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Standardized questionnaire on technological and non-technological barriers

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Author(s)	Bernd Pölling (SWUAS)
Co-Author(s)	Rolf Morgenstern (SWUAS), Paola Zitella (ENVIPARK); Barbara Anton, Serene Hanania, Vasileios Latinos, Philipp LaHaela Walter (all ICLEI)
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CONTACT:

Email: progireg@la.rwth-aachen.de
 Website: www.proGReg.eu

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Document revision history

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2			
3			

Partner organisations

No.	Name	Short name	Country
1	South-Westphalia University of Applied Sciences	SWUAS	Germany
2	Local Governments for Sustainability	ICLEI	Germany
3	Environment Park	ENVIPARK	Italy

Abbreviations

FC: Follower Cities

FRC: Front Runner Cities

NBS: nature-based solutions

proGREG: productive Green Infrastructure for post-industrial urban regeneration

Executive Summary

The standardized questionnaire on technological and non-technological barriers is part of WP 5 “Market readiness, barriers, and upscaling” of the EU HORIZON 2020 project proGReg (productive Green Infrastructure for post-industrial urban regeneration). ProGReg’s overarching objective of demonstrating NBS-integration into (partly) self-sustained business models requires emphasising upon possible bottlenecks for NBS when entering the market. Thus, WP 5 aims to, firstly, identify technological and non-technological barriers that hinder broader implementation and, secondly, to develop a catalogue of business models for NBS with regard to market readiness and upscaling. Besides detecting barriers, it is of importance to find solutions for overcoming barriers at different stages of NBS development. The standardized questionnaire enquires non-technological (institutional, social/cultural, financial/market) barriers and technological barriers when planning, implementing and maintaining NBS.

Based on the proGReg progress, especially WP 2, and a desktop research on NBS barriers for upscaling, the standardized questionnaire has been developed to provide the basis for qualitative personal in-depth interviews. The interviews will be carried out to answer the key research question with regard to barriers: Which barriers occur at different stages of NBS development and how can they be overcome to enable NBS upscaling?

The standardized questionnaire will be used for two rounds of qualitative personal in-depth interviews. The first round of interviews (spring/summer 2020) will be carried out for detecting barriers by using this standardized questionnaire. The second round of interviews in 2021 will have a stronger emphasis on solutions on how to overcome barriers detected in the first interview round. Interviews will be carried out with three to five key persons per NBS development in each city. The interviewees will be selected with the support of key contact persons for each NBS in each city. Data entry and collection take place in a prepared excel file for analyses and reporting of results; especially in D5.2 (technological barriers) and D5.3 (non-technological barriers) as well as in D5.5 (synthesis of barriers and solutions). These Deliverables will answer the before-mentioned research question on barriers.

1. Introduction

1.1. Introduction to the project

Productive Green Infrastructure for post-industrial urban regeneration (proGReg) is developing and testing nature-based solutions (NBS) co-creatively with public authorities, civil society, researchers and businesses. Eight nature-based solutions, which will support the regeneration of urban areas affected by deindustrialisation, will be deployed in Dortmund (Germany), Turin (Italy), Zagreb (Croatia) and Ningbo (China). The cities of Cascais (Portugal), Cluj-Napoca (Romania), Piraeus (Greece) and Zenica (Bosnia and Herzegovina)

will receive support in developing their strategies for embedding nature-based solutions at local level through co-design processes.

1.2. Introduction to WP 5 and Tasks 5.1 and 5.2

The standardized questionnaire on technological and non-technological barriers is part of WP 5 “Market readiness, barriers, and upscaling” of the EU HORIZON 2020 project proGReg (productive Green Infrastructure for post-industrial urban regeneration). WP 5 aims at detecting barriers to implement NBS, to find solutions to overcome them, and to develop a catalogue of business models for nature-based solutions, based on scientific assessments of the multiple benefits they provide for social, ecological and economic regeneration. ProGReg’s overarching objective of demonstrating NBS-integration into (partly) self-sustained business models requires emphasising upon possible bottlenecks for NBS when entering the market. Thus, WP 5 aims to identify technological and non-technological barriers that hinder broader implementation, to find solutions to overcome them, and to develop a catalogue of business models for NBS with regard to market readiness and upscaling. WP 5 builds especially on the NBS pilot implementation within WP 3’s and WP 4’s benefit assessment and monitoring during and after the NBS pilot implementation. Besides investigating the business model perspective, it is also important to detect the wide range of possible barriers for upscaling. The key research question with regard to barriers is: Which barriers occur at different stages of NBS development and how can they be overcome to enable NBS upscaling?

The tasks 5.1 “Tackling technological barriers to upscaling” (ENVIPARK) and 5.2 “Tackling non-technological barriers to upscaling” (ICLEI) aim to detect potential hurdles for NBS when entering the market and to find solutions how to overcome them. Both, technological and non-technological barriers will be analysed based on this deliverable’s standardized questionnaire. The questionnaire represents WP 5’s first Deliverable (5.1, M23) and builds on desktop research and internal proGReg progress, especially WP 2. The desktop research takes advantage of thematically similar projects and activities, i.e. Eklipse, BiodivERsA, URBAN GreenUP, CLEVER Cities, Connecting Nature, GrowGreen, and Naturvation. References include for example:

- Kabisch, N., N. Frantzeskaki, S. Pauleit, S. Naumann, M. Davis, M. Artmann, D. Haase, S. Knapp, H. Korn, J. Stadler, K., Zaunberger, and A. Bonn. 2016. Nature-based solutions to climate change mitigation and adaptation in urban areas: perspectives on indicators, knowledge gaps, barriers, and opportunities for action. *Ecology and Society* 21(2):39. <http://dx.doi.org/10.5751/ES-08373-210239>
- CLEVER Cities
 - “Barriers and success factors for effectively co-creating nature-based solutions for urban regeneration” (Del. 1.1.1)
 - “Green market opportunities and business policies for urban nature-based solutions” (Del. 1.1.2)

- URBAN GreenUP
 - Barriers and Boundaries Identification (Del. 1.5)
 - EKLIPSE/EPBRS/BiodivERsA Joint Foresight Workshop: Social innovation and nature-based solutions (Brussels, December 2016); including “barriers to implementing NBS and/or to social innovation approaches”

The data collected with the help of this standardized questionnaire will be used to analyse technological and non-technological barriers (s. Figure 1). D5.2 will report on technological barriers and D5.3 on non-technological barriers encountered in proGReg. The reports on technological (D5.2) and non-technological barriers (D5.3) will be dependent on the first round of interviews carried out with this D5.1 standardized questionnaire. D5.4 will benefit from ICLEI’s worldwide network of cities to collect information on barriers when developing NBS beyond proGReg. The data collection of D5.4 will not use the D5.1 standardized questionnaire, because the questionnaire is specifically designed to personally interview actors strongly involved in the NBS development inside proGReg. The outcomes of the second round of personal in-depth interviews will be used to synthesis barriers and solutions how to overcome barriers for upscaling (D5.5).

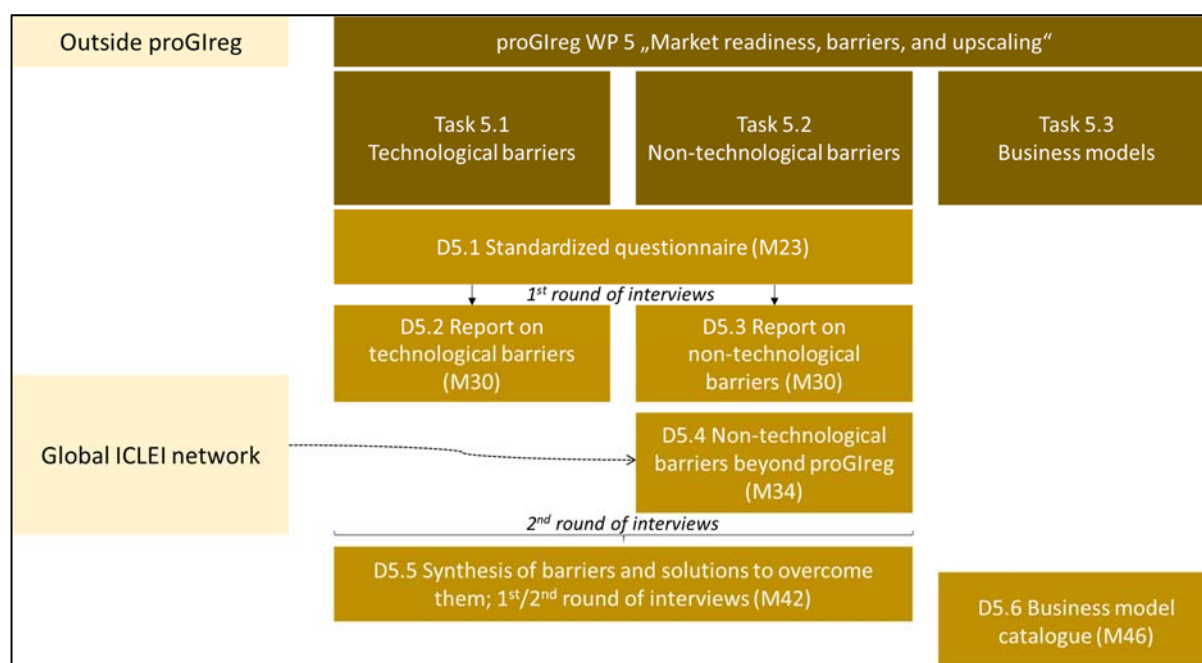


Figure 1. Sequence of WP5 deliverables on barriers and business models

2. Methods and general instructions for interviewers

The qualitative survey using the standardized questionnaire aims to detect NBS-specific technological and non-technological barriers for upscaling. The standardized questionnaire will be used to conduct qualitative personal in-depth interviews in proGREG's front runner cities (FRC) and follower cities (FC). After collecting barriers with this questionnaire in the first round of personal in-depth interviews in 2020, the questionnaire will be developed further to focus on solutions how to overcome the barriers in the second round of interviews in 2021. The following Table 1 gives an overview of the first round of qualitative personal interviews with the standardized questionnaire, more information follows afterwards. Further detailed instructions for interviewers are shared internally among the key WP 5 partners ENVIPARK, ICLEI, and SWUAS.

Table 1. Overview of the first round of qualitative interviews

Type of interviews	Number of interviews	Interview length	Timeframe	Data capture
Personal in-depth interviews (face-to-face, calls)	3-5 persons per NBS in each city	60-100 minutes	Spring/summer 2020 (1 st round)	Data collection in excel file by the interviewer

Structured qualitative interviews

Personal in-depth interviews (face-to-face interviews or personal calls) will be carried out by using this standardized questionnaire on barriers along the key topics to be covered. The questionnaire is designed as a mixture of open questions allowing the interviewees to express their opinion freely and quantitative ratings/rankings on importance/relevance of barrier categories. By using this method, the subsequent analyses draw on both, subjective experiences and factual and context knowledge; a representative view is neither possible nor intended.

The questionnaire is designed for personal interviews only. Upon appointing an interview, the questionnaire can be sent to the interviewee beforehand for early consideration and engagement with the topic of barriers during NBS development. However, the interview has always to be conducted personally (face-to-face, phone/call), it cannot be replaced letting the interviewee fill in the excel file of the questionnaire. When sending the questionnaire already in advance of the personal in-depth interview, please also send general proGREG project information (leaflet: https://progireg.eu/fileadmin/user_upload/Resources/22-05-2019-proGREG-Flyer-pages.pdf) and information on data protection (s. Data capture). Depending

on their willingness and availability to talk, the personal in-depth interviews are estimated to take 60 to 100 minutes.

Following general interviewer information, the questionnaire addresses, firstly, general information on the interviewee, his/her position, and the concerned NBS. Afterwards, the questions focus on, secondly, non-technological barriers (institutional (administrative, legislative, governance), social/cultural, and financial/market) and, thirdly, technological barriers. Answering all questions is not mandatory, yet preferable. The interviews will be carried out by the three project partners ENVIPARK, ICLEI, and SWUAS; for some countries in local language (Turin, Dortmund), while in English language in the other cities, if needed with local language assistance from local project partners. The questionnaire can be used for personal interviews with key persons responsible for the NBS development from May 1st, 2020 on. All primary data will be captured in English language in the prepared excel file "Del.5.1_Questionnaire barriers_Data collection sheet" (s. Data capture).

Selection of interviewees

The personal in-depth interviews will be carried out with three to five persons per NBS in each city. For example, when implementing five NBS in a city, this will result in 15 to 25 interviews to be conducted in this city in total. A summary of proGReg's planned and implemented NBS is provided in Table 2. Key contact persons (s. Table 3) will be asked to name the three to five key responsible persons for each NBS in each city. They will be interviewed based on their NBS development experience. The interviewees should belong to different institutions / entities and have the strongest involvement in the NBS development possible. The majority of interviewees belong to proGReg partner institutions, but the interviews can also be carried out with persons from partners outside proGReg in case they are strongly engaged in proGReg's NBS development. An example could be for NBS3 "Community-based urban farming/gardening" in Dortmund:

- 1x City of Dortmund
- 2x NGO "Die Urbanisten e.V."
- 1x South-Westphalia University of Applied Sciences
- 1x land owner, who is being an active local stakeholder

As some proGReg partners are being involved in the planning and implementation of more than one NBS, it can occur that the same person would be qualified to answer the questionnaire for several NBS. Yet, the same person should not be interviewed for more than maximum two NBS.

The interviews will not only take place in the four FRC, but also in proGReg's FC. These partners are also able to provide very valuable in-depth knowledge of specific NBS, e. g. NBS 3 "community-based urban farming/gardening" in Cascais. Interviewing also persons from FC will most likely widen the range of barriers detected. The more comprehensive the list of detected barriers will be, the more appropriate can be the list of solutions to overcome them for wider upscaling in the respective city and beyond.

Table 2. NBS developments in proGREG cities

NBS	Dortmund	Turin	Zagreb	Cascais	Cluj-Napoca	Piraeus	Zenica	Ningbo
1	x						x	To be defined
2		x						
3	x	x	x	x	x	x		
4	x	x	x				x	
5		x	x		x	x		
6	x	x	x	x	x	x	x	
7		x	x					
8	x	x		x				

The names of the eight NBS are as follows:

- NBS 1: Leisure activities and clean energy on former landfills
- NBS 2: New regenerated soil
- NBS 3: Community-based urban farms and gardens
- NBS 4: Aquaponics
- NBS 5: Green walls and roofs
- NBS 6: Accessible green corridors
- NBS 7: Local environmental compensation processes
- NBS 8: Pollinator biodiversity.

Table 3. Key contact person

NBS	Dortmund	Turin	Zagreb	Cascais	Cluj-Napoca	Piraeus	Zenica	Ningbo
1	Mais, Jafari, Dagmar Knappe						Jakuta Imsirovic, Jasmin Cabaravdic	for all: Yao- yang Xu / Tian Ruan
2		Federico Benenati, Paola Zitella						
3	Rolf Morgenstern, Nils Rehkop	Matteo Baldo, Elena Carmagnani, Vittorio Bianco	Branka Mrakuzic, Iva Bedenko	Andre Miguel	Adrian Raulea	Julia Georgi		
4	Nils Rehkop, Rolf Morgenstern	Laura Ribotta	Matija Vuger, Bojan Baletic				Senada Sejmjenovic	
5		Laura Ribotta, Elena Carmagnani, Alessandra Aires	Marijo Spajic, Matija Vuger		Adrian Raulea	Julia Georgi		
6	Mais Jafari, Dagmar Knappe	Ferruccio Capitani, Vittorio Bianco	Bojan Baletic, Iva Bedenko	Joao Melo	Adrian Raulea	Julia Georgi	Kemal Husseinagic, Lejla Brljevac, Bojana Primorac	
7		Davide de Luongo	Nives Mornar, Matija Vuger					
8	Rolf Morgenstern, Nils Rehkop	Davide de Luongo		Joao Melo				

Data capture

When conducting the personal in-depth interviews, the interviewers will collect the data on-site during the interview; either handwritten in a printed version of the standardized questionnaire or/and it will be audio taped. It is not required to audio tape and transcribe all interviews, however audio taping is recommended. It can also be helpful to write down some notes even when audio taping the interview. The collected information will be transferred from the handwritten printout or the audio tape into the already prepared excel file “Del.5.1_ Questionnaire barriers_ Data collection sheet” for further data processing. All information from interviews will be collected centrally in this excel file.

We will adopt adequate measures to ensure personal data protection and confidentiality, as described in proGReg Deliverable 7.2. As the questionnaire includes personal and potentially sensitive data, they need to be handled with suitable care. The handwritten notes and/or audio tapes will remain with the individual interviewers only, while the excel file will be accessed and used by WP 5 task leaders ENVIPARK, ICLEI, and SWUAS. The file will be protected adequately (password). Most interviewees will be persons from the proGReg team, but it can also be persons from outside proGReg in case they are actively engaged in proGReg’s NBS development. The first round of qualitative personal in-depth interviews will be followed by a second round of interviews, which will then focus on solutions to overcome the detected barriers. Preferably, the second interview round will be conducted with the same persons as the first round of interviews. Deviations can occur, when interviewees from the first interview round in 2020 will no longer be active in proGReg’s NBS development at the time of the second interview round in 2021. In this case, the interviewee has to be replaced by his/her successor or a colleague.

Traceability to individual persons will not be possible in any publication using data originating from the barrier interviews of WP 5. This refers to all publications; proGReg Deliverables or other formats of publications. Information will only be presented on an aggregated level or, in case of personal quotes or statements, personal information will not be provided.

Upon request of the interviewee, his/her data will be deleted completed at any time. This concerns all possible data: handwritten notes, audio tapes, and excel file entry. After carrying out all planned activities on NBS barriers, the data will be deleted.

3. Standardized questionnaire on barriers

Following some general interviewer's and interview information, the questionnaire addresses, firstly, information on the interviewee, his/her position, and the concerned NBS before focusing afterwards on barriers: Questions on, secondly, non-technological barriers and, thirdly, technological barriers build the core part of the questionnaire. The section on non-technological barriers asks for information on institutional (administrative, legislative, governance), social/cultural, financial/market, and other non-technological barriers. The technological barriers section raises also safety issues.

Personal information interviewer

- 1.) Interviewer's name _____
- 2.) Interviewer's affiliation _____
- 3.) Date of the interview ____ / ____ / ____ (dd/mm/yyyy)
- 4.) Start time of the interview ____:____ (hh:mm local time)

Personal information interviewee and NBS introduction (not all mandatory)

- 5.) Name _____
- 6.) Affiliation _____
- 7.) Which category does your affiliation belong to?
 - Public authority (municipality, etc.)
 - Private entity (company, etc.)
 - NGO
 - Research institute / Higher education
 - Other: _____

Please specify, if needed: (open text field)

8.) In which proGReg city are you developing a Nature Based Solution (NBS)?

- Dortmund
- Ningbo
- Turin
- Zagreb
- Cascais
- Cluj-Napoca
- Piraeus
- Zenica
- Other: _____

9.) What is your position and role in your affiliation? (open text field)

10.) How long have you worked in this position / on this topic, in years?

11.) Which NBS (Nature Based Solution) are we talking about in this interview?

- Leisure activities and clean energy on former landfills (NBS 1)
- New regenerated soil (NBS 2)
- Community-based urban farms and gardens (NBS 3)
- Aquaponics (NBS 4)
- Green walls and roofs (NBS 5)
- Accessible green corridors (NBS 6)
- Local environmental compensation processes (NBS 7)
- Pollinator biodiversity (NBS 8)

12.) What is your role in the NBS implementation? (open text field)

13.) How is your work related to the key topics sustainability, NBS, green infrastructure? (open text field)

Nature Based Solutions in detail

14.) Please briefly describe your NBS (type, dimension, technology, location, stakeholders involved,). Please also provide pictures, if applicable. (open text field)

15.) What are the reasons why you have chosen this NBS to be implemented? (open text field)

16.) Current status of the NBS implementation: Are you currently being in the planning, implementation or operating/maintenance phase? Additionally, please specify the current status briefly with your own words! (open text field)

- Planning phase (before physical implementation)
- Implementation phase
- Operating/Maintenance phase (after physical implementation)

17.) What challenge(s) does the Nature Based Solution address in your local context? (open text field)

18.) Did you find/identify any support measures available for your specific NBS development? Did you make use of it?

- No
- Yes, but we have not used it (please specify)
- Yes, we made/are making use of it (please specify)

Please specify: (open text field)

Learning from others

19.) Have you used other existing NBS for inspiration or as a good practice example for your NBS development? If yes, please specify up to three good practices you know well (name, location, link, etc.)! If applicable, please also briefly describe why you have taken the good practice references for inspiration or as a good practice example!

- No
- Yes, please specify: Good practice 1: _____
Good practice 2: _____
Good practice 3: _____

Please specify: (open text field)

20.) If applicable, which barriers have you already caught (heard/read) in the good practices you have mentioned before or from other established NBS you know? Have you identified solutions to overcome the barriers? Please differentiate between technological and non-technological barriers! (open text field)

Non-technological barriers: (open text field)

Technological barriers: (open text field)

Non-technological barriers

The section on non-technological barriers asks for information on barriers from the domains:

- (1) institutional (administrative, legislative, governance),
- (2) social/cultural, and
- (3) financial/market.

Please do not limit your thoughts to these three pre-defined categories, but adopt an open-minded and integrated approach when looking for non-technological barriers that you have encountered during the different stages of NBS development in proGReg. After responding to the institutional, social/cultural, and financial/market barriers, you have the option of including additional non-technological barriers that you may have come across.

Institutional (Administrative/Legislative/Governance) barriers

21.) Which institutional barriers (administrative, legislative, and governance) have you faced so far during the specific NBS development; if applicable, please specify for which of the three phases (planning, implementation, operating)? Please mark the phase(s) with an [x] (different phases can be ticked) and use the open text field to describe the institutional barrier(s) more detailed.

Please also rank the barriers in order of importance: 1 being “most relevant barrier” (2: “2nd most relevant barrier”, 3: “3rd most relevant barrier”, 4: “4th most relevant barrier”, ...).

Please rate the barriers by (minor, major, ...) and specify the additional efforts, like more time needed, more money needed, additional resources, etc.

Institutional barrier(s)	Planning phase	Implementation phase	Operating phase	Ranking
_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____

Institutional barrier(s)	Minor barrier (could be overcome with some more efforts)	Major barrier (could be overcome with significantly more efforts)	Barrier causes the development of alternative NBS	Barrier stops the implementation completely
_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Please specify the qualitative ranking of barriers: (open text field)

22.) Are there any further institutional barriers you predict for later phases of the specific NBS development? For example, if you are currently in the implementation phase, do you see additional potential institutional barriers for the next phase (here operating phase)? (open text field)

Social/cultural barriers

23.) Which social/cultural barriers have you faced so far during the specific NBS development; if applicable, please specify for which of the three phases (planning, implementation, operating)? Please mark the phase(s) with an [x] and use the open text field to describe the social/cultural barrier(s) more detailed.

Please rank the barriers in order of importance: 1 being “most relevant barrier” (2: “2nd most relevant barrier”, 3: “3rd most relevant barrier”, 4: “4th most relevant barrier”, ...). Please tick a qualitative ranking of the barriers (minor, major, ...) and specify the additional efforts, like more time needed, more money needed, additional resources, etc.

Social/Cultural barrier(s)	Planning phase	Implementation phase	Operating phase	Rank
_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____

Social/Cultural barrier(s)	Minor barrier (could be overcome with some more efforts)	Major barrier (could be overcome with significantly more efforts)	Barrier causes the development of alternative NBS	Barrier stops the implementation completely
_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Please specify the qualitative ranking of barriers: (open text field)

24.) Are there any further social/cultural barriers you predict for later phases of the specific NBS development? For example, if you are currently in the implementation phase, do you see additional potential social/cultural barriers for the next phase (here operating phase)? (open text field)

25.) Which participants (incl. stakeholder group: Public Authorities (Municipalities, ...), citizens, NGOs/Associations, Educational institutes, Research, Enterprises, etc.) are involved in the different stages (planning/co-design, implementation/co-implementation, operating/co-monitoring) of the NBS development? Please separate your statements per phase.

How would you describe the level of engagement, activity and initiative of each of these participants? Please make use of the five levels of engagement (inform, consult, involve, collaborate, empower) of WP2's Participation Planner!

Participant	Stakeholder group	Inform	Consult	Involve	Collaborate	Empower
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Please specify: (open text field)

Financial/Market barriers

26.) Which financial/market barriers have you faced so far during the specific NBS development; if applicable, please specify for which of the three phases (planning, implementation, operating)? Please mark the phase(s) with an [x] and use the open text field to describe the financial/market barrier(s) more detailed.

Please rank the barriers in order of importance: 1 being “most relevant barrier” downwards (2: “2nd most relevant barrier”, 3: “3rd most relevant barrier”, 4: “4th most relevant barrier”, ...). Please tick a qualitative ranking of the barriers (minor, major, ...) and specify the additional efforts, like more time needed, more money needed, additional resources, etc.

Financial/Market barrier(s)	Planning phase	Implementation phase	Operating phase	Rank
_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____

Financial/Market barrier(s)	Minor barrier (could be overcome with some more efforts)	Major barrier (could be overcome with significantly more efforts)	Barrier causes the development of alternative NBS	Barrier stops the implementation completely
_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Please specify the qualitative ranking of barriers: (open text field)

27.) Are there any further financial/market barriers you predict for later phases of the specific NBS development? For example, if you are currently in the implementation phase, do you see additional potential financial/market barriers for the next phase (here operating phase)? (open text field)

28.) Have you already worked on and written a business plan for the specific NBS development? Does the business plan include a financial plan?

- No
- Yes, a business plan including minor financial calculations
- Yes, a business plan including detailed financial calculations (liquidity, profitability, ROI, ...)

Please specify: (open text field)

29.) What are the acquisition costs for the realisation of the specific NBS development? Please also indicate, whether you have already made the investment(s) or whether the costs are predicted investment costs for future. Please consider material and immaterial costs, e. g. leasing costs, permission fees, etc., but no operating/maintenance costs (s. next question).

Orders / Purchases	Gross costs (€)	Already paid	Predicted future costs
_____	_____	<input type="checkbox"/>	<input type="checkbox"/>
_____	_____	<input type="checkbox"/>	<input type="checkbox"/>
_____	_____	<input type="checkbox"/>	<input type="checkbox"/>
_____	_____	<input type="checkbox"/>	<input type="checkbox"/>
_____	_____	<input type="checkbox"/>	<input type="checkbox"/>
_____	_____	<input type="checkbox"/>	<input type="checkbox"/>
_____	_____	<input type="checkbox"/>	<input type="checkbox"/>
_____	_____	<input type="checkbox"/>	<input type="checkbox"/>
_____	_____	<input type="checkbox"/>	<input type="checkbox"/>
_____	_____	<input type="checkbox"/>	<input type="checkbox"/>
_____	_____	<input type="checkbox"/>	<input type="checkbox"/>
_____	_____	<input type="checkbox"/>	<input type="checkbox"/>
_____	_____	<input type="checkbox"/>	<input type="checkbox"/>
_____	_____	<input type="checkbox"/>	<input type="checkbox"/>
_____	_____	<input type="checkbox"/>	<input type="checkbox"/>
_____	_____	<input type="checkbox"/>	<input type="checkbox"/>

Please specify: (open text field)

30.) What are your average operating costs (salaries [incl. proGireg working hours], heating, lighting, rent, ...) per month for the specific NBS development? Please also indicate whether the monthly running costs are based on experiences already made or whether the costs are estimated/predicted for the future NBS operation. Furthermore, please add a description in case you plan to change (reduce) the running costs in the future by utilising certain measures (and state these measures).

Operating costs	Average costs/month (€)	Already existing costs	Estimated/predicted costs
_____	_____	<input type="checkbox"/>	<input type="checkbox"/>
_____	_____	<input type="checkbox"/>	<input type="checkbox"/>
_____	_____	<input type="checkbox"/>	<input type="checkbox"/>
_____	_____	<input type="checkbox"/>	<input type="checkbox"/>
_____	_____	<input type="checkbox"/>	<input type="checkbox"/>
_____	_____	<input type="checkbox"/>	<input type="checkbox"/>
_____	_____	<input type="checkbox"/>	<input type="checkbox"/>
_____	_____	<input type="checkbox"/>	<input type="checkbox"/>
_____	_____	<input type="checkbox"/>	<input type="checkbox"/>
_____	_____	<input type="checkbox"/>	<input type="checkbox"/>
_____	_____	<input type="checkbox"/>	<input type="checkbox"/>
_____	_____	<input type="checkbox"/>	<input type="checkbox"/>
_____	_____	<input type="checkbox"/>	<input type="checkbox"/>
_____	_____	<input type="checkbox"/>	<input type="checkbox"/>
_____	_____	<input type="checkbox"/>	<input type="checkbox"/>

Please specify: (open text field)

31.) Please indicate your current average financial revenues per month. Please add also information on the development of revenues over time and estimate/predict revenues for the future and how you intend to put it into practice.

Average revenue (€/month): _____

Development of revenues over time: (open text field)

Estimated/Predicted revenues for the future: (open text field)

Other non-technological barriers

32.) Are there any other issues that come to your mind concerning non-technological barriers? If so, name them. Are there any additional or crosscutting non-technological barriers that you have faced at any stage of the NBS development? What are they and how have they impacted your NBS development? (open text field)

Technological barriers

33.) Which technological barriers have you faced so far during the specific NBS development; if applicable, please specify for which of the three phases (planning, implementation, operating)? Please mark the phase(s) with an [x] and use the open text field to describe the technological barrier(s) more detailed.

Please rank the barriers in order of importance: 1 being “most relevant barrier” downwards (2: “2nd most relevant barrier”, 3: “3rd most relevant barrier”, 4: “4th most relevant barrier”, ...). Please tick a qualitative ranking of the barriers (minor, major, ...) and specify the additional efforts, like more time needed, more money needed, additional resources, etc.

Technological barrier(s)	Planning phase	Implementation phase	Operating phase	Rank
_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____

Technological barrier(s)	Minor barrier (could be overcome with some more efforts)	Major barrier (could be overcome with significantly more efforts)	Barrier causes the development of alternative NBS	Barrier stops the implementation completely
_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Please specify the qualitative ranking of barriers: (open text field)

34.) Are there any further technological barriers you predict for later phases of the specific NBS development? For example, if you are currently in the implementation phase, do you see additional potential technological barriers for the next phase (here operating phase)? (open text field)

Safety issues

35.) Have you identified any safety problems or issues that are critical or present an obstacle for the successful implementation of the NBS (workers, users, visitors, etc.)? If applicable, please describe more in detail the safety issues and measure to reduce/eliminate the risks. (open text field)

- No
- Yes, please specify:

Safety issues	Workers/Users	Visitors
_____	<input type="checkbox"/>	<input type="checkbox"/>
_____	<input type="checkbox"/>	<input type="checkbox"/>
_____	<input type="checkbox"/>	<input type="checkbox"/>
_____	<input type="checkbox"/>	<input type="checkbox"/>
_____	<input type="checkbox"/>	<input type="checkbox"/>
_____	<input type="checkbox"/>	<input type="checkbox"/>
_____	<input type="checkbox"/>	<input type="checkbox"/>
_____	<input type="checkbox"/>	<input type="checkbox"/>
_____	<input type="checkbox"/>	<input type="checkbox"/>

Workers/Users: (open text field)

Visitors: (open text field)

36.) Are there any other issues you have encountered concerning technological barriers? If yes, please name and describe them and their relevance/impact to your NBS development. (open text field)

37.) If you want to add any further information, please feel free: (open text field)

38.) End time of the interview ____ : ____ (hh:mm local time)