report template has been prepared to enable cities to characterize their specific contexts, in terms of important variables like climate, organizational traits and built form. The replication methodology is developed from the analysis framework drawing from cluster analysis of the best suitable NBS for certain characterizations of urban pressures and its indicators.

The characterization reports from participating cities (front runners and followers) will be cluster with common driving pressure, social and natural conditions that entail the implementation of NBS to address the driving pressures.

Together with the situational institutional conditions of each cluster the analysis framework will produce recommendations of the proper NBS implementation and replication in other cities with similar condition.

An analysis framework for the cluster of driving pressures mapping with corresponding NBS under the enabling conditions will be produced and documented with certain key indicators for the proper replication of the demonstrated NBS or NBS catalogue developed under this project.

In addition to the template, one or more analytical tools will be prepared to facilitate testing of capabilities and matching of NBS to desired impacts. The tool(s) will help cities understand their strengths and weaknesses, and recommend NBS that align with their needs and organisational capabilities.

The viability of the scaling up, will be identified according to how, "Credible, Relevant, with relative advantage over existing practices , Easy to adopt, Compatible and Able to be tested" *(Source:)* the methodology is.

Key Facts/Figures regarding this action:

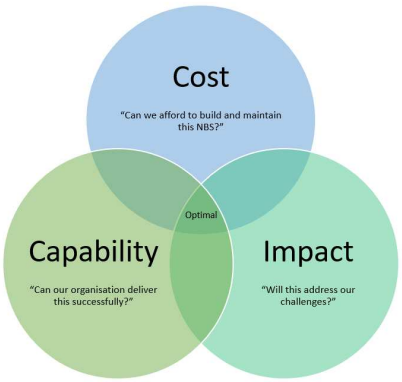


Figure 3.21: Key factors determining NBS replication potential

NBS Challenge*	Indicators	Current Impact	Expected Impact
Ch1-…	KPIs LIST	Base level	Proposed level

or other relevant factor considered in Action 1E.

Tool related:

Take advantages of the results obtained in

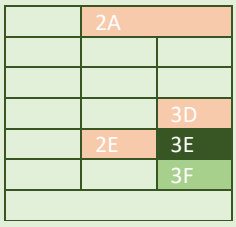
- **URBAN GreenUP NBS Scenario Tool** *(Source UGU D1.7)*
  -

Direct Link to Other Action:

Once the assessment of risk is established, and ghe final decision to the city NBS scenarios taken, the budget can be estimated.

- ***Action 3E. Define budget, roles and responsibilities***

List the Action/s linked:



	Input from
	Output to

Tips to Municipalities regarding this action:

- *The aspects should be established like, list of the city barriers well prepared and risk evaluated*

Main Actors:

- *City planners*

Key facts & figures regarding this action:

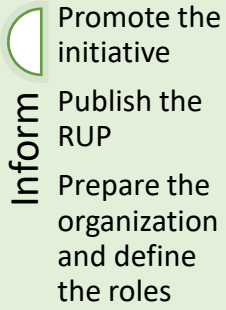
- *EU initiative, www.smartcities-infosystem.eu*
- *"The making of a smart city: replication and scale-up of innovation in Europe", www.smartcities-infosystem.eu*
- *"Upscaling urban residential retrofit for the EU's low carbon future", www.smartcities-infosystem.eu*

Connection to URBANGreenUP deliverables:

The inputs prepared based on the developments in 1.8

- Scaling UP Guide *(URBAN GreenUP D1.10), Source: URBAN GreenUP, May 2022, URBAN GreenUP, September 2020 Interim ver. D1.18 (on-going)*
- *NBS scenarios generation Tool (URBAN GreenUP D1.7) with KPIs prioritization criteria Guide (URBAN GreenUP D1.8), Source: URBAN GreenUP, September 2020 (on-going)*
- *Co-creation and Co-development Tools (URBAN GreenUP WP6), Source: URBAN GreenUP, May 2022 , https://www.urbangreenup.eu/resources/nbs-selection-tool/nbs-selection-tool.kl*
- Technical KPIs definition (URBAN GreenUP, D5.1), City Diagnosis and Moitoring Procedures (URBAN GreenUP, D5.3), *Source URBAN GreenUP, 2019, https://www.urbangreenup.eu/resources/deliverables/*
- Monitoring Program of Demos (Valladolid, Liverpool, Izmir), *(URBAN GreenUP D2.2, D3.2, D4.2), 2019, https://www.urbangreenup.eu/resources/deliverables/*

3.6 Chapter VI. Roles and Responsibilities

STEP F. Inform	
Which level of development of the RUP we are?	I II III IV V VI VII
STEP F Main Objective: **The objective of this step is to define the RUP informing channels for the RUP promoting initiative at the municipality level and from the early beginning. In addition, the information and discussion channels will be performed, to gather the feedback and propositions from different stakeholder groups, and to assess the NBS scenario adopted.** **The currently identified legal aspects, tendering process, but also the technical constrains, should be specified with the roles and responsibilities, and articulated the different stakeholders that will take part in it, allowing the correct implementation and maintenance of the RUP.**	
Phase 1. Understand your present	**Action 1F. Promote the initiative**
Main output: • **Output 1F-1. Review the internal stakeholders, external groups and community groups.** • **Output 1F-2. Promote the initiative among the stakeholders.** • **Output 1F-3. Validate the early list of NBS for consideration.** **Supported by: Use the URBAN GreenUP Info Channel** ***(Source: UGU D1.11)***	The main objective of this action is to review the list of stakeholders identified in the beginning of the process (Action 1F) and to promote actions to disseminate the initiative to implement an RUP, through the different means of communication (internal promotion, media and dissemination, etc.)
Phase 2. Choose your future aspirations	**Action 2F. Publish the RUP**
Main output: • **Output 2F-1. Plan to Urban Renaturing (RUP)**	The main goal of this action is publish the plan to Urban Renaturing (RUP), summarizing all the conclusions from all the previous steps and outputs. In addition to this step, the budget and identification of roles and responsibilities will need to be defined to complete this step.
Phase 3. Integrate RUP and keep	**Action 3F. Define budget, roles and responsibilities**
Main output: • **Output 3F-1. Define the organizational structure of the Municipality for the implementation of the RUP. Roles and responsibilities (internal).**	The objective of this action is to carry out an implementation plan for the RUP designed in Action 2F, to integrate it into the municipality, defining roles and

• **Output 3F-2. Publish a Local Communication and Dissemination plan with the final list of stakeholders (co-creation and plan implementation).** • **Output 3F-3. Define the financial plan. Innovative financial tools. Annual budget.**	responsibilities, and designing a financial plan.

3.6.1 Action 1F. Promote the initiative

Action Objective:

The main objective of this action is to review the list of stakeholders identified in the beginning of the process (Action 1F) and to promote actions to disseminate the initiative to implement an RUP, through the different means of communication (internal promotion, media and dissemination, etc.)

Main Outputs List:

- Output 1F-1. Review the internal stakeholders, external groups and community groups.
- Output 1F-2. Promote the initiative among the stakeholders.
- Output 1F-3. Validate the early list of NBS for consideration.

Main Outputs Description:

Output 1F-1. Review the internal stakeholders, external groups and community groups

Description:

This output seeks to review the list of stakeholders identified in Action 1A for updating and completion. Through the process of defining and implementing the strategic methodology, new stakeholders may emerge that were not identified at the outset. Some of these stakeholders may not be as relevant as expected.

The level of commitment to implement an RUP must be multi-stakeholder, both internal and external. Stakeholders to be involved in the planning process of an NBS could include: politicians, public agencies, scientists, institutions, experts, communities, Non-Governmental Organisations, land owners and developers, firms, etc. (Somarakis et al., 2019).

- Internal stakeholders: within the municipal government. Different areas of the municipality are involved (e.g. Urban planning, Construction, Environment, Innovation, Real State, Citizens participation, etc.)
- External because it must be recognized by citizens and other stakeholders, like external groups, community groups, etc.
The global group of stakeholders to consider is the citizens. NBS require and feed into trust between the city and its citizens. The empowerment, involvement and reconnection of citizens with nature, which improves their well-being and raises engagement.

Key Facts/Figures regarding this action:	Tool related:
The official web of the city should be adapted.	• **URBAN GreenUP Info Channel** *(Source UGU D1.11)*

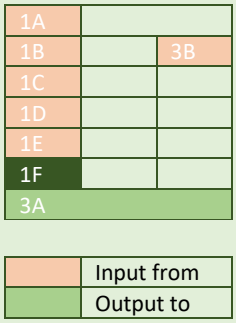
Direct Link to Other Action:

In this more mature step of implementing the methodology, the stakeholders identified in Action 1A are reviewed.
To ensure the success of an RUP there must be a commitment to implementation from the Municipal Government, as well as from the various Departments involved. Action 3B identifies the different areas that are directly involved.

Communication strategy (Action 3A) must be aligned in function of the feedback gathered from communication channels established.

- ***Action 3A. Assess lessons learnt and validate the strategy***

List the Action/s linked:



Output 1F-2. Promote the initiative among the stakeholders

Description:

Creating an NBS Community of Innovators, and improving communication and NBS awareness are some of the main actions to promote NBS when renaturing urban areas.
The main objective of this action is sharing the knowledge and technical, environmental and social results expected and obtained, among citizens, partners and other stakeholders.
To promote the NBS and the RUP defined to the city there can be used different techniques and tools, such as the information sharing, meetings, talks, communication media, etc. All the different actions planned have to be considered in a Local Communication Plan, which must be especially adapted to the communication and dissemination of NBS.
The consultation of a broad range of stakeholders and knowledgeable actors should allow for a multidisciplinary approach. Visionary examples and pilot projects can be used as reference.
Strong communication skills are highly recommended.

Key Facts/Figures regarding this action:

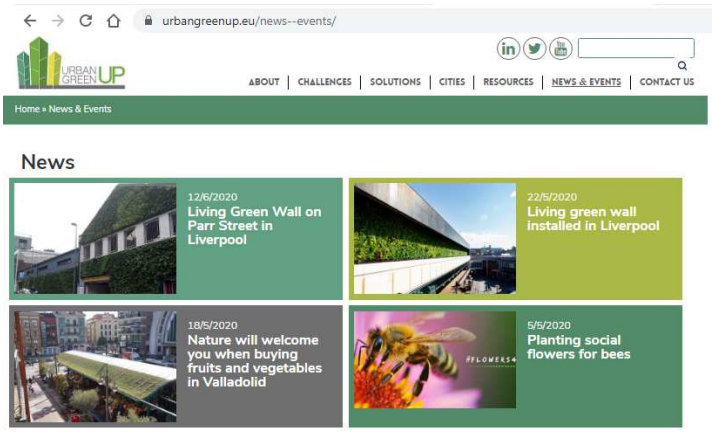


Figure 3.22: URBAN GreenUP project website (www.urbangreenup.eu).

Tool related:

- Local communication & dissemination plan.
- Social networks (Twitter, Facebook, YouTube, etc.)
- News in the websites and newsletters.
- Local newspaper, TV, radio.

Direct Link to Other Action:	List the Action/s linked:
In this more mature step of implementing the methodology, the co-creation plan should be reviewed, according to the new list of stakeholders (Action 2B). **Communication strategy (Action 3A) must be aligned in function of the feedback gathered from communication channels established.** ➢ ***Action 3A. Assess lessons learnt and validate the strategy***	1A 1B 2B 1C 1D 1E 1F 3A Input from Output to

Output 1F-3. Validate the early list of NBS for consideration

Description:

Communication channels should be open to receive the views of stakeholders and interested parties. Feedback and iteration are decisive characteristics that distinguish NBS logic and decision making from projects using grey elements or grey infrastructure (*Source: ThinkNature Handbook*).
Stakeholders can bring improvements to NBS and proposed solutions to the environment in which they operate. The voices of all kinds of stakeholders must be heard. Opinions can have a knowledge base, if they come from trained technicians, academics, etc. But the opinions of citizens in general are also important, as they are the ones who are most aware of the problems in the places where they live.

Key Facts/Figures regarding this action:	Tool related:
 **Figure 3.23: URBAN GreenUP project twitter account (@urbangreenUP).**	*- Local communication & dissemination plan.* *- Social networks (Twitter, Facebook, YouTube, etc.)* *- News in the websites and newsletters.* *- Local newspaper, TV, radio.*

Direct Link to Other Action:	List the Action/s linked:
This action must be aligned with the Communication strategy (Action 3A). **Communication with stakeholders can lead to changes in the NBS selected for the city (Action 3C).**	1A 1B 1C 3C 1D 1E 1F 3A

➢ *Action 3A. Assess lessons learnt and validate the strategy*	Input from Output to

Tips to Municipalities regarding this action:

- Adapt the language of communication to the recipient. It is not the same to transmit the RUP to the City Council technicians, the Academia, professionals or to the general public.
- Use the media and platforms that already exist, such as website, newsletter, social networks, etc.
- Provide examples of good practice and success stories, as well as enhancing the expected benefits for the city.

Main Actors:

- Internal stakeholders: Local Govern (politicians: Mayor, Councillors). Public workers of the different involved areas.
- External stakeholders: Citizens.
- Public workers: Communication Department. External experts on Communication.

Key facts & figures regarding this action:

- UrbanByNature, the Global Programme for Urban Nature Pioneers
https://connectingnature.eu/urbanbynature

Connection to URBANGreenUP deliverables:

The inputs prepared based on theconstraints are presented and a developments in 1.7

- Tendering Process Guide *(URBAN GreenUP D1.9) , Source: URBAN GreenUP, December 2020 (on-going)*
- Dissemination and Communication Plan *(URBAN GreenUP D8.2) , Source: URBAN GreenUP, 2019, https://www.urbangreenup.eu/resources/deliverables/*

3.6.2 Action 2F. Publish the RUP

Action Objective:

The main goal of this action is to publish the plan to Urban Renaturing (RUP), summarizing all the conclusions from all the previous steps and outputs. In addition to this step, the budget, roles and responsibilities will complete the re-naturing strategic planning step.

Main Outputs List:

- Output 2F-1. Plan to Urban Renaturing (RUP)

Output 2F-1. City profile definition
Description:

The plan to urban renaturing should be a written document, where all the re-naturing greed between all parties. The same, it should be a result of a collaborative work between the different actors, identified at the beginning of the process.

The full re-naturing process contains the definition, development, evaluation and implementation of the actions providing the full re-naturing implementation at the strategic level, and contains the city NBS selected scenario adapted to the personal city character, socio-economic environment and targets. The timeframes should be proposed.

Finally, the potential NBS projects should be identified and included estimating the potential benefits to the city current situation.

Key sections:

- **(I) Introduction to Re-naturing.**
- **(II) City Targets.**
- **(III) City NBS Adopted Scenarios.**
- **(IV) NBS scenarios definition.**
- **(V) City Impact.**
- **(VI) Monitoring Program and Action Plan**
- **(VII) Roles and Responsibilities**
- **(VIII) Process and Reforms**

The URBANGreenUP guide to the methodology helps in definition of all the outputs needed, following the step by step action process to city re-naturing plan.

The similar initiatives to RUP should be identified and the link between them established. The consensus on the different plans should be proposed.

Key Facts/Figures regarding this action:

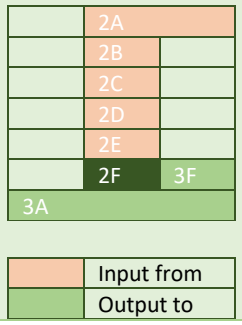
Local RUP plan based on the URBAN GreenUP RUP guide.

Level of development of RUP: I II III IV V VI VII
Chapter I. Introduction to Re-naturing
Action 1A. Identify and involve stakeholders. **Action 2A.** Prepare for co-delivery.
Chapter II. City Targets
Action 1B. Understand your "city" needs. **Action 2B.** Choose your "city" targets. **Action 3B.** Prepare RUP Plan integration into the Local Municipality Urban Planning Legal Elements.
Chapter III. City NBS Adopted Scenarios
Action1C. Understand your "city" capacity. **Action 2C.** Evaluate NBS Scenarios and select one. **Action 3C.** Define list of NBS Projects and Actions.
Chapter IV. City Impact
Action 1D. Map challenges. **Action 2D.** Set spatial priorities for NBS. **Action 3D.** Prepare assessment of the impact and Risk.
Chapter V. Monitoring Program and Action Plan (Budget)
Action 1E. Establish Baselines. **Action 2E.** Choose how success will be monitored. **Action 3E.** Prepare the up-scale plan.
Chapter VI. Roles and Responsibilities
Action 1F. Promote the initiative. **Action 2F.** Publish the RUP. **Action 3F.** Prepare the organization, define roles and responsibilities Municipality Structure.
Chapter VII. Processes and reforms
Action 3A. Assess lessons learnt and validate the strategy.

Figure 3.24: RUP Plan written and agreed (Source: URBAN GreenUP)

Tool related:

URBAN GreenUP Examples published.

Direct Link to Other Action: **Once the local RUP plan is written, the budget, roles and responsibilities can be established and plan validated.** ➢ ***Action 3F Define budget, roles and responsibilities*** ➢ ***Action 3A Assess lessons learnt and validate the strategy***	**List the Action/s linked:** 

Tips to Municipalities regarding this action (at least 2-3 tips):

- *The key aspect, list of the city barriers well prepared and risk evaluated*

Main Actors:

- *Architects, Engineers, Consultants, City planners, Stakeholders groups established for co-creation and evaluation*

Key facts & figures regarding this action:

-

Connection to URBANGreenUP deliverables:

The inputs prepared basing on the developments in 1.10

- Methodology Guide *(URBAN GreenUP D1.17) , Source: URBAN GreenUP, December 2022 (on-going), current Methodology Guide interim ver (URBAN GreenUP D1.13)*
- Tendering Process Guide *(URBAN GreenUP D1.9) , Source: URBAN GreenUP, December 2020 (on-going)*
- Dissemination and Communication Plan *(URBAN GreenUP D8.2) , Source: URBAN GreenUP, 2019, https://www.urbangreenup.eu/resources/deliverables/*

3.6.3 Action 3F. Prepare the organization, define roles and responsibilities Municipality Structure

Action Objective:

The objective of this action is to developed an implementation plan for the RUP designed in Action 2F to integrate it into the municipality, defining roles and responsibilities, and designing a financial plan.

Main Outputs List:

- Output 3F-1. Define the organizational structure of the Municipality for the implementation of the RUP. Roles and responsibilities (internal).
- Output 3F-2. Publish a Local Communication and Dissemination plan with the final list of stakeholders (co-creation and plan implementation).
- Output 3F-3. Define the financial plan. Innovative financial tools. Annual budget.

Main Outputs Description:

Output 3F-1. Define the organizational structure of the Municipality for the implementation of the RUP. Roles and responsibilities (internal)

Description.

Within the organizational structure of a municipality, the competences necessary for the strategic implementation of an urban re-naturation plan have been identified. These competences are transversal and strategic.

The objective of this first action is to create a human resources scheme within the municipal organisation that will be the RUP implementation team.

In this executive step the organization chart of relevant positions is formally defined and documented by the Human Resources Department. Roles and responsibilities are also clearly defined on the Position description sheet.

NBS are cross-sectional interventions. The work team must be multidisciplinary and integrate team members from various areas of the City Council. There had been identified the following City Council Departments: Urban planning, Urbanism, Environment, Parks and gardens, Mobility, Civil protection, Heritage, Lighting, Public participation, Innovation.

For the design of an RUP and its implementation, it is recommended to create a Working Committee that meets periodically. This Commission will be made up of members from all areas with competence in the strategic implementation of renaturation.

The creation of this multidisciplinary Committee must be approved through some element of local regulations, such as a rule or standard, approved by the Local Government Board. This confers formalism.

Key Facts/Figures regarding this action.

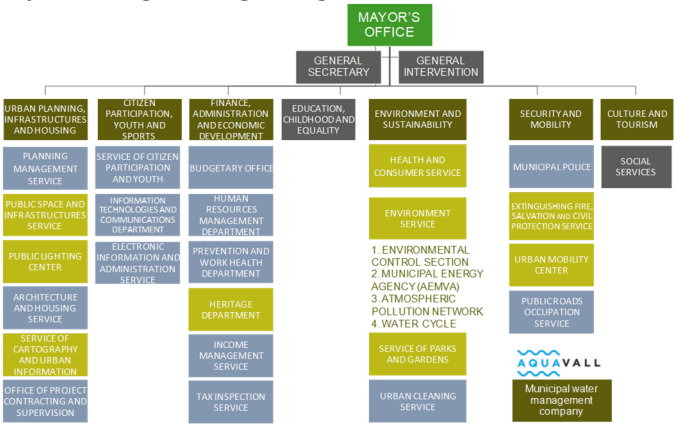
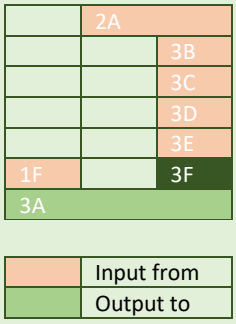


Figure 3.25: City Council Organizational Chart for URBAN GreenUP project (Source: Valladolid City Council, 2018)

Tool related (if any).

Direct Link to Other Action:	List the Action/s linked:
In previous phases the departments that would be involved have already been identified (Phase 3B). **Communication channels have also been established and stakeholders identified (Action 1F).** **Municipality strategy for socio-economic actions must be aligned in function of the feedback gathered once implemented all actions considered.** ➢ ***Action 3A. Assess lessons learnt and validate the strategy***	

Output 3F-2. Publish a Local Communication and Dissemination plan with the final list of stakeholders (external)

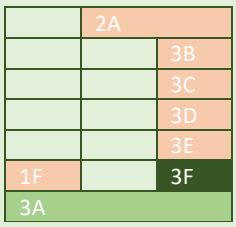
Description.
The list of stakeholders to be involved in the process of implementing the strategy must be documented. A table or list of stakeholders is created.

This table of stakeholders is the basic information to deliver a *Communication and Dissemination Plan*, which will assure the co-creation plan. For each stakeholder, the objectives to be met are identified: communication, dissemination and engagement.

- **Objective of the Communication: Awareness raising. Key player in the urban transformation process and change of cultural behaviour towards more sustainable and smarter cities, namely the citizens and the general public.**
- **Objective of the Dissemination: Knowledge transfer. Targeting more experienced audiences: Mainly technical and professional audiences, investors, academia and stakeholders.**
- **Objective of the Engagement: Community engagement and acceptance. Empower citizens as drivers of change to the urban environment, ensuring that citizens are informed, motivated to become active actors.**

This Communication and Dissemination Plan should be delivered by communication professionals, working for the municipality or subcontracted.

Key Facts/Figures regarding this action:	Tool related:
-	-Stakeholder's database (List/Table)

Direct Link to Other Action	List the Action/s linked:
In previous phases the departments that would be involved have already been identified (Phase 3B). **Communication channels have also been established and stakeholders identified (Action 1F).** **This action is related with the co-creation strategy delivered in Actions 1A-2A-3A.**	

Municipality strategy for socio-economic actions must be aligned in function of the feedback gathered once implemented all actions considered. ➢ ***Action 3A. Assess lessons learnt and validate the strategy***	Input from Output to

Output 3F-3. Define the financial plan

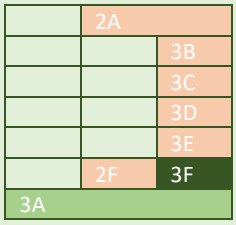
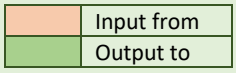
Description:

In this final phase, a Financial Plan is established. Financial planning is the task of determining how the Municipality will afford to achieve its strategic goals and objectives on Renaturing the city and implementing the RUP defined.
This plan includes the economic analyses of the general budget needed to implement the RUP. This means to quantify the cost of the NBS that will be implemented according to a investment calendar.

The financial plan should set out a schedule for funding in accordance with the implementation timetable. Funds must be allocated annually to local budget lines, which must be spent within 1 year.

According to this introduction the following tasks are identified:

- **Prospective financial statements: This is the economic analysis of the costs to deploy the RUP in terms of schedule.**
- **Funding opportunities: Define the strategy for funding.**
  - **Public funds: International financial funds such as Horizon 2020 or LIFE (UE), Interreg funds (regional). National financial funds**
  - **Private funding: Private investors. Banks. This is an innovative opportunity for public-private collaboration.**
  - **Local funding: Own funds collected from municipal taxes. Budget annual delivery.**
  - **Other funds, such as Innovative investment funds.**
- **Financial Plan. Investment Calendar. Return on Investment.**

Key Facts/Figures regarding this action:	**Tool related:** - Budget. - Cost analysis.
Direct Link to Other Action: **In previous phase of Action 3B the funding's opportunities are already identified. The RUP (Action 2F) and the NBS (Action 3B) defined for the municipality are also previously defined.** **Municipality strategy for socio-economic actions must be aligned in function of the feedback gathered once implemented all actions considered.** ➢ ***Action 3A. Assess lessons learnt and validate the strategy***	**List the Action/s linked:**  

Tips to Municipalities regarding this action:

- *The Human Resources Department defines the roles and responsibilities within the formal organization chart of the City Council.*
- *Create a multidisciplinary team from various areas involved, creating a working committee that meets periodically.*
- *The working method and collaboration should be supported by the Political Municipal Corporation.*

Main Actors:

- Local Government Board (Mayor, Councilors). Public workers: Human resources Department of the City Council. Public workers of the different involved areas (Working Committee)
- External stakeholders: Citizens, Neighborhoods Associations, other Governments, Agencies, Academia, Professional Colleges, Industry, Building Sector, Commerce, etc.
- Public workers: Communication Department. External experts on Communication.

Key facts & figures regarding this action:

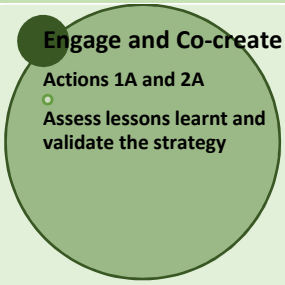
-

Connection to URBANGreenUP deliverables:

The inputs prepared based on the developments in in 1.7, 1.10 and WP8

- Methodology Guide *(URBAN GreenUP D1.17) , Source: URBAN GreenUP, December 2022 (on-going), current Methodology Guide interim ver (URBAN GreenUP D1.13)*
- Tendering Process Guide *(URBAN GreenUP D1.9) , Source: URBAN GreenUP, December 2020 (on-going)*
- Dissemination and Communication Plan *(URBAN GreenUP D8.2) , Source: URBAN GreenUP, 2019, https://www.urbangreenup.eu/resources/deliverables/*

3.7 Chapter VII. Processes and reforms

STEP A. Engage and Co-create	
Which level of development of the RUP we are?	I II III IV V VI VII
STEP A Main Objective: **The objective of this step is to maintain the re-naturing process in time. The strategy template will help to establish structures to leverage the experiences of stakeholder committees to identify and overcome key barriers, drawing on learnings from other processes of the methodology.** **Citizens can play a role in research to support RUP development, as well as ongoing monitoring of RUP success; it is important that these programs are carefully selected and tailored for local contexts. The template strategy will offer guidance and best practice examples to develop locally appropriate citizen science programs. The template will also offer broader guidance and case studies on helping people connect with the natural values they find important.**	
Phase 1. Understand* your *present ***Phase 2. Choose your future aspirations*** ***Phase 3. Integrate RUP and keep***	**Action 3A. Assess lessons learnt and validate the strategy**
Main output: • **Output 3A-1. Assess lessons learnt and validate the strategy.**	To collect the feedback on the implementation process of the RUP methodology and assess the strategy of the RUP development to inform any revision and/or tailoring the process.

3.7.1 Action 3A. Assess lessons learnt and validate the strategy

Action objective:

To collect the feedback on the implementation process of the RUP methodology and assess the strategy of the RUP development to inform any revision and/or tailoring the process.

Main Outputs List:

- Output 3A-1. Assess lessons learnt and validate the strategy.

Output 3A-1. Assess lessons learnt and validate the strategy.

Description:

This action serves as a check to fine-tune your RUP. Delivering new NBS is difficult and will usually require a few iterations for the organization to become truly effective and efficient. In this step you will work with your stakeholders to understand lesson learnt from the RUP delivery to transfer the best experience to the cities would like to develop a successful RUP by itself. We also provide a tool to help you reflect on your capabilities within your municipality.

Key Facts/Figures regarding this action:

Eight success factors you can evaluate in this step:

- **Stable executive and political support**
- **Suitable internal processes, standards, regulations and policy**
- **Adequate and empowered staffing**
- **Advanced community engagement skills**
- **Alignment of internal departments**
- **Culture of innovation and risk tolerance**
- **Supportive departments in other level of government**
- **Access to suitable technical skills**

Tool related:

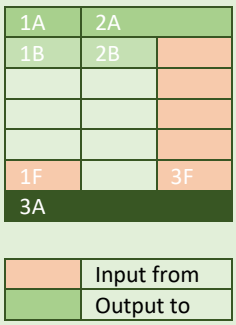
- **URBAN GreenUP NBS Selection Tool** (Source UGU WP6 Tool, D1.11)

Direct Link to Other Action:

This action is directly linked to the action 1A by using the same stakeholders identified in the action 1A to ensure the continuity in the assessment of the progress and identifying possible improvement and best practices at the city level.

- ***Action 1A. Identify and involve the stakeholders***
- ***Action 2A. Prepare for co-delivery***
- ***Action 1B. Understand your "city" needs***
- ***Action 2B. Choose your "city" targets***

List the Action/s linked:



Tips to Municipalities regarding this action:

- Try to involve the same stakeholders that were identified at the beginning of the RUP and identification step.
- Inform the stakeholder clearly on the purpose of this action as a validation step for the methodology.
- Document during any variations and changes needed to make to deliver the RUP during implementation.
- Document any difficulty in the RUP development step for the final assessment, document any administrative and local legal that impacted by the implementation of RUP.
- Make sure your executives and leaders are involved in use of the tool in particular. The tool often identifies matters that require executive support to resolve.

Main actors

- NBS project team
- Municipality internal stakeholders (for use of tool)
- Broader stakeholder groups identified in Action 1A (for lessons learned/feedback)

Key facts & figures regarding this action:

-

Connection to URBANGreenUP deliverables:

The inputs prepared based on the developments in T1.9 and WP6

- **Co-creation and Co-development Guide** *(URBAN GreenUP D1.11), Source: URBAN GreenUP, May 2022 (on-going);* ***URBAN GreenUP, December 2019 Interim ver. D1.19,*** *currently available,* https://www.urbangreenup.eu/resources/deliverables/

4 Annexes to the methodology process

The annexes summarizes the methodology key point and tools of each stage. The main concepts are included into the graphs and tables, supporting the descriptions from previous chapters 1.0-3.0.

4.1 Methodology diagram of actions by steps and phases

Table 4.1: Methodology diagram by actions and outputs (Source: URBAN GreenUP).

How to start?	1st. Understand your present	2nd. Choose your future aspirations	3rd. Integrate RUP and keep	"Renaturing Urban Plan"
A. Engage and Co-create	**Action 1A.** Identify and involve stakeholders • Output 1A-1. • Output 1A-2	**Action 2A.** Prepare for co-delivery • Output 2B-1.		**Chapter I.** Introduction to Re-naturing
B. Explore	**Action 1B.** Understand your "city" needs • Output 1B-1.	**Action 2B.** Choose your "city" targets • Output 2B-1	**Action 3B.** Prepare RUP Plan integration into the Urban Plans of Local Municipality • Output 3B-1. •Output 3B-2 •Output 3B-3. •Output 3B-4.	**Chapter II.** City Targets
C. Diagnose	**Action1C.** Understand your "city" capacity • Output 1C-1	**Action 2C.** Evaluate NBS Scenarios and select one • Output 2C-1.	**Action 3C.** Define list of NBS Projects and Actions • Output 2C-1.	**Chapter III.** City NBS Adopted Scenarios
D. Visualize	**Action 1D.** Map challenges • Output 1D-1.	**Action 2D.** Set spatial priorities for NBS • Output 2D-1.	**Action 3D.** Prepare assessment of the Impact and Risk • Output 3D-1.	**Chapter IV.** City Impact
E. Plan	**Action 1E.** Establish Baselines • Output 1E-1	**Action 2E.** Choose how success will be monitored • Output 2E-1.	**Action 3E.** Prepare the Up-scale Plan • Output 3E-1.	**Chapter V.** Monitoring Program and Action Plan
F. Inform	**Action 1F.** Promote the initiative • Output 1F-2. • Output 1F-2. • Output 1F-3	**Action 2F.** Publish the RUP • Output 2F-1.	**Action 3F.** Define budget, roles and responsibilities • Output 3F-1 • Output 3F-2 • Output 3F-3	**Chapter VI.** Roles and Responsibilities
A. Engage and Co-create	**Action 3A.** Assess lessons learnt and validate the strategy • Output 3A-1			**Chapter VII.** Processes and reforms

4.2 The outputs of the RUP plan by steps

Table 4.2: Graph to the main outputs of step A, phases 1 and 2 (Source: URBAN GreenUP).

Outputs Step A.	1st. Understand your present	2nd. Choose your future aspirations	3rd. Integrate RUP and keep	"Renaturing Urban Plan"
A. Engage and Co-create	•Output 1A-1. List of key stakeholders groups. •Output 1A-2. List of capabilities, interests, relationships for each group.	•Output 2B-1. Co-creation plan.		**Chapter I.** Introduction to Re-naturing

Table 4.3: Graph to the main outputs of step B (Source: URBAN GreenUP).

Outputs Step B.	1st. Understand your present	2nd. Choose your future aspirations	3rd. Integrate RUP and keep	"Renaturing Urban Plan"
B. Explore	•Output 1B-1. The city re-naturing goal. **Supported by:** • **1st Kick-off Workshop of the City** *(Source UGU D1.3)*	•Output 2B-1. The city challenges and sub-challenges and why they're prioritised. **Supported by:** • **URBAN GreenUP Societal Challenges Catalogue** *(Source UGU D1.2)*	•Output 3B-1. The legal constrains associated to the adoption of the solutions proposed. •Output 3B-2. List of the main constrains to the public procurement processes. •Output 3B-3. The funding opportunities. •Output 3B-4. The outline to the integration of the RUP methodology into the Municipality Planning	**Chapter II.** City Targets

Table 4.4: Graph to the main outputs of step C (Source: URBAN GreenUP).

Outputs Step C.	1st. Understand your present	2nd. Choose your future aspirations	3rd. Integrate RUP and keep	"Renaturing Urban Plan"
C. Diagnose	•Output 1C-1. City profile definition. **Supported by:** • **2nd Workshop of the City** *(Source UGU D1.3)*	•Output 2C-1. NBS scenario. Use the URBAN **Supported by:** • **URBAN GreenUP NBS Scenario Tool** *(Source UGU D1.7)*	•Output 2C-1. NBS Scenario Report **Supported by:** • **URBAN GreenUP NBS Catalogue** *(Source UGU D1.1)*	**Chapter III.** City NBS Adopted Scenarios

Table 4.5: Graph to the main outputs of step D (Source: URBAN GreenUP).

Outputs Step D.	1st. Understand your present	2nd. Choose your future aspirations	3rd. Integrate RUP and keep	"Renaturing Urban Plan"
D. Visualize	•Output 1D-1. Key focus areas for NBS	•Output 2D-1. List of green assets and pinch points	•Output 3D-1. NBS Risk Assessment **Supported by:** • **URBAN GreenUP NBS Selection Tool** (Source UGU WP6 Tool, D1.11)	**Chapter IV.** City Impact

Table 4.6: Graph to the main outputs of step E (Source: URBAN GreenUP).

Outputs Step E.	1st. Understand your present	2nd. Choose your future aspirations	3rd. Integrate RUP and keep	"Renaturing Urban Plan"
E. Plan	•Output 1E-1. Plan for collecting baseline data across a defined set of indicators	•Output 2E-1. KPIs prioritization for NBS **Supported by:** • **URBAN GreenUP NBS Scenario Tool** *(Source UGU D1.7)*	•Output 3E-1. The up-scale plan	**Chapter V.** Monitoring Program and Action Plan

Table 4.7: Graph to the main outputs of step F (Source: URBAN GreenUP).

Outputs Step F.	1st. Understand your present	2nd. Choose your future aspirations	3rd. Integrate RUP and keep	"Renaturing Urban Plan"
F. Inform	•Output 1F-1. Review the internal stakeholders, external groups and community groups. •Output 1F-2. Promote the initiative among the stakeholders. •Output 1F-3. Validate the early list of NBS for consideration. **Supported by:** • **URBAN GreenUP Info Channel** *(Source UGU D1.11)*	•Output 2F-1. Plan to Urban Renaturing (RUP)	•Output 3F-1. Define the organizational structure of the Municipality for the implementation of the RUP. Roles and responsibilities (internal). •Output 3F-2. Publish a Local Communication and Dissemination plan with the final list of stakeholders (co-creation and plan implementation). •Output 3F-3. Define the financial plan. Innovative financial tools. Annual budget.	**Chapter VI.** Roles and Responsibilities

Table 4.8: Graph to the main outputs of step A, phase 3 (Source: URBAN GreenUP).

Outputs Step A.	1st. Understand your present	2nd. Choose your future aspirations	3rd. Integrate RUP and keep	"Renaturing Urban Plan"
A. Engage and Co-create	•Output 3A-1. Assess lessons learnt and validate the strategy.			**Chapter VII.** Processes and reforms

4.3 The work flow between the outputs

Table 4.9: Links between the outputs by steps and phases (Source: URBAN GreenUP).

Work Flow	1st Understand your present		2nd Choose your future asprations		3rd Integrate RUP and keep	RUP Plan
A. Engage and Co-create	**Action 1A.** Identify and involve stakeholders	⇨2A	**Action 2A.** Prepare for co-delivery			Chap. I
	⇩1B		⇩2B-F		⇩3A	
B. Explore	**Action 1B.** Understand your "city" needs	⇨2B	**Action 2B.** Choose your "city" targets	**No direct link.**	**Action 3B.** Prepare RUP Plan integration	Chap. II
	⇩1C		⇩2C		⇩3C, 1F, 3F	
C. Diagnose	**Action1C.** Understand your "city" capacity	⇨2C	**Action 2C.** Evaluate NBS Scenarios and select one	⇨3C	**Action 3C.** Define list of NBS Projects and Actions	Chap. III
	No direct link.		⇩2D, 2E		⇩3D, 3E, 1F	
D. Visualize	**Action 1D.** Map challenges	⇨2D	**Action 2D.** Set spatial priorities for NBS	⇨3D	**Action 3D.** Prepare assessment of the Impact and Risk	Chap. IV
	⇩1E, 1F		⇩2E, 3E		⇩3E	
E. Plan	**Action 1E.** Establish Baselines	⇨2E, 3E	**Action 2E.** Choose how success will be monitored	⇨3E	**Action 3E.** Prepare the Up-scale Plan	Chap. V
	⇩1F		⇩3F		⇩3F	
F. Inform	**Action 1F.** Promote the initiative	**No direct link.**	**Action 2F.** Publish the RUP	⇨3F	**Action 3F.** Define budget, roles and responsib.	Chap. VI
	⇩3A		⇩3A		⇩3A	
	Action 3A. Assess lessons learnt and validate strategy					Chap. VII
	⇩1A, 2A, 1B, 2B					

Table 4.10: Links between the outputs step A, phase 1 and 2 (Source: URBAN GreenUP).

Work Flow	1st Understand your present		2nd Choose your future asprations		3rd Integrate RUP and keep	RUP Plan
A. Engage and Co-create	**Action 1A.** Identify and involve stakeholders 1A 2A 1B 3A	⇨2A	**Action 2A.** Prepare for co-delivery 1A 2A 1B 2B 2C 2D 2E 2F 3A.			Chap. I
	⇩1B		⇩2B-F		⇩3A	

Table 4.11: Links between the outputs step B (Source: URBAN GreenUP).

Work Flow	1st Understand your present		2nd Choose your future asprations		3rd Integrate RUP and keep	RUP Plan
B. Explore	**Action 1B.** Understand your "city" needs 1A 1B 2B 1C 3A	⇨2B	**Action 2B.** Choose your "city" targets 2A 1B 2B 2C 3A		**Action 3B.** Prepare RUP Plan integration 2A 2B 3B 3C 1F 3F 3A	Chap. II
	⇩1C		⇩2C		⇩3C, 1F, 3F	

Table 4.12: Links between the outputs step C (Source: URBAN GreenUP).

Work Flow	1st Understand your present		2nd Choose your future asprations		3rd Integrate RUP and keep	RUP Plan
C. Diagnose	**Action1C.** Understand your "city" capacity 2A 1B 2B 1C 2C	⇨2C	**Action 2C.** Evaluate NBS Scenarios and select one 2A 2B 1C 2C 3C 2D 2E	⇨3C	**Action 3C.** Define list of NBS Projects and Actions 2C 3C 3D 3E 1F	Chap. III

Table 4.13: Links between the outputs step D (Source: URBAN GreenUP).

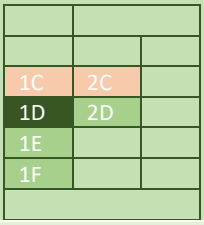
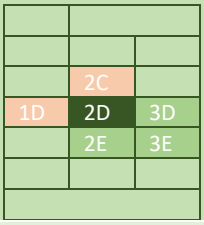
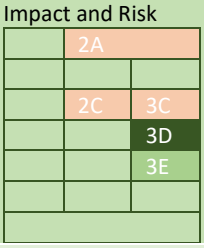
Work Flow	1st Understand your present		2nd Choose your future asprations		3rd Integrate RUP and keep	RUP Plan
D. Visualize	**Action 1D.** Map challenges 	⇨2D	**Action 2D.** Set spatial priorities for NBS 	⇨3D	**Action 3D.** Prepare assessment of the Impact and Risk 	Chap. IV
	⇩1E, 1F		⇩2E, 3E		⇩3E	

Table 4.14: Links between the outputs step E (Source: URBAN GreenUP).

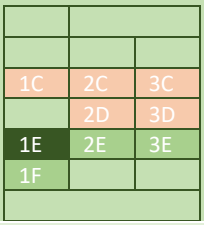
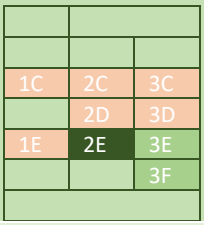
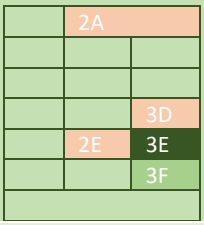
Work Flow	1st Understand your present		2nd Choose your future asprations		3rd Integrate RUP and keep	RUP Plan
E. Plan	**Action 1E.** Establish Baselines 	⇨2E, 3E	**Action 2E.** Choose how success will be monitored 	⇨3E	**Action 3E.** Prepare the Up-scale Plan 	Chap. V
	⇩1F		⇩3F		⇩3F	

Table 4.15: Links between the outputs step F (Source: URBAN GreenUP).

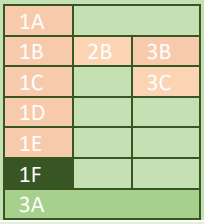
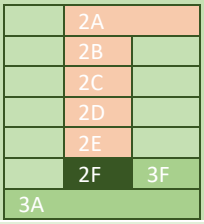
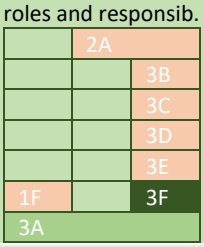
Work Flow	1st Understand your present		2nd Choose your future asprations		3rd Integrate RUP and keep	RUP Plan
F. Inform	**Action 1F.** Promote the initiative 		**Action 2F.** Publish the RUP 	⇨3F	**Action 3F.** Define budget, roles and responsib. 	Chap. VI
	⇩3A		⇩3A		⇩3A	

Table 4.16: Links between the outputs step A, phase 3 (Source: URBAN GreenUP).

Work Flow	1st Understand your present	2nd Choose your future asprations	3rd Integrate RUP and keep	RUP Plan
	Action 3A. Assess lessons learnt and validate strategy 1A 2A 1B 2B 1F 3F 3A ⇩1A, 2A, 1B, 2B			Chap. VII

4.4 The methodology circular diagram

This step-by-step methodology is not conceived as linear process, but as circular one. The step A (Engage and co-create step) is considered at the beginning and at the end of vertical actions.

Figure 4.1: The methodology circular diagram (Source: URBAN GreenUP)

4.5 The table of contents of the city local RUP Plan

Table 4.17: The table of contents of the city local RUP Plan *(Source: URBAN GreenUP, D1.13 Guide to "Renaturing Urban Plan")*

	Level of development of RUP:
Chapter I. Introduction to Re-naturing	I II III IV V VI VII
Action 1A. Identify and involve stakeholders. **Action 2A.** Prepare for co-delivery.	
Chapter II. City Targets	I II III IV V VI VII
Action 1B. Understand your "city" needs. **Action 2B.** Choose your "city" targets. **Action 3B.** Prepare RUP Plan integration into the Local Municipality Urban Planning Legal Elements.	
Chapter III. City NBS Adopted Scenarios	I II III IV V VI VII
Action1C. Understand your "city" capacity. **Action 2C.** Evaluate NBS Scenarios and select one. **Action 3C.** Define list of NBS Projects and Actions.	
Chapter IV. City Impact	I II III IV V VI VII
Action 1D. Map challenges. **Action 2D.** Set spatial priorities for NBS. **Action 3D.** Prepare assessment of the impact and Risk.	
Chapter V. Monitoring Program and Action Plan (Budget)	I II III IV V VI VII
Action 1E. Establish Baselines. **Action 2E.** Choose how success will be monitored. **Action 3E.** Prepare the up-scale plan.	
Chapter VI. Roles and Responsibilities	I II III IV V VI VII
Action 1F. Promote the initiative. **Action 2F.** Publish the RUP. **Action 3F.** Prepare the organization, define roles and responsibilities Municipality Structure.	
Chapter VII. Processes and reforms	I II III IV V VI VII
Action 3A. Assess lessons learnt and validate the strategy.	

5 URBAN GreenUP Links

List of Catalogues and Guides will help to specify the particular methodology components:

- **NBS Catalogue *(URBAN GreenUP D1.1), Source: URBAN GreenUP, May 2018,*** https://www.urbangreenup.eu/resources/deliverables/
- **Societal Challenge Catalogue *(URBAN GreenUP D1.2) , Source: URBAN GreenUP, July 2018***, https://www.urbangreenup.eu/resources/deliverables/
- Diagnosis procedure Guide *(URBAN GreenUP D1.3), Source: URBAN GreenUP, September 2020 (on-going)*
- Baseline Calculation Guide *(URBAN GreenUP D1.4), Source: URBAN GreenUP, September 2020 (on-going)*
- **Barriers and Boundaries Guide *(URBAN GreenUP D1.5), Source: URBAN GreenUP, July 2018***, https://www.urbangreenup.eu/resources/deliverables/
- **Zoning and Mapping Guide *(URBAN GreenUP D1.6), Source: URBAN GreenUP, May 2020***, https://www.urbangreenup.eu/resources/deliverables/
- Tendering Process Guide *(URBAN GreenUP D1.9) , Source: URBAN GreenUP, December 2020 (on-going)*
- Scaling UP Guide *(URBAN GreenUP D1.10), Source: URBAN GreenUP, May 2022, URBAN GreenUP, September 2020 Interim ver. D1.18 (on-going)*
- **Co-creation and Co-development Guide** *(URBAN GreenUP D1.11), Source: URBAN GreenUP, May 2022 (on-going);* ***URBAN GreenUP, December 2019 Interim ver. D1.19,*** *currently available,* https://www.urbangreenup.eu/resources/deliverables/

List of the Tools

- NBS scenarios generation Tool *(URBAN GreenUP D1.7) with KPIs prioritization criteria Guide (URBAN GreenUP D1.8), Source: URBAN GreenUP, September 2020 (on-going)*
- Co-creation and Co-development Tools *(URBAN GreenUP WP6), Source: URBAN GreenUP, May 2022 ,* https://www.urbangreenup.eu/resources/nbs-selection-tool/nbs-selection-tool.kl

6 References

All references are included into the text.

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