NWE0400607

RAINBOW

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A - Project identification

A.1 Project identification

Project id (automatically created)	NWE0400607
Name of the lead partner organisation	Landeshauptstadt Stuttgart
Name of the lead partner organisation in English	State Capital of Stuttgart
Project title	Improve climate resilience in cities by restoring water cycles
Project acronym	RAINBOW
Programme priority	Smart climate and environmental resilience for NWE territories
Specific objective	2.4: Promoting climate change adaptation and disaster risk prevention and resilience, taking into account ecosystem-based approaches
Project duration in months	48
Total budget	5.900.000,00
Total ERDF budget	3.540.000,00
% of total budget for investments	2,00 %

A.2 Project summary

Please give a short overview of the project and describe:

- the common challenge of the programme area you are jointly tackling in your project;
- the overall objective of the project and the expected change your project will make to the current situation;
- the main outputs you will produce and those who will benefit from them;
- the approach you plan to take and why a transnational approach is needed;
- what is new/original about the project.

Many urban and peri-urban areas in NWE suffer from frequent flooding events alternating with droughts and a lack of fresh water. Rising influence of climate change (CC) will increase these risks. The interaction between natural and artificial water bodies, like it worked for decades, is disturbed. Hence cities face significant water management challenges, including water quality, availability, and groundwater-related land subsidence.
Our aim is to overcome these problems and mitigate effects of CC by enhancing the capacity of cities for climate change resilience in the aspect of urban soil and groundwater resources management, thus enabling public players to strengthen the sponge function of the subsoil and restore shallow groundwater aquifers. With a transnational, transdisciplinary exchange innovative solutions jointly developed and tested in pilot actions in local contexts can be shared. An innovative framework will be developed, which includes also urban planning aspects tackling existing reluctance of urban managers and multiple user conflicts too.
The integration of “sponge city concepts” into urban planning goes beyond existing practice and is hampered by various barriers. By a combined approach of technical, spatial planning and land policy competences we will develop a strategic framework, 4 action plans and three key solutions to implement sustainable water management into urban planning and overcome implementation barriers. The transnational cooperation is needed to gather exemplification of key aspects to be tackled and each partner bringing in his related regional and specific technological expertise, capitalising on the high level of scientific knowledge in NWE.
By targeted trainings we raise awareness and upskill staff in environmental and spatial planning departments as well as related planners and consultants for resilient water management approaches thus increasing the readiness of cities and regions to implement water cycle restoration measures.

In French language [2000 characters]

Une large proportion de zones urbaines et périurbaines de l'Europe du Nord-Ouest (ENO) est soumise à des évènements extrêmes (inondations, sécheresses) ainsi qu’à une diminution des ressources en eau. L'influence croissante du changement climatique (CC) augmentera ces risques. Les relations entre grand et petit cycles de l’eau, existant depuis des décennies, sont ou seront donc perturbées. Les villes sont ainsi confrontées à la nécessité de modifier leurs pratiques de gestion de la ressource : qualité, production, rabattement et les affaissements associés.
Notre objectif est de renforcer la gestion intégrée des ressources en eau souterraine et de l’ occupation du sol dans les villes pour optimiser la gestion des cycles de l’eau, augmentant la résilience des territoires face aux CC. Le cadre transnational et transdisciplinaires du projet conduira à l’émergence de solutions innovantes développées, testées et transférées entre les 4 sites pilotes. Une démarche centrée sur la planification urbaine sera aussi élaborée pour résoudre les freins rencontrés par les gestionnaires urbains et les conflits d’usage.
L'intégration des concepts de « ville éponge » dans la planification urbaine actuellement absente sera

résolue par notre approche combinant compétences techniques, aménagement du territoire et politique foncière. Nous élaborerons un cadre stratégique, 4 plans d'action et 3 solutions techniques, permettant l'évolution des règles de planification urbaine pour y intégrer une dimension de gestion durable de la ressource. La coopération transnationale est essentielle pour agréger les expertises régionales de chaque site pilote, facilitant leur déploiement à l'échelle de l'ENO.
Nos actions de formation permettront une montée en compétence des agents en charge de l'environnement et de l'aménagement, des planificateurs et consultants sur les bons pratiques de gestion des cycles de l'eau, facilitant leur diffusion dans les villes de l'ENO.

In German language [2000 characters]

Viele städtische und stadtnahe Gebiete in NWE leiden unter häufigen Überschwemmungen, die sich mit Dürreperioden und Wassermangel abwechseln. Der zunehmende Einfluss des Klimawandels (CC) verstärkt diese Risiken. Das Zusammenspiel zwischen natürlichen und künstlichen Wasserkörpern, das jahrzehntelang funktionierte, ist gestört. Dies stellt die Städte vor erhebliche wasserwirtschaftliche Herausforderungen.
Um die Auswirkungen des CC abzumildern gilt es Aktivitäten der Städte im Hinblick auf die Bewirtschaftung der städtischen Boden- und Grundwasserressourcen zu ergreifen, so dass die Schwammfunktion des Untergrunds gestärkt und flache Grundwasserleiter stabilisiert werden. Im transnationalen, transdisziplinären Austausch werden innovative Lösungen gemeinsam entwickelt, in Pilotaktionen im lokalen Kontext getestet sowie gemeinsam genutzt. Ein innovativer Rahmen wird entwickelt, der auch städtebauliche Aspekte einbezieht, um der Zurückhaltung der Stadtverwaltungen und Nutzungskonflikten zu begegnen.
Die Integration von "Schwammstadtkonzepten" in die Stadtplanung über die bisherige Praxis hinaus wird durch verschiedene Barrieren behindert. Durch einen kombinierten Ansatz technischer, raumplanerischer und baurechtlicher Kompetenzen werden wir einen strategischen Rahmen, vier Aktionspläne und drei Schlüssellösungen entwickeln, um nachhaltiges Wassermanagement in die Stadtplanung zu integrieren und Umsetzungsbarrieren zu überwinden. Die transnationale Zusammenarbeit ist notwendig, um Beispiele für Schlüsselaspekte zu sammeln, die angegangen werden müssen. Jeder Partner bringt sein regionales und spezifisches technologisches Fachwissen ein, wobei das hohe wissenschaftliche Niveau in NWE genutzt wird. Durch gezielte Schulungen sensibilisieren und qualifizieren wir Mitarbeiter in der Umwelt- und Raumplanung sowie Planer und Berater für ein resilientes Wassermanagement. Die Bereitschaft von Städten Maßnahmen zur Wiederherstellung des Wasserkreislaufs umzusetzen wird gestärkt.

In Dutch language [2000 characters]

Veel (voor)stedelijke en gebieden in NWE hebben te maken met frequente overstromingen, droogtes en gebrek aan zoetwater. De toenemende invloed van klimaatverandering (CC) vergroot deze effecten. De balans tussen natuurlijke en kunstmatige waterlichamen, die decennialang heeft gewerkt, is verstoord geraakt waardoor steden worden geconfronteerd met aanzienlijke uitdagingen voor waterbeheer, incl. waterkwaliteit, -beschikbaarheid en grondwater gerelateerde bodemdaling.
Ons doel is om deze effecten van CC tegen te gaan door de bekwaamheid van steden te vergroten voor klimaatrobuust beheer van stedelijke bodem- en grondwaterbronnen, namelijk het versterken van de sponsfunctie van de ondergrond en het herstel van ondiepe grondwaterlichamen door publieke spelers. Met een transnationale, transdisciplinaire uitwisseling worden innovatieve oplossingen gedeeld die gezamenlijk zijn ontwikkeld en getest in lokale pilots. We ontwikkelen een innovatief raamwerk, dat aspecten als stadsplanning bevat en de weerstand van stedelijke managers en tegenstrijdige belangen van stakeholders aanpakt.
De integratie van 'sponsstadconcepten' in de stadsplanning gaat verder dan de huidige praktijk en wordt belemmerd door verschillende barrières. Een gecombineerde aanpak van techniek, ruimtelijke

planning en landgebruik, vertaald in een strategisch raamwerk, 4 actieplannen en 3 sleuteloplossingen, slecht barrières voor de implementatie van duurzaam waterbeheer in de stadsplanning. De transnationale samenwerking is nodig om voorbeelden te verzamelen van de belangrijkste aan te pakken aspecten. Elke partner brengt relevante regionale en specifieke technische expertise in, gebruik makend van het hoge niveau van wetenschappelijke kennis in NWE. Door trainingen gericht op planners en adviseurs op afdelingen als milieu en ruimtelijke ordening, vergroten we bewustzijn en vaardigheden voor klimaatrobuust waterbeheer. Dit leidt tot grotere bereidheid van steden en regio's voor herstel van de watercyclus.

A.3 Project budget overview

Programme funding			Contribution					Total project budget
Funding source	Funding amount	Co-financing rate (%)	Automatic public contribution	Other public contribution	Total public contribution	Private contribution	Total contribution	
ERDF	2.073.803,18	60,00 %	0,00	1.382.535,46	1.382.535,46	0,00	1.382.535,46	3.456.338,64
Total EU funds	2.073.803,18	60,00 %	0,00	1.382.535,46	1.382.535,46	0,00	1.382.535,46	3.456.338,64
Total project budget	2.073.803,18	60,00 %	0,00	1.382.535,46	1.382.535,46	0,00	1.382.535,46	3.456.338,64

A.4 Project outputs and result overview

Programme Output Indicator	Aggregated value per Programme output indicator	Measurement Unit	Output	Output Title	Output target value	Programme result indicator	Baseline	Result indicator target value	Measurement unit
Participations in joint training schemes	515,00	participations	Output 3.1	Training of project team and PPs staff and key stakeholders	140,00	Completion of joint training schemes	0,00	75,00	participants
			Output 3.2	Training of international experts and decision making community by final project conference	200,00				
			Ou	Training of local, regional and national expert community by 5 joint trainings in	175,00				

Programme Output Indicator	Aggregated value per Programme output indicator	Measurement Unit	Output	Output Title	Output target value	Programme result indicator	Baseline	Result indicator target value	Measurement unit
			tput3.3	the partner regions					
Jointly developed solutions	3,00	solutions	Output2.1	Process Toolbox for activating pilots and stakeholder participation for Groundwater Recharge and Release Sites	1,00	Solutions taken up or up-scaled by organisations	0,00	4,00	solutions
			Output2	Technical toolbox for groundwater management and designing principles and devices for Groundwater Recharge and Release Sites	1,00				

Programme Output Indicator	Aggregated value per Programme output indicator	Measurement Unit	Output	Output Title	Output target value	Programme result indicator	Baseline	Result indicator target value	Measurement unit
			.2						
			Output 2.3	Spatial recommendations and tailored land-use, land policy and ownership strategies for implementation of Groundwater Recharge and Release Sites	1,00				
						Joint strategies and action plans taken up by organisations	0,00	5,00	joint strategy/action plan
						Organisations with increased institutional capacity due to their participation in cooperation activities across borders	0,00	25,00	Organisation

B - Project partners

Partners overview

Number	Status	Name of the organisation in english	Country (click in cell to access drop-down list)	Organisation abbreviation	Partner role	Associated organisations	Partner total eligible budget
1	Active	State Capital of Stuttgart	Deutschland (DE)	LHS	LP		943.880,00
2	Active	University of Stuttgart	Deutschland (DE)	USTUTT	PP		989.916,45
3	Active	TU Dortmund University	Deutschland (DE)	TUDO	PP		0,00
4	Active	French Geological Survey	France (FR)	BRGM	PP		0,00
5	Active	Urban community of Lens Lievin	France (FR)	CALL	PP		0,00
6	Active	City of Brussels	Belgique/België (BE)	VBX	PP		1.159.320,34
7	Active	Coordination Senne	Belgique/België (BE)	CZ-CS	PP		0,00
8	Active	Free University of Brussels	Belgique/België (BE)	ULB	PP		363.221,85
9	Active	Municipality of Zwolle	Nederland (NL)	Zwolle	PP		0,00

Number	Status	Name of the organisation in english	Country (click in cell to access drop-down list)	Organisation abbreviation	Partner role	Associated organisations	Partner total eligible budget
10	Active	Deltares	Nederland (NL)	Deltares	PP	Centre of Expertise (CoE) van Hogeschool Rotterdam (HR) Vereniging Nederlandse Gemeenten (VNG) Rijkswaterstaat	0,00

B.1 Lead partner	
Partner number	1
Partner role	LP
Name of the organisation in original language	Landeshauptstadt Stuttgart
Name of the organisation in english	State Capital of Stuttgart
Organisation abbreviation	LHS
Department / unit / division	Amt für Umweltschutz (Department for Environmental Protection)
Partner main address	
Country (click in cell to access drop-down list)	Deutschland (DE)
NUTS 2 (click in cell to access drop-down list once the Country is selected)	Stuttgart (DE11)
NUTS 3 (click in cell to access drop-down list once the NUTS 2 is selected)	Stuttgart, Stadtkreis (DE111)
Street, House number, Postal code, City	Gaisburgstraße 4 70182 Stuttgart
Homepage	www.stuttgart.de
Address of department / unit / division (if applicable)	
Country (click in cell to access drop-down list)	
NUTS 2 (click in cell to access drop-down list once the Country is selected)	
NUTS 3 (click in cell to access drop-down list once the NUTS 2 is selected)	
Street, House number, Postal code, City	
Legal and financial information	
Type of partner	Local public authority
Partner size	
The organisation applies for an advance	NO
Legal status	Public
Sector of activity at NACE group level	E.36.00

Legal and financial information	
VAT number (if applicable)	DE147793909
Is your organisation entitled to recover VAT based on national legislation for the activities implemented in the project?	No
Other identifier number	
Other identifier description	
PIC (from EC Participant Register)	996731746

Contact	
Legal representative	Mr Peter Pätzold
Contact person	Dr. Kristina Schenk
Email	kristina.schenk@stuttgart.de
Telephone no.	+49 711 216-88717

Motivation

Which of the organisation's thematic competences and experiences are relevant for the project?

LHS acts as competent authority for water, soil, nature conservation, energy strategy and climate related activities, as well as implementing all related measures for groundwater, soil and climate protection. LHS has the second largest mineral water resource in Europe after Busdapest and therefore has an outstanding interest in recording the effects of climate change on the inner-city water cycle and recognising the effects of infiltration on groundwater quality in order to protect this important mineral water resource for future generations. Departments within the municipality strongly cooperate on urban design development considering redevelopment of brownfield areas and city quartiers. LHS is responsible to improve the city’s resilience to CC and has an intent to influence the landowners to apply adapted measures. LHS has wide experience in EU-funded and specifically Interreg projects since 2005, participating as lead partner as well as project partner.

What is the role (contribution and main activities) of your organisation in the project?

LHS is highly motivated to lead the project due to its extensive experience in managing international and EU-funded projects. LHS needs to increase the resilience of urban water management to climate change and expects to gain knowledge, solutions and strategies in co-operation with the international project team that can be applied in the near future. Through the transnational exchange of know-how in this interdisciplinary, cross-sectoral international partnership, solutions for the Rainbow Project will be developed under the different aspects of water management. It is in the highest interest of the LHS to maintain the co-operation beyond the end of the RAINBOW project in order to overcome future challenges together through international co-operation.
Together with USTUTT, the LHS will be responsible for the "Stuttgart Rosenstein" pilot project, which is testing solutions for optimising the infiltration/retention of rainwater on contaminated areas with alternating groundwater recharge. The mobilisation of pollutants will be observed and the effects of irrigation with contaminated water (e.g. treated wastewater) in the soil/groundwater will be

Motivation

investigated. In addition, the water balance under the influence of climate change will be modelled and a water management strategy will be developed, taking into account multidisciplinary planning processes with regard to responsibilities within the city administration and land availability. The experiences of other partners and project results (e.g. Zwolle, VBX, CALL) provide the LHS with important indicators for sustainable (ground) water management with regard to the development of urban areas. As an LP, the main activities will concern day-to-day management, coordination, reporting, communication and co-operation. Co-operation between the project partners will be a crucial element at all levels during the lifetime of the RAINBOW Project. LHS is therefore involved in all work packages. LHS contributes to WP 1 and is actively involved in WP 2. For WP 3, LHS also assumes the LP function. LHS has many years of experience in the management of EU-funded projects INCORE, 2005-2008, FP5, project partner (PP). MAGIC, 2005-2008,INTERREG III B CADSES, PP. FOKS, 2008-2012, CE, PP. PROSIDE, 2003-2006, INTETRREG III B CADSES, PP. CityChlor, 2009-2013, NWE, PP. COBRAMAN, 2009-2012, CE, PP. MAGPlan, 2010-2015, life+, LP. AMIIGA, 2016-2019, CE, PP.
LHS will also take on the role of project communications manager, with the intention of appointing a communications manager experienced in EU projects. Local, regional, national and international media as well as social media will be provided with project results. The communication manager will involve all partners in the communication.
With a support of USTUTT and an associated partner (Innovation cluster bw-engineers) will contribute to trainings and scaling up and outreach of the project results (Regional Council Stuttgart and State institute for the environment BW)

Co-financing

Source	Amount	Percentage
ERDF	566.328,00	60,00 %
Partner contribution	377.552,00	40,00 %
Partner total eligible budget	943.880,00	100,00 %

Origin of partner contribution

Source of contribution	Legal status of contribution	Amount	% of total partner budget
LHS	Public	277.552,00	29,40 %
Bundesministerium für Wohnen, Stadtentwicklung und Bauwesen	Public	100.000,00	10,59 %

Total

Sub-total public contribution	377.552,00	40,00 %
Sub-total automatic public contribution	0,00	0,00 %
Sub-total private contribution	0,00	0,00 %
Total	377.552,00	40,00 %

State Aid	
State aid criteria self-check	
Criterium I: Is the partner involved in economic activities through the project?	
1. Will the project applicant implement activities and/or offer goods/services for which a market exists?	No
2. Are there activities/goods/services that could have been undertaken by an operator with the view to making profit (even if this is not the applicant's intention)?	No
Criterium II: Does the partner receive an undue advantage in the framework of the project?	
1. Does the project applicant plan to carry out the economic activities on its own i.e. not to select an external service provider via public procurement procedures for example?	No
2. Will the project applicant, any other operator not included in the project as a project partner or the target audience gain any benefits from its project economic activities, not received in the normal course of business (i.e. not received in the absence of funding granted through the project)?	No
Result of State aid criteria self-check:	No risk of state aid
State aid relevant activities	
GBER scheme / de minimis	

B.1 Project Partner 2	
Partner number	2
Partner role	PP
Name of the organisation in original language	Universität Stuttgart
Name of the organisation in english	University of Stuttgart
Organisation abbreviation	USTUTT
Department / unit / division	Research Facility for Subsurface Remediation (VEGAS)
Partner main address	
Country (click in cell to access drop-down list)	Deutschland (DE)
NUTS 2 (click in cell to access drop-down list once the Country is selected)	Stuttgart (DE11)
NUTS 3 (click in cell to access drop-down list once the NUTS 2 is selected)	Stuttgart, Stadtkreis (DE111)
Street, House number, Postal code, City	Pfaffenwaldring 61 70569 Stuttgart
Homepage	https://www.vegas.uni-stuttgart.de/
Address of department / unit / division (if applicable)	
Country (click in cell to access drop-down list)	
NUTS 2 (click in cell to access drop-down list once the Country is selected)	
NUTS 3 (click in cell to access drop-down list once the NUTS 2 is selected)	
Street, House number, Postal code, City	
Legal and financial information	
Type of partner	Higher education and research organisations
Partner size	
The organisation applies for an advance	NO
Legal status	Public
Sector of activity at NACE group level	

Legal and financial information	
VAT number (if applicable)	DE 147794196
Is your organisation entitled to recover VAT based on national legislation for the activities implemented in the project?	No
Other identifier number	PIC 999974747
Other identifier description	
PIC (from EC Participant Register)	

Contact	
Legal representative	Chancelor Anna Steiger
Contact person	PD Dr.-Ing. Claus Haslauer
Email	claus.haslauer@iws.uni-stuttgart.de
Telephone no.	+49 (0) 711 685 - 64716

Motivation

Which of the organisation's thematic competences and experiences are relevant for the project?

USTUTT has unique infrastructure and experience to perform controlled experiments for water flow and solute fate transport in the subsurface.
For this project, our long-term experience and research results for pollutant transport in the unsatuarated and groundwater-saturated zones position us uniquely to tackle the relevant challenges for sponge city concepts.
Additionally the influence of precipitation and irrigation can also be simulated. The experiments are supported by sophisticated measurement technology and close-meshed sampling campaigns.
Mathematical models will be implemented to better understand the processes involved and to be able to transfer the results to other sites and timeframes. Based on its experience, USTUTT develops in-situ remediation technologies that are applicable at real sites. USTUTT specializes in knowledge transfer between research and practical users to close the gap between new scientific findings and the application of remediation systems in practice

What is the role (contribution and main activities) of your organisation in the project?

USTUTT will perform controlled experiments to understand the behaviour of pollutants in the subsurface especially under groundwater recharge dynamics affected by a combination of climate change (more frequent short-time and intensive precipitation and prolonged periods of no rain) and artificial recharge due to irrigation/sewers. The experiments will be done with artificial soil material as well as with material of the pilot „Stuttgart Rosenstein“. This will help to control the boundary conditions like organic material/contaminations and to transfer the results of the experiments to the pilot sites.
The following experiments are planned:
Observe the mobilisation of existing source zone by simulating homogeneous or extreme (clean) precipitation as well as extreme dryness.
Investigate the effects of contaminated infiltration water (sourced from sewers and wastewater

Motivation

treatment plants as typically is the case) in the above scenario
The experiments will be accompanied by close-meshed sampling campaigns. Most of the water and soil samples can be examined in the USTUTT laboratory.
In addition to the experiments, a model will be set up to illustrate the underground processes at the "Rosensteinquartier" pilot site. This includes both the transport of pollutants and the water balance. The results of the experiments are incorporated into the model, in particular an improved understanding of the site in terms of the water balance under climatic changes, the existing pollutant distribution and the influence of contaminated infiltration. The model will help to transfer the test results to the pilot site (and the project partners' sites) and also to find strategies to maintain the same net infiltration as pre-development that maintains key soil and groundwater functions. This will require additional sources of water coming either from outlets of sewage/wastewater drinking plants or rainwater/sewer pipes with associated typical contaminants (PFAS, pesticides, caffeine). Given these (small but existing) levels of contamination of the infiltrating water, propose strategies that maintain key soil and groundwater functions.
The regional training provider (Training Association for soil and contaminated sites BW) is operated by the USTUTT and shall offer public trainings for project partners, local and regional stakeholders as well as planners and service providers.

In summary we provide contributions on three broad aspects:
1. improved process understanding of water quality and water quantity related to infiltration in sponge cities (experiments and models).
2. This gained process understanding yields design criteria that USTUTT is transferring on a scale relevant for urban planning (“Quartier”-scale, here: pilot site “Rosensteinquartier”)
3. USTUTT cooperates with the city of Stuttgart’s environmental and urban planning offices to develop guidelines for water quality and quantity related to infiltration in novel urban developments

Co-financing

Source	Amount	Percentage
ERDF	593.949,87	60,00 %
Partner contribution	395.966,58	40,00 %
Partner total eligible budget	989.916,45	100,00 %

Origin of partner contribution

Source of contribution	Legal status of contribution	Amount	% of total partner budget
USTUTT	Public	395.966,58	40,00 %

Total

Sub-total public contribution	395.966,58	40,00 %
Sub-total automatic public contribution	0,00	0,00 %

Total		
Sub-total private contribution	0,00	0,00 %
Total	395.966,58	40,00 %
State Aid		
State aid criteria self-check		
Criterium I: Is the partner involved in economic activities through the project?		
1. Will the project applicant implement activities and/or offer goods/services for which a market exists?	No	
2. Are there activities/goods/services that could have been undertaken by an operator with the view to making profit (even if this is not the applicant's intention)?	No	
Criterium II: Does the partner receive an undue advantage in the framework of the project?		
1. Does the project applicant plan to carry out the economic activities on its own i.e. not to select an external service provider via public procurement procedures for example?	No	
2. Will the project applicant, any other operator not included in the project as a project partner or the target audience gain any benefits from its project economic activities, not received in the normal course of business (i.e. not received in the absence of funding granted through the project)?	No	
Result of State aid criteria self-check:	No risk of state aid	
State aid relevant activities		
GBER scheme / de minimis		

B.1 Project Partner 3	
Partner number	3
Partner role	PP
Name of the organisation in original language	Technische Universität Dortmund
Name of the organisation in english	TU Dortmund University
Organisation abbreviation	TUDO
Department / unit / division	Faculty of Spatial Planning; Research Group on Land policy, land management, and municipal surveying
Partner main address	
Country (click in cell to access drop-down list)	Deutschland (DE)
NUTS 2 (click in cell to access drop-down list once the Country is selected)	Arnsberg (DEA5)
NUTS 3 (click in cell to access drop-down list once the NUTS 2 is selected)	Dortmund, Kreisfreie Stadt (DEA52)
Street, House number, Postal code, City	August-Schmidtstr. 10 44227 Dortmund
Homepage	https://bbv.raumplanung.tu-dortmund.de/
Address of department / unit / division (if applicable)	
Country (click in cell to access drop-down list)	
NUTS 2 (click in cell to access drop-down list once the Country is selected)	
NUTS 3 (click in cell to access drop-down list once the NUTS 2 is selected)	
Street, House number, Postal code, City	
Legal and financial information	
Type of partner	Higher education and research organisations
Partner size	
The organisation applies for an advance	NO
Legal status	Public
Sector of activity at NACE group level	

Legal and financial information	
VAT number (if applicable)	DE811258273
Is your organisation entitled to recover VAT based on national legislation for the activities implemented in the project?	No
Other identifier number	
Other identifier description	
PIC (from EC Participant Register)	999848453

Contact	
Legal representative	Ms Andrea Bartkowski
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Motivation

Which of the organisation's thematic competences and experiences are relevant for the project?

TUDO has a rich experience on activating land for climate adaptation. By combining academic knowledge on land management, land policy, flood risk management and climate resilience, TUDO provides a novel lens on the implementation of climate adaption on private land, as climate adaption measures need more land and
TUDO is leading the Horizon Europe project “Land4Climate”, investigating how to involve and motivate landowners in the implementation of nature-based solutions on private land.
The PI’s of TUDO have conducted research for JPI Urban FLOODLABEL, aimed to design, test and implement a smart governance tool. This prototype tool serves to activate civil actors to contribute to flood risk reduction to achieve more flood resilient cities.
TUDO is leading a vast network of public and private stakeholders, due to its leading role in the COST Action and IWRA taskforce researches investigate the role of landowners in flood risk governance.

What is the role (contribution and main activities) of your organisation in the project?

TUDO will contribute its expertise on land policy and climate adaption to WP 1 “Roadmap for sponge cities in NWE” for resilient groundwater management, and collaborating with Deltares to develop the roadmap. Therefore TUDO will identify in each case study the main institutional barriers and facilitators that landowners and municipalities face when implementing the Sponge City Concept. Based on a comprehensive Institutional Resources (IRR) approach (Gerber, 2009) and TUDO’s academic basis for a land policy perspective, TUDO will, together with the other partners, identify strategies to activate land for the development and implementation of the Sponge city concept. In addition,
TUDO will perform a cross-scale comparison study in RAINBOW’s case studies (as the case studies differ in scale, process, resources available, and actors involved, and institutional settings). To

Motivation			
contribute to the final deliverable of a Sponge City roadmap for municipalities (engineers, planners, decision makers) and landowners, that include lessons learned, guidance, next steps for scaling up the pilot and implementation of the local action plans.			
Co-financing			
Source		**Amount**	**Percentage**
Partner total eligible budget		0,00	100,00 %
Origin of partner contribution			
Source of contribution	**Legal status of contribution**	**Amount**	**% of total partner budget**
Total			
Sub-total public contribution		0,00	0,00 %
Sub-total automatic public contribution		0,00	0,00 %
Sub-total private contribution		0,00	0,00 %
Total		0,00	0,00 %
State Aid			
State aid criteria self-check			
Criterium I: Is the partner involved in economic activities through the project?			
1. Will the project applicant implement activities and/or offer goods/services for which a market exists?	No	TUDO will develop recommendations as part of a roadmap for municipal actors. There are no direct commercial implications.	
2. Are there activities/goods/services that could have been undertaken by an operator with the view to making profit (even if this is not the applicant's intention)?	No	The research that forms the fundament of the outcomes needs to be provided by an academic partner.	
Criterium II: Does the partner receive an undue advantage in the framework of the project?			
1. Does the project applicant plan to carry out the economic activities on its own i.e. not to select an external service provider via public procurement procedures for example?	No	We will not perform any economic activities	
2. Will the project applicant, any other operator not included in the project as a project partner	No	The research will be carried out by TUDO, without any other operators involved.	

Criterium II: Does the partner receive an undue advantage in the framework of the project?	
or the target audience gain any benefits from its project economic activities, not received in the normal course of business (i.e. not received in the absence of funding granted through the project)?	
Result of State aid criteria self-check:	No risk of state aid
State aid relevant activities	
GBER scheme / de minimis	

B.1 Project Partner 4	
Partner number	4
Partner role	PP
Name of the organisation in original language	Bureau de Recherche Géologique et Minière (BRGM)
Name of the organisation in english	French Geological Survey
Organisation abbreviation	BRGM
Department / unit / division	
Partner main address	
Country (click in cell to access drop-down list)	France (FR)
NUTS 2 (click in cell to access drop-down list once the Country is selected)	Centre — Val de Loire (FRB0)
NUTS 3 (click in cell to access drop-down list once the NUTS 2 is selected)	Loiret (FRB06)
Street, House number, Postal code, City	Avenue Claude Guillemin 3 45100 Orléans
Homepage	www.brgm.fr
Address of department / unit / division (if applicable)	
Country (click in cell to access drop-down list)	
NUTS 2 (click in cell to access drop-down list once the Country is selected)	
NUTS 3 (click in cell to access drop-down list once the NUTS 2 is selected)	
Street, House number, Postal code, City	
Legal and financial information	
Type of partner	Higher education and research organisations
Partner size	
The organisation applies for an advance	NO
Legal status	Public
Sector of activity at NACE group level	
VAT number (if applicable)	

Legal and financial information	
Is your organisation entitled to recover VAT based on national legislation for the activities implemented in the project?	
Other identifier number	
Other identifier description	
PIC (from EC Participant Register)	

Contact	
Legal representative	Mr Philippe Freyssinet
Contact person	Dr. Nicolas Devau
Email	n.devau@brgm.fr
Telephone no.	+33238643551

Motivation

Which of the organisation's thematic competences and experiences are relevant for the project?

As national geological survey, BRGM is the public reference institution in Earth sciences applications for the management of subsurface resources and risks in the context of global sustainable development, notably sustainable management of water resources including solution as Managed Aquifer Recharge. Partner of many public and private actions, its action thanks to synergy between research centre and territorial offices is oriented towards scientific research and support for public policies. Several regional groundwater flow models have been developed by BRGM in the Northern part of France, including the territory of the urban community of Lens-Liévin to improve management of groundwater resources. BRGM has demonstrated is expertise and knowledge in previous several European projects (JPI FRAME, H2020 AQUANES, JPI EVIBAN), characterising efficiency of natured-based solutions or reuse technologies to improve management of groundwater resources.

What is the role (contribution and main activities) of your organisation in the project?

BRGM will be involved to determine the impact of the infrastructures and public policies developed in the urban community of Lens-Liévin (CALL) to improve water cycle in this urban context, notably protection of groundwater resources in terms of both quantity and quality. Actions conducted by the BRGM in close transnational partnership will be devoted to: i) quantify the impacts of the infrastructures deployed by CALL to promote infiltration and decrease runoff, ii) highlight the role of groundwater infiltration in sewer network to reduce the amount of parasitic water preventing an efficient functioning of this infrastructure and iii) develop a methodology highlighting prefeasibility steps prior the implementation of reuse and/or managed aquifer recharge systems as part of the project´s decision-support tool. Project outputs will be also used to assess efficiency of the current and future strategies on the territory to improve management of water resources. Training courses will be also held for stakeholders and policy makers to disseminate the methodologies developed in the project at regional scale. Results obtaines on the CALL territory will be analysed for transferability to the other territories of Brussels and Stuttgart and jointly with the other partners develop action plan to apply this methodology to other NWE territores.

Motivation			
Co-financing			
Source		**Amount**	**Percentage**
Partner total eligible budget		0,00	100,00 %
Origin of partner contribution			
Source of contribution	**Legal status of contribution**	**Amount**	**% of total partner budget**
Total			
Sub-total public contribution		0,00	0,00 %
Sub-total automatic public contribution		0,00	0,00 %
Sub-total private contribution		0,00	0,00 %
Total		0,00	0,00 %
State Aid			
State aid criteria self-check			
Criterium I: Is the partner involved in economic activities through the project?			
1. Will the project applicant implement activities and/or offer goods/services for which a market exists?			
2. Are there activities/goods/services that could have been undertaken by an operator with the view to making profit (even if this is not the applicant's intention)?			
Criterium II: Does the partner receive an undue advantage in the framework of the project?			
1. Does the project applicant plan to carry out the economic activities on its own i.e. not to select an external service provider via public procurement procedures for example?			
2. Will the project applicant, any other operator not included in the project as a project partner or the target audience gain any benefits from its project economic activities, not received in			

Criterium II: Does the partner receive an undue advantage in the framework of the project?	
the normal course of business (i.e. not received in the absence of funding granted through the project)?	
Result of State aid criteria self-check:	To see the result, please answer all the questions above.
State aid relevant activities	
GBER scheme / de minimis	

B.1 Project Partner 5	
Partner number	5
Partner role	PP
Name of the organisation in original language	Communauté d'Agglomération de Lens Liévin
Name of the organisation in english	Urban community of Lens Lievin
Organisation abbreviation	CALL
Department / unit / division	
Partner main address	
Country (click in cell to access drop-down list)	France (FR)
NUTS 2 (click in cell to access drop-down list once the Country is selected)	Nord-Pas de Calais (FRE1)
NUTS 3 (click in cell to access drop-down list once the NUTS 2 is selected)	Pas-de-Calais (FRE12)
Street, House number, Postal code, City	Rue Marcel Sembat 21 62300 Lens
Homepage	https://www.agglo-lenslievin.fr/
Address of department / unit / division (if applicable)	
Country (click in cell to access drop-down list)	
NUTS 2 (click in cell to access drop-down list once the Country is selected)	
NUTS 3 (click in cell to access drop-down list once the NUTS 2 is selected)	
Street, House number, Postal code, City	
Legal and financial information	
Type of partner	Local public authority
Partner size	
The organisation applies for an advance	NO
Legal status	Public
Sector of activity at NACE group level	
VAT number (if applicable)	

Legal and financial information	
Is your organisation entitled to recover VAT based on national legislation for the activities implemented in the project?	
Other identifier number	
Other identifier description	
PIC (from EC Participant Register)	

Contact	
Legal representative	Mr Sylvain Robert
Contact person	Monsieur Gaétan Boyer
Email	gboyer@agglo-lenslievin.fr
Telephone no.	0321790640

Motivation

Which of the organisation's thematic competences and experiences are relevant for the project?

The urban community of Lens-Liévin (CALL) has in charge management of small and large water cycles through its Water and Networks Department. CALL is involved in long-term investments and technical operations since several years to increase the functioning efficiency of the infrastructures related to small water cycle, notably sewage network. In parallel, public policies and related infrastructures have been conducted to protect water resources. CALL has therefore a strong background and expertise on water management from local to territory scales allowing to envision a global management of water cycles on its territory. CALL with its operator already pilote management of the pipes by multicriteria approache and its urban water cycle by sewerage hydraulic model.

What is the role (contribution and main activities) of your organisation in the project?

CALL will assess urban impact on various infrastructures already implemented or which could be implemented on its territory to manage water cycle including: infiltration plots, separate sewage system to disconnect collect and drainage of rainwater, use of innovative operational plants to treat rainwater prior infiltration. Information and knowledge have been acquired by CALL at different spatial (from neighborhood to watershed) and temporal scales (from day to decade). The expertise of CALL contributes transnationally with other partners to identify similarities and differences in management of water cycles between the other cities involved in the project, (Brussels , Zwolle and Stuttgart) facing similar issues. By collaborating with BRGM, CALL will train and share data and knowledge groundwater scientific partners on the main issues and functioning of sewage network system, especially to those who will be involved with BRGM in assessing interactions between the 2 water cycles (natural and artificial) and in following effects in the infrastructures already implemented. New management options will be also investigated developing a tailored strategy optimizing management of water cycle as key input to the decision-support tool.

Co-financing			
Source		**Amount**	**Percentage**
Partner total eligible budget		0,00	100,00 %
Origin of partner contribution			
Source of contribution	**Legal status of contribution**	**Amount**	**% of total partner budget**
Total			
Sub-total public contribution		0,00	0,00 %
Sub-total automatic public contribution		0,00	0,00 %
Sub-total private contribution		0,00	0,00 %
Total		0,00	0,00 %

State Aid	
State aid criteria self-check	
Criterium I: Is the partner involved in economic activities through the project?	
1. Will the project applicant implement activities and/or offer goods/services for which a market exists?	
2. Are there activities/goods/services that could have been undertaken by an operator with the view to making profit (even if this is not the applicant's intention)?	
Criterium II: Does the partner receive an undue advantage in the framework of the project?	
1. Does the project applicant plan to carry out the economic activities on its own i.e. not to select an external service provider via public procurement procedures for example?	
2. Will the project applicant, any other operator not included in the project as a project partner or the target audience gain any benefits from its project economic activities, not received in the normal course of business (i.e. not received in the absence of funding granted through the project)?	
Result of State aid criteria self-check:	To see the result, please answer all the questions

	above.
State aid relevant activities	
GBER scheme / de minimis	

B.1 Project Partner 6	
Partner number	6
Partner role	PP
Name of the organisation in original language	Ville de Bruxelles
Name of the organisation in english	City of Brussels
Organisation abbreviation	VBX
Department / unit / division	Développement urbain • Direction Planification stratégique et opérationnelle • Service Climat et Ville en Transition
Partner main address	
Country (click in cell to access drop-down list)	Belgique/België (BE)
NUTS 2 (click in cell to access drop-down list once the Country is selected)	Région de Bruxelles-Capitale/ Brussels Hoofdstedelijk Gewest (BE10)
NUTS 3 (click in cell to access drop-down list once the NUTS 2 is selected)	Arr. de Bruxelles-Capitale/Arr. Brussel-Hoofdstad (BE100)
Street, House number, Postal code, City	Rue des Halles 4 1000 Brussel
Homepage	https://www.bruxelles.be/
Address of department / unit / division (if applicable)	
Country (click in cell to access drop-down list)	
NUTS 2 (click in cell to access drop-down list once the Country is selected)	
NUTS 3 (click in cell to access drop-down list once the NUTS 2 is selected)	
Street, House number, Postal code, City	
Legal and financial information	
Type of partner	Local public authority
Partner size	
The organisation applies for an advance	NO
Legal status	Public
Sector of activity at NACE group level	

Legal and financial information	
VAT number (if applicable)	RPM 862.382.755
Is your organisation entitled to recover VAT based on national legislation for the activities implemented in the project?	No
Other identifier number	National number of enterprise BE0207.373.429
Other identifier description	
PIC (from EC Participant Register)	950386407

Contact	
Legal representative	Secrétaire Communal Dirk Léonard
Contact person	Mr Cédric Simons
Email	cedric.simons@brucity.be
Telephone no.	0032456265092

Motivation

Which of the organisation's thematic competences and experiences are relevant for the project?

VBX is dedicated to enhancing the quality of life for its citizens by tackling climate-related challenges such as droughts, floods, and urban heat islands. VBX is competent to adapt public spaces and properties, implementing various water management solutions, promoting groundwater recharge and water release to support a healthy water cycle. These efforts increase the city's resilience to drought, enhance biodiversity, reduce flooding, and provide equitable access to water and recreational spaces. VBX designs and executes urban renovation projects in public areas and properties, and offers services to raise awareness among private actors and residents. VBX has completed many hydrological studies, urban designs, planning processes, and awareness programs, fostering community participation in the water cycle of both urban and peri-urban neighbourhoods. As a key player in multi-stakeholder projects, VBX bridges the gap between private and public, regional and local, built and green spaces

What is the role (contribution and main activities) of your organisation in the project?

VBX will carry out interventions in public spaces and on its public patrimony to address groundwater recharge and release in the groundwater bodies in the neighborhoods of Laeken and Neder-Over-Heembeek. The pilot project will assess groundwater quantity fluxes develop infiltration solutions on the recharge side and solutions for revitalizing surface waters on the release side of the groundwater bodies, such as creating space for water and urban rivers. These interventions aim to strengthen groundwater bodies, to prevent the drying of natural lakes, to protect natural sources and wetland areas around the three parcs of Laeken and the area of Neder-Over-Heembeek. The effectiveness of these solutions will be evaluated by VBX. The pilot project will adapt solutions to various urban landscapes—urban, peri-urban, and green/natural spaces—addressing challenges like land use conflicts, ownership issues, and stability requirements. The goal is to implement rainwater and groundwater solutions suitable for different surface conditions while ensuring equal access to water, particularly in historically disadvantaged and marginalized neighborhoods that are more dens and thus more affected by urban

Motivation

heat island effects. The pilot project will seek to maximize synergies by integrating locally and closing the water loop by returning infiltrated water to the surface. By capitalizing on natural and green spaces (like parcs and wetlands), and on the ownership of public properties (like sport facilities, schools, public housing, community services like libraries, swimming pools and recreational areas), the pilot project will also consider the needs of local ommunities, creating social hubs to voice their opinions throughout the process (using temporary installation), as well as a space for gathering for the years to come. VBX will provide an institutional framework for collaboration with Brussels partners and civil organizations to support citizen participation in this pilot project. This framework will establish a participatory process for co-creation, making these projects pioneering in involving citizens in the design process of public spaces and public patrimony, ensuring that democratic processes and design parameters are respected. Within the participatory dimension, the pilot will in parallel explore possibilities for citizen-led maintenance and community building.

Co-financing

Source	Amount	Percentage
ERDF	695.592,20	60,00 %
Partner contribution	463.728,14	40,00 %
Partner total eligible budget	1.159.320,34	100,00 %

Origin of partner contribution

Source of contribution	Legal status of contribution	Amount	% of total partner budget
VBX	Public	463.728,14	40,00 %

Total

Sub-total public contribution	463.728,14	40,00 %
Sub-total automatic public contribution	0,00	0,00 %
Sub-total private contribution	0,00	0,00 %
Total	463.728,14	40,00 %

State Aid

State aid criteria self-check

Criterium I: Is the partner involved in economic activities through the project?

1. Will the project applicant implement activities and/or offer goods/services for which a market exists?	Yes	The city of Brusses has in-house designers for its public space and architects for its public patrimony. Some projects are outsourced, some are handled by our own technical crew.

State aid criteria self-check		
Criterium I: Is the partner involved in economic activities through the project?		
2. Are there activities/goods/services that could have been undertaken by an operator with the view to making profit (even if this is not the applicant's intention)?	Yes	see above
Criterium II: Does the partner receive an undue advantage in the framework of the project?		
1. Does the project applicant plan to carry out the economic activities on its own i.e. not to select an external service provider via public procurement procedures for example?	No	The city wil majorly execute the entire development projects within its own expertise. Some parts might be outsourced. This is not known yet.
2. Will the project applicant, any other operator not included in the project as a project partner or the target audience gain any benefits from its project economic activities, not received in the normal course of business (i.e. not received in the absence of funding granted through the project)?	No	The grant allows the city of Brussels to hire personnel that can occupy themselves with the project. However, this is apart from the question if the project could be outsourced. If the grant will not be received, the project could not be coordinator disregarding outsourcing or in-house execution
Result of State aid criteria self-check:	No risk of state aid	
State aid relevant activities		
GBER scheme / de minimis		

B.1 Project Partner 7	
Partner number	7
Partner role	PP
Name of the organisation in original language	Coördinatie Zenne-Coordination Senne
Name of the organisation in english	Coordination Senne
Organisation abbreviation	CZ-CS
Department / unit / division	
Partner main address	
Country (click in cell to access drop-down list)	Belgique/België (BE)
NUTS 2 (click in cell to access drop-down list once the Country is selected)	Région de Bruxelles-Capitale/ Brussels Hoofdstedelijk Gewest (BE10)
NUTS 3 (click in cell to access drop-down list once the NUTS 2 is selected)	Arr. de Bruxelles-Capitale/Arr. Brussel-Hoofdstad (BE100)
Street, House number, Postal code, City	Akenkaai 2bis 1000 Brussel
Homepage	https://www.coordinationsenne.be/fr/index.php
Address of department / unit / division (if applicable)	
Country (click in cell to access drop-down list)	
NUTS 2 (click in cell to access drop-down list once the Country is selected)	
NUTS 3 (click in cell to access drop-down list once the NUTS 2 is selected)	
Street, House number, Postal code, City	
Legal and financial information	
Type of partner	Interest groups including NGOs
Partner size	
The organisation applies for an advance	NO
Legal status	Public
Sector of activity at NACE group level	
VAT number (if applicable)	

Legal and financial information	
Is your organisation entitled to recover VAT based on national legislation for the activities implemented in the project?	
Other identifier number	
Other identifier description	
PIC (from EC Participant Register)	

Contact	
Legal representative	Mevr. Dolores Baita
Contact person	Dhr. Jan Lippens
Email	lippens@coordinatiezenne.be
Telephone no.	00322061207

Motivation

Which of the organisation's thematic competences and experiences are relevant for the project?

CS-CZ strives for integrated and durable water management in the entire basin of the Senne river, from Wallonia to Brussels and Flanders. CZ-CS is a network organization that focuses on informational and educational activities, gathering and disseminating local knowledge of water. We have organized activities and conferences on integrated rainwater management in Brussels and have inventoried more than 200 water sources in the Brussels Region, closely working with citizens and communities to collect stories and testimonials and organize water-related events.

What is the role (contribution and main activities) of your organisation in the project?

CZ-CS will address the revalorization of water sources as groundwater release points (ecological hotspots, urban rivers, etc.) near the VBX and ULB intervention areas. The pilot engages citizens who live near the sources in the reintegration of (ground)water in the urban landscape. The focus lies on education and co-creation, as well as reconnecting communities in recharge and release areas of the city. We will provide methods, tools and best practise examples in joint efforts with the project partners aggregated in a tool-box for community participation processes and awareness rising on groundwater related issues.

Co-financing

Source	Amount	Percentage
Partner total eligible budget	0,00	100,00 %

Origin of partner contribution			
Source of contribution	Legal status of contribution	Amount	% of total partner budget
Total			
Sub-total public contribution		0,00	0,00 %
Sub-total automatic public contribution		0,00	0,00 %
Sub-total private contribution		0,00	0,00 %
Total		0,00	0,00 %

State Aid	
State aid criteria self-check	
Criterium I: Is the partner involved in economic activities through the project?	
1. Will the project applicant implement activities and/or offer goods/services for which a market exists?	
2. Are there activities/goods/services that could have been undertaken by an operator with the view to making profit (even if this is not the applicant's intention)?	
Criterium II: Does the partner receive an undue advantage in the framework of the project?	
1. Does the project applicant plan to carry out the economic activities on its own i.e. not to select an external service provider via public procurement procedures for example?	
2. Will the project applicant, any other operator not included in the project as a project partner or the target audience gain any benefits from its project economic activities, not received in the normal course of business (i.e. not received in the absence of funding granted through the project)?	
Result of State aid criteria self-check:	To see the result, please answer all the questions above.
State aid relevant activities	
GBER scheme / de minimis	

B.1 Project Partner 8	
Partner number	8
Partner role	PP
Name of the organisation in original language	Université Libre de Bruxelles
Name of the organisation in english	Free University of Brussels
Organisation abbreviation	ULB
Department / unit / division	Faculté d'Architecture La-Cambre Horta
Partner main address	
Country (click in cell to access drop-down list)	Belgique/België (BE)
NUTS 2 (click in cell to access drop-down list once the Country is selected)	Région de Bruxelles-Capitale/ Brussels Hoofdstedelijk Gewest (BE10)
NUTS 3 (click in cell to access drop-down list once the NUTS 2 is selected)	Arr. de Bruxelles-Capitale/Arr. Brussel-Hoofdstad (BE100)
Street, House number, Postal code, City	Avenue Franklin Roosevelt 50 1050 Ixelles
Homepage	https://archi.ulb.be
Address of department / unit / division (if applicable)	
Country (click in cell to access drop-down list)	
NUTS 2 (click in cell to access drop-down list once the Country is selected)	
NUTS 3 (click in cell to access drop-down list once the NUTS 2 is selected)	
Street, House number, Postal code, City	
Legal and financial information	
Type of partner	Higher education and research organisations
Partner size	
The organisation applies for an advance	NO
Legal status	Public
Sector of activity at NACE group level	
VAT number (if applicable)	BE 0407626464

Legal and financial information	
Is your organisation entitled to recover VAT based on national legislation for the activities implemented in the project?	
Other identifier number	
Other identifier description	
PIC (from EC Participant Register)	999986290

Contact	
Legal representative	Mr Daniele Carati
Contact person	Professor Luisa Moretto
Email	luisa.moretto@ulb.be
Telephone no.	+32495433610

Motivation

Which of the organisation's thematic competences and experiences are relevant for the project?

The faculty of architecture of the ULB investigates design in its multiple forms and through scales: from building detailing to regional planning. The ULB team has experience in urban design and planning, with a specific focus on water and landscape design. Its main focus is on urban transformations and water dynamics as well as on local and regional planning, and participatory design. This latter is deeply explored through co-design processed and active construction sites to implement NbS solutions in urban areas involving citizens, associations, and public institutions.

What is the role (contribution and main activities) of your organisation in the project?

ULB explores design solutions for urban and peri-urban land use transformation, focusing on groundwater recharge and release. Design solutions range from small-scale punctual interventions (e.g. infiltration gardens, desealing operations) to large-scale implementations (e.g. parks, infiltration roads). Specific attention will be placed on public and private stakeholders involved in design and construction phases to overcome implementation blockages. Punctual interventions in public spaces will be tested through collective construction sites by involving inhabitants and local associations. ULB will jointly with CZ-CS steer the transnational work on the tool-box for community participation and ist design activities contribute to the decision-support tool as well as the local pilot projects and action plan of the transnational partners.

Co-financing

Source	Amount	Percentage
ERDF	217.933,11	60,00 %
Partner contribution	145.288,74	40,00 %

Co-financing			
Source		**Amount**	**Percentage**
Partner total eligible budget		363.221,85	100,00 %
Origin of partner contribution			
Source of contribution	**Legal status of contribution**	**Amount**	**% of total partner budget**
ULB	Public	145.288,74	40,00 %
Total			
Sub-total public contribution		145.288,74	40,00 %
Sub-total automatic public contribution		0,00	0,00 %
Sub-total private contribution		0,00	0,00 %
Total		145.288,74	40,00 %
State Aid			
State aid criteria self-check			
Criterium I: Is the partner involved in economic activities through the project?			
1. Will the project applicant implement activities and/or offer goods/services for which a market exists?		No	
2. Are there activities/goods/services that could have been undertaken by an operator with the view to making profit (even if this is not the applicant's intention)?		No	
Criterium II: Does the partner receive an undue advantage in the framework of the project?			
1. Does the project applicant plan to carry out the economic activities on its own i.e. not to select an external service provider via public procurement procedures for example?		No	
2. Will the project applicant, any other operator not included in the project as a project partner or the target audience gain any benefits from its project economic activities, not received in the normal course of business (i.e. not received in the absence of funding granted through the project)?		No	
Result of State aid criteria self-check:		No risk of state aid	

State aid relevant activities	
GBER scheme / de minimis	

B.1 Project Partner 9	
Partner number	9
Partner role	PP
Name of the organisation in original language	Gemeente Zwolle
Name of the organisation in english	Municipality of Zwolle
Organisation abbreviation	Zwolle
Department / unit / division	Spatial and economic development
Partner main address	
Country (click in cell to access drop-down list)	Nederland (NL)
NUTS 2 (click in cell to access drop-down list once the Country is selected)	Overijssel (NL21)
NUTS 3 (click in cell to access drop-down list once the NUTS 2 is selected)	Noord-Overijssel (NL211)
Street, House number, Postal code, City	Lübeckplein 2 8017 JZ Zwolle
Homepage	https://www.zwolle.nl/
Address of department / unit / division (if applicable)	
Country (click in cell to access drop-down list)	
NUTS 2 (click in cell to access drop-down list once the Country is selected)	
NUTS 3 (click in cell to access drop-down list once the NUTS 2 is selected)	
Street, House number, Postal code, City	
Legal and financial information	
Type of partner	Local public authority
Partner size	
The organisation applies for an advance	NO
Legal status	Public
Sector of activity at NACE group level	
VAT number (if applicable)	NL 001900248B01

Legal and financial information	
Is your organisation entitled to recover VAT based on national legislation for the activities implemented in the project?	No
Other identifier number	
Other identifier description	
PIC (from EC Participant Register)	929709208

Contact	
Legal representative	Mayor Peter Snijders
Contact person	Ms Renate Postma
Email	r.postma-van.de.pol@zwolle.nl
Telephone no.	+31 620091613

Motivation

Which of the organisation's thematic competences and experiences are relevant for the project?

Zwolle acts as a local authority and is a city situated in the deepest part of the IJssel-Vecht delta. We are very vulnerable to climate change. Climate adaptation is one of our four priority themes. At city scale Zwolle is responsible for urban planning and (ground)water management. To become a climate resilient delta, regional governments and other municipalities collaborate in the RIVUS network. Zwolle is also partner in the LIFE IP project NASCCELERATE (climate adaptation), which has a national wide network. Regional governments (province and water authority) and local governments, entrepreneurs, educational- and research institutes and citizens collaborate in the Climate Campus network. The Climate Campus network has a joint knowledge agenda, which is also linked to the knowledge agenda of LIFE IP NASCCELERATE. Zwolle is strongly motivated to participate in this project for one of the challenges addressed in the knowledge agenda is the availability of fresh water in (near) future.

What is the role (contribution and main activities) of your organisation in the project?

Together with Deltares and in cooperation with all PP, Zwolle will develop a strategy for a water circular city, focusing on groundwater aspects. The first step is establishing a water-balance at city level and developing principles for a water circular city. In the water circular city the subsurface is used as a sponge: storing capacity in the wet seasons and a water source for the dry seasons. This city level framework will be elaborated for the Zwolle North district. Due to the structure of the subsurface (a topped layer of well-permeable sand) in Zwolle North, infiltration causes water nuisance. An innovative solution is needed: the Water Machine. At its core, the Water Machine is, on the largest scale a circulation system that balances rainwater, surface water and groundwater by controlling, infiltrating and extracting water. The Wijde Aa (a large pond) should connect the above- and below-ground water systems. The elaboration includes technical aspects, design principles, governance and integration of relevant issues like energy / warmth transition. It also includes a fieldtest. The outcomes of the pilot are translated into a strategy for the water circular city. This strategy will then be input for the update of the Zwolle Adaptation Strategy (the update of the Zwolle Adaptation Strategy is not included in the RAINBOW project). Doing so, Zwolle takes the transnational lead in the work on the general strategy

Motivation

document. The work will be done in close cooperation with PP, particularly LHS and USTUTT. Findings within the other pilot projects will be input for the final strategy for Zwolle. Results will be disseminated through a Roadmap for building Water-Cycle Neighborhoods. With lessons learned, next steps for scaling up the pilot and implementation. The findings of the RAINBOW-pilot for a Water- Cycle Stadshagen are disseminated and made accessible as part of a Digital Delta Twin, which is currently under development. Within this project Zwolle is the linking pin to our collaboration networks RIVUS, Climate Campus and LIFE IP NASCCELLERATE. Partners in these networks are e.g. governments (local, regional and national), research and educational institutes (e.g. University of Applied Sciences Windesheim, Deltares), entrepreneurs (e.g. Toekomststerk,WAVIN) and neighborhood communities (e. g. “We Company Dieze” and “50 shades of Green Assendorp”). Network partners will be involved in the development of the strategy, pilot solutions and action plan. Results, lessons learnt will be disseminated and a training will be provided.

Co-financing

Source	Amount	Percentage
Partner total eligible budget	0,00	100,00 %

Origin of partner contribution

Source of contribution	Legal status of contribution	Amount	% of total partner budget

Total

Sub-total public contribution	0,00	0,00 %
Sub-total automatic public contribution	0,00	0,00 %
Sub-total private contribution	0,00	0,00 %
Total	0,00	0,00 %

State Aid

State aid criteria self-check

Criterium I: Is the partner involved in economic activities through the project?

1. Will the project applicant implement activities and/or offer goods/services for which a market exists?	No	we are executing our public tasks for climate adaptation
2. Are there activities/goods/services that could have been undertaken by an operator with the view to making profit (even if this is not the applicant’s intention)?	No	we are executing our public tasks for climate adaptation

Criterium II: Does the partner receive an undue advantage in the framework of the project?	
1. Does the project applicant plan to carry out the economic activities on its own i.e. not to select an external service provider via public procurement procedures for example?	No we apply procurement rules for all external service
2. Will the project applicant, any other operator not included in the project as a project partner or the target audience gain any benefits from its project economic activities, not received in the normal course of business (i.e. not received in the absence of funding granted through the project)?	No we apply procurement rules external services
Result of State aid criteria self-check:	No risk of state aid
State aid relevant activities	
GBER scheme / de minimis	

B.1 Project Partner 10	
Partner number	10
Partner role	PP
Name of the organisation in original language	Stichting Deltares
Name of the organisation in english	Deltares
Organisation abbreviation	Deltares
Department / unit / division	Subsurface and Groundwater Systems
Partner main address	
Country (click in cell to access drop-down list)	Nederland (NL)
NUTS 2 (click in cell to access drop-down list once the Country is selected)	Zuid-Holland (NL33)
NUTS 3 (click in cell to access drop-down list once the NUTS 2 is selected)	Delft en Westland (NL333)
Street, House number, Postal code, City	Boussinesqweg 1 2629 HV Delft
Homepage	https://www.deltares.nl/
Address of department / unit / division (if applicable)	
Country (click in cell to access drop-down list)	
NUTS 2 (click in cell to access drop-down list once the Country is selected)	
NUTS 3 (click in cell to access drop-down list once the NUTS 2 is selected)	
Street, House number, Postal code, City	
Legal and financial information	
Type of partner	Higher education and research organisations
Partner size	
The organisation applies for an advance	NO
Legal status	Public
Sector of activity at NACE group level	
VAT number (if applicable)	NL800097476B01

Legal and financial information	
Is your organisation entitled to recover VAT based on national legislation for the activities implemented in the project?	
Other identifier number	
Other identifier description	
PIC (from EC Participant Register)	999520302

Contact	
Legal representative	Dr. Ir. Dirk-Jan Walstra
Contact person	Ir. Nanco Dolman
Email	Nanco.Dolman@deltares.nl
Telephone no.	+316 52351893

Motivation

Which of the organisation's thematic competences and experiences are relevant for the project?

Deltares is a leading (not-for-profit) and internationally operating specialist consultancy and applied research institute in the field of water and subsurface. One of our mission areas is Sustainable Deltas, in which we develop action perspectives to ensure that ecosystems and natural resources will continue to be available for future generations in the urbanized deltas. Water and the subsurface, for example, play a guiding role in the missions for the regional water resources availability and sustainable use of freshwater in regions and cities. The city of Zwolle and its region in the IJssel-Vecht Delta is seizing the opportunity to plan for a water-cycle “sponge” city, for achieving self-sufficiency in availability of freshwater in the (near) future.

What is the role (contribution and main activities) of your organisation in the project?

The role of Deltares in RAINBOW is twofold:
Firstly, Deltares will lead WP1 “Roadmap for Sponge Cities in NWE” together with TU Dortmund. And in cooperate with all Project Partners (PP).
Secondly, Deltares will be actively involved in the Zwolle pilot study “Water Circular Zwolle North”. Working together with Zwolle and in collaboration with associate partners from regional networks RIVUS and Climate Campus,
Ad 1) Deltares will steer the transnational cooperation to develop a roadmap for Sponge Cities in Northwest Europe. Together with TU Dortmund this means applied research into: (i) preliminary roadmap design, (ii) pathways: city pilots/ use cases, (iii) intersections: decision support, (iv) action perspectives, (v) reflection/ testing/ reporting of roadmap. The final deliverable is a Sponge City roadmap for municipalities (engineers, planners, decision makers) and home-/ landowners, which include lessons learned, guidance, next steps for scaling up the pilot and implementation of the local action plans.
Ad 2) In the Zwolle pilot study Deltares will support the transnational cooperation to develop comprehensive planning processes / a holistic view on groundwater, like a long-term Water Security Strategy (city scale) and test rainwater collection, infiltration and groundwater recharge solutions in a

Motivation
Water-Cycle Zwolle North (neighborhood scale). Activities include developing a (i) Water Circular Zwolle Framework Plan (city level), (ii) designing Water Circular North Zwolle (district level), (iii) executing a field test (neighborhood level), and (iv) developing a Water Circular City Strategy (city level). Within this project Deltares is the linking pin to other “Sponge City” related initiatives in Europe, like: NBRACER - Nature Based Solutions for Atlantic Regional Climate Resilience (https://nbracer.eu/); SpongeScapes – Evidence and Solutions for improving SPONGE Functioning at LandSCAPE Scale in European Catchments for increased Resilience of Communities against Hydrometeorological Extreme Events (https://cordis.europa.eu/project/id/101112738); the China Europe Cooperation on Sponge Cities (CECoSC): https://cewp.eu/; DroBE: Droughts in the Built Environment (NWO, the Netherlands), which includes the ‘Thirsty Cities’ proposal: https://www. nwo.nl/en/calls/nwa-drought-in-the-built-environment; European Urban Agenda, which includes Water as a theme (sponge city/water sensitive city/water scarcity and floods): https://www.urbanagenda. urban-initiative.eu/partnerships/greening-cities.

Co-financing		
Source	**Amount**	**Percentage**
Partner total eligible budget	0,00	100,00 %

Origin of partner contribution			
Source of contribution	**Legal status of contribution**	**Amount**	**% of total partner budget**

Total		
Sub-total public contribution	0,00	0,00 %
Sub-total automatic public contribution	0,00	0,00 %
Sub-total private contribution	0,00	0,00 %
Total	0,00	0,00 %

State Aid	
State aid criteria self-check	
Criterium I: Is the partner involved in economic activities through the project?	
1. Will the project applicant implement activities and/or offer goods/services for which a market exists? **2. Are there activities/goods/services that could have been undertaken by an operator with the view to making profit (even if this is not the applicant’s intention)?**	

Criterium II: Does the partner receive an undue advantage in the framework of the project?	
1. Does the project applicant plan to carry out the economic activities on its own i.e. not to select an external service provider via public procurement procedures for example?	
2. Will the project applicant, any other operator not included in the project as a project partner or the target audience gain any benefits from its project economic activities, not received in the normal course of business (i.e. not received in the absence of funding granted through the project)?	
Result of State aid criteria self-check:	To see the result, please answer all the questions above.
State aid relevant activities	
GBER scheme / de minimis	

Associated organisations

Number	Status	Name of the organisation in original language	Name of the responsible project partner
1	Active	Centre of Expertise (CoE) van Hogeschool Rotterdam (HR)	Deltares
2	Active	Vereniging Nederlandse Gemeenten (VNG)	Deltares
3	Active	Rijkswaterstaat	Deltares

Centre of Expertise (CoE) van Hogeschool Rotterdam (HR) AO1	
Partner number	PP10
Name of the organisation in original language	Centre of Expertise (CoE) van Hogeschool Rotterdam (HR)
Name of the organisation in english	Centre of Expertise HRTech, Rotterdam University of Applied Sciences, the Netherlands
Country (click in cell to access drop-down list)	Nederland (NL)
NUTS 2 (click in cell to access drop-down list once the Country is selected)	
NUTS 3	
Street, House number, Postal code, City	
Legal representative	
Contact person	Professor Ph.D. M.Sc Ted Veldkamp
Email	
Telephone no.	
Partner role	synergy with DroBE Thirsty Cities (NWO)

Vereniging Nederlandse Gemeenten (VNG) AO2	
Partner number	PP10
Name of the organisation in original language	Vereniging Nederlandse Gemeenten (VNG)
Name of the organisation in english	Association of Netherlands Municipalities
Country (click in cell to access drop-down list)	Nederland (NL)
NUTS 2 (click in cell to access drop-down list once the Country is selected)	
NUTS 3	
Street, House number, Postal code, City	
Legal representative	
Contact person	Jonas Onland
Email	
Telephone no.	
Partner role	Programm leader Digitalization and Europe

Rijkswaterstaat AO3	
Partner number	PP10
Name of the organisation in original language	Rijkswaterstaat
Name of the organisation in english	Ministry of Infrastructure and Water Management, the Netherlands
Country (click in cell to access drop-down list)	Nederland (NL)
NUTS 2 (click in cell to access drop-down list once the Country is selected)	
NUTS 3	
Street, House number, Postal code, City	
Legal representative	
Contact person	Chantal Oudkerk-Pool
Email	
Telephone no.	
Partner role	National Adaptation Strategy (NAS) in which “City as a Sponge” is one the ambitions.

C - Project description

C.1 Project overall objective

Below, you can see the Programme priority specific objective your project will contribute to (chosen in section A.1.).

2.4: Promoting climate change adaptation and disaster risk prevention and resilience, taking into account ecosystem-based approaches

Project overall objective

Now think about your main objective – what do you aim to achieve by the end of your project? Remember your project needs to contribute to the programme's objective.
Your objective should:

- be realistic and achievable by the end of the project, or shortly after;
- specify who needs project results and in which territory;
- be measurable – indicate the change you are aiming for.

Enhance capacity of cities for climate change resilience in the aspect of urban soil and groundwater resources management; enable public players to strengthen the sponge function of the subsoil and restore groundwater aquifers by closing the urban water loop and any related measures into their urban and spatial planning activities in Germany, The Netherlands, Belgium and France.

C.1.a Project specific objectives

In Step 1: List your foreseen project specific objectives (up to three)
In Step 2: List your project specific objectives (up to three)

Roadmap for Sponge Cities in NWE: developing a joint strategy and a unified framework for action planning for deploying sustainable dynamic groundwater resource management

Piloting in different context, settings and scales risk-informed land use planning & design strategies; technical measures as effective tools to enable public players to restore groundwater resources by strengthening and rebalancing sustainable groundwater recharge and release, thus strengthening the sponge function of the subsoil

From science to practice: capacity building and trainings in regions, cities and related service providing community (e.g. urban planners, civil engineers, decision makers/policy makers)

C.2 Project relevance and context

C.2.1 What are the common territorial challenge(s) that will be tackled by the project?

Please describe the territorial challenges and opportunities your project addresses in the NWE area. Why is transnational cooperation needed to address these challenges and opportunities?

Many urban and peri-urban areas and regions in NWE face CC through water-related disaster risks and water resources management issues, particularly in densely populated areas. The increased frequency of extreme dry and wet periods due to CC necessitates sustainable water consumption and management. All participating areas are located in high-risk urban/peri-urban areas prone to flooding. These contexts face significant water management challenges, including water quality, availability, and groundwater-related land subsidence.
Water management strategies to enhance CC resilience must comply with the Water Framework Directive, balancing groundwater abstraction and recharge. Prolonged droughts reduce renewable freshwater resources, while heavy rain necessitates effective water retention. In both cases, subsoil and groundwater bodies play a central and potential role. Mitigation and adaptation must address (ground)water body chemical status, particularly in urban areas which are hotspot sources of pollution.
With the Sponge City concept cities get designed so that rainwater is kept and absorbed where it falls, reducing storm water risks and stabilizing groundwater resources for sustainable use. Its implementation of solution requires available space, but urban reluctance to change habits and conflicts with other land uses necessitate close cooperation among urban managers, spatial planners, water managers, and civil society actors enhancing collaboration between public and private landowners. Transnational cooperation is essential to address relevant challenges with varying key aspects across regions. Such main and joint challenges are
- Comprehensive planning processes/holistic view on groundwater
- Historic pollution
- Adapting and upgrading infrastructure
- Participation processes
- Access to land.

Pooling resources enables a comprehensive understanding, joint learning and development of solutions, striving to overcome spatial planning and land policy barriers.

C.2.2.a How does the project tackle identified common challenges and/or opportunities

Please describe if your project activities will develop and test new approaches; and/or if they will adapt and implement existing approaches for further uptake.

Challenges related to CC and sustainable groundwater management are diverse, ranging from water quality, water quantity, water availability and land subsidence. The Sponge City concept can address them all and provides relevant solutions (BGI, NBS). However, barriers for implementation need to be overcome. Such barriers are related to e.g. fragmented planning processes, a lack of understanding among participation disciplines due to the transdisciplinary perspective required, little experience with complex processes in the subsoil among the cities staff and how to reach consensus with private landowners.
To streamline and accelerate the implementation process of Sponge City solutions for urban and peri-urban areas, this project jointly develops a generel strategy and roadmap for municipalities that helps in their decision-making process on groundwater resource technologies and implementation strategies.
A better understanding of risk-informed land use planning and strategies, in which physical, technical and non-technical barriers are categorised and defined, will enable us to deploy most effective and sustainable recharge or release strategies and measures to strengthen and restore groundwater aquifers for transition towards the Sponge City. Based on the pilot studies we will develop and identify a set of tailored key indicators to assess the technology, the concerned actors, and implementation strategies of the roadmap as a planning and decision tool.
However, its application needs guidance to run through the decision tree to tailor technology and implementation strategies in specific cases. Therefore, the project will develop and provide capacity building schemes, trainings for others and relates stakeholders involved.

C.2.2.b What is new about the approach the project takes?

Please describe how your approach is different from the current situation or existing practice. Explain what you expect to change in the sector/Programme area/participating countries.

RAINBOW recognizes the intrinsic value of groundwater as a vital resource and the subsoil as quiding principle for planning activities and climate adaptation strategies. The project advances the transition of urban and peri-urban to Sponge Cities, with a specific focus on groundwater systems as an integral component of the natural water cycle. While Nature-Based Solutions and planning interventions traditionally emphasise visible aspects of the urban water cycle, such as infiltration, evapotranspiration, and maintaining surface water health, the often overlooked dimension lies beneath the surface – the groundwater systems. Our goal and expected change in the urban planning and environmental sector is to enable a paradigm shift in planning practices, from mere consumption to sustainable dynamic groundwater resource management.
Interventions for rainwater management and facilitating water in the city are often in isolation, focusing on enhancing livability without a comprehensive understanding of groundwater system interactions. Our project challenges existing practices by giving preference to consideration to groundwater bodies as common or public goods, which become the foundation for climate adaptation measures surrounding the natural water cycle. From this perspective, the project aims to enhance collaborations for groundwater preservation between private and public space, urban and peri-urban space, and densely built and unbuilt space. Through dynamic groundwater resource management, considering holistic interventions for both groundwater recharge and groundwater release, we will address urban challenges such as the urban heat island effect, droughts, overexploitation of groundwater resources and floods.
Based on transnational and transdisciplinary cooperation implementation barriers, such as land-use conflicts, increased maintenance, equal access to water resources, pollution risks, and the upscaling of punctual interventions in public spaces will be addressed.

C.2.4 Who will benefit from your project?

In the first column of each row, please select one of the pre-defined target groups from the drop-down list. In the second column explain in more detail exactly who will benefit from your project. For example, if you choose the category education, you need to explain which specific schools or groups of schools and in which territory.

Target Group	Specification
Local public authority	Municipalities like Brussels, Stuttgart, Zwolle, Intermunicipal cooperation authorities like Lens-Lievin agglomeration community and Lille European Metropolis Capacity building of urban planning departments to obtain a paradigm shift from traditional rainwater management to sustainable and participatory solutions, the use of impact indicators on BGI/NBS to set up quantitative objectives in strategies and plans, and the evaluation of the impacts of land use on groundwater recharge and release.

Target Group	Specification
Regional public authority	Brussels Environment, Brussels Perspective, Brussels Mobility, Province of Vlaams-Brabant, Province of Overijssel, Regional Water Authority WDOD, Regional Council, Metropolitan region Stuttgart, Provinces (Netherlands) Setup and implementation of regional monitoring guidelines and strategies based on indicator framework to assess the influence of CC and benefit of sustainable groundwater management solutions.
Infrastructure and (public) service provider	Vivaqua, HYDRIA-Brussels Capital Region, Veolia Eau, Ministry of Infrastructure and Water Management Implementation of updated management tools to consider groundwater dynamics in CC context, implementation of innovative monitoring concept and application of modelling tools.
Sectoral agency	State institute for the environment Baden-Württemberg, Artois Picardie water agency (France), Regional consultative body RIVUS, Climate Campus - greater Zwolle region (including universities, NGO's, project developers, housing corporation, consultants, etc.) Implementation of project results in Guidance Documents, knowledge transfer to decision-makers, general public, consulting agencies, NGOs, etc.
Higher education and research organisations	Deltares, TU Dortmund University, University of Stuttgart, Université Libre de Bruxelles. French Geological Survey BRGM Upgrade of scientific knowledge, dissemination of project results to students and the international scientific community.
Education/training center and school	Training association for soil and contaminated sites, Baden-Württemberg, Germany Dissemination of project results to environmental departments of local administrations and consulting engineers.
SME	Private companies for innovative measuring techniques like ToekomstSterk, SMEs of the innovation cluster bw-engineers from Baden-Württemberg (17 SMEs as members) Chance to develop and test innovative solutions for monitoring techniques, new market opportunities.
General public	Citizens, users of public areas, private landowners, vulnerable population groups Improved quality of life reducing disaster risks and creation of greened areas for leisure and recreation, greater awareness on the effectiveness of BGI /NBS solutions.
National public authority	Rijkswaterstaat, Ministry of infrastructure and water (NL), German Federal Institute for Research on Building, Urban Affairs and Spatial Development, French biodiversity agency Rising awareness of political actors to reduce groundwater exploitation and foster artificial groundwater recharge and release with respect to land use aspects. Provide guidelines, legal regulations and financial incentives for private landowners to implement BGI/NBS on their land.

Target Group	Specification
International organisation, EEIG	Groundwater group of the International Schelde Commission, International Association of Hydrogeologists (IAH) Upgrade of scientific knowledge, practical application of project results.
Interest groups including NGOs	Coördinatie Zenne-Coordination Senne, herbronnen.ressources

C.2.6 Which synergies with past or current EU and other projects or initiatives will the project make use of?

Project or Initiative	Synergy

C.2.7 How does the project build on available knowledge?

Please describe what the project draws on e.g., from EU and/or other projects, and other available knowledge, and how the project capitalises on this knowledge.

The project's multidisciplinary nature requires inputs from various domains and is built on baseline knowledge provided by the project partners gained through their participation in a wide range of research projects. Key knowledge links exist to:
Interreg NSR project CATCH (2017-2022) & Thirsty Cities (2023-present), a study under the DroBE (Droughts in the Built Environment) program of the Dutch Research Council through PP Zwolle + Deltares. Measures focussing on the differentiation of water demand and water supply in the urban water balance and the transition towards water-sensitive cities will be applied and adjusted in the wider context of RAINBOW.
City of Brussels and the ULB will transfer results from the collaboration on the project BrusseauBis (Water-Sensitive Brussels), project 2020-EPF-17g, funded by Innoviris Brussels.
TU Dortmund will transfer land policy strategies providing access to private land developed in COST ACTION LAND4FLOOD to the wider context of RAINBOW.

C.3 Project partnership

Describe the structure of your partnership and explain why these partners are needed to implement the project and to achieve project objectives.

The climatic developments are governing the natural processes of rainwater infiltration, groundwater recharge and groundwater release, nowadays mainly influenced by land use, infrastructure and water management. Project objectives and key drivers are well reflected in the project partnership with partners from NL, BE, FR and DE, covering the core area of NWE. Participation of City of Luxembourg is under negotiation yet.
Project partners are:
- cities, striving for local solutions in close context with urban design and living conditions
- regional/national institutions, tackling aspects of infrastructure and water management at regional scale
- academic partners, working on solutions for practical application based on sound scientific-technical, architectural and participation research
- knowledge and engineering partners providing relevant solutions in cooperation with researchers and end-users
- civil society, elaborating methods of participation and co-creation with the general public.
With respect to the quadruple helix, SMEs and business support organisations are missing. Their participation is not required as the project is focussing on the public domain and not on market relevant technology aspects. However the private sector, mainly urban planners, engineering and consultancy firms are a key target group for dissemination and training, to be approached through the project partners.
Developing strategies and solutions for sustainable groundwater resource management on the way towards the “Sponge City”, there are a number of challenges to be tackled, when considering groundwater bodies as foundational. Each partner’s activities are focussed on specific aspects for groundwater release or recharge. The different partner’s expertise, experience and needs will contribute to cooperation on a transnational level so that jointly a comprehensive strategic approach and three solutions are reached.
Zwolle and Deltares will be focussing on comprehensive planning processes/a holistic view on groundwater at the city and neighborhood level, through exploration of monitoring strategies and scenario modelling, enabling prognosis for extreme events.
LHS and USTUTT will be focussing on the urban design process for a new urban quarter on a historically polluted area and restrictions for groundwater recharge and infiltration both by the pollution of the subsoil and land use principles.
BRGM and CALL will be focussing on the impact of the infrastructures and public policies to improve water cycle in the urban context.
VBX will focus on interventions in groundwater recharge and release areas via urban renovation in public spaces and public buildings, for addressing barriers like land-use conflict in dense urban areas, increased maintenance and conflicts of competence. The ULB explores design solutions for the transformation and adaptation and CZ-CS will address public perception of water sources as release points of groundwater, focusing on community co-creation and participatory methodologies.
TUDO forms the spatial planning links to land management and policy, flood risk management and resilience. As all strategies and solutions need land, tackling institutional barriers and effectiveness of governance structures is their focal point supporting the implementation of technical project results.
Working on capacity building is a joint transnational key element of the project. Stimulated by the academic partners, trainings will be implemented for technical experts and service providers as well as civil servants and staff of sities and further public entities in general. Further communication and training is foreseen for outreach and scale-up the project results to all NWE territory.
The LP City of Stuttgart is well experienced in EU-funded and specifically INTERREG projects since decades, covering all aspects of leading partnerships in terms of administration, project and financial management and communication.

C.4 Project work plan

A maximum of 3 work packages is allowed in every project work plan in a regular call. In the case of a small-scale projects call, maximum 1 work package is allowed. Please be aware that you will not be able to submit your AF if you are above those limits.

Number	Work package name
1	Roadmap for Sponge Cities in Northwest Europe
2	Transdisciplinary piloting to implement sustainable groundwater management in four urban districts
3	Establish targeted training modules for specific expert disciplines and stakeholder groups involved

Work package 1

Work package title

Roadmap for Sponge Cities in Northwest Europe

Project Specific Objectives

Your objectives should be:

- realistic and achievable by the end of the project;
- specific (who needs project outputs delivered in this work package, and in which territory);
- measurable – indicate the change you are aiming for.

Define one project specific objective that will be achieved when all activities in this work package are implemented and outputs delivered.

Developing a joint strategy and an unified framework for action planning for developing sustainable dynamic groundwater resource management.

Think about the communication objective that will contribute to the achievement of the specific objective. Communication objectives aim at changes in a target audience's behaviour, knowledge or belief.

The roadmap will be made available for municipalities (engineers, planners, decision makers) and home-/ landowners.

Work package summary

This joint work package will steer the transnational cooperation to develop a roadmap for Sponge Cities in Northwest Europe. This means applied research into: (i) preliminary roadmap design, (ii) pathways: city pilots/ use cases, (iii) intersections: decision support, (iv) action perspectives, (v) reflection/ testing/ reporting of roadmap. The final deliverable is a Sponge City roadmap for municipalities (engineers, planners, decision makers) and home-/ landowners, which include lessons learned, guidance, next steps for scaling up the pilot and implementation of the local action plans.

Activities

Activity 1.1	
Title	Preliminary roadmap design
Start period	Period 1, 1 - 6
End period	Period 3, 13 - 18
Description	1. Product definition of SC-roadmap for professionals (engineers, planners), decision makers and homeowners.

Activity 1.1	
	2. Determine framework and contours based on needs, such as solutions (i.e. NbS) to enhance sponge effect. 3. What determines the solution (technically), what does that mean for the urban design process and what can you do as a homeowner.

Deliverables 1.1			
Running number	**Deliverable title**	**Description**	**Delivery period**
D.1.1.1			

Activity 1.2	
Title	Pathways: city pilots/ user cases
Start period	Period 2, 7 - 12
End period	Period 4, 19 - 24
Description	1. Policy analysis of urban adaptation strategies and long-term goals in the areas of water extremes, climate change and urban development. In addition to partner cities, also cases outside the RAINBOW coalition. 2. How do the city pilots manifest/contribute to these strategies? And what is the position in the so-called adaptation paths, via intermediate goals to the long-term goal/situation. 3. Special attention is paid to public and private land ownership. `Most land is privately owned (not owned by those who implement). This is where most opportunities for sponge city concepts are! Interviews per city/counterparts. And dialogue with land/ property owners.

Deliverables 1.2			
Running number	**Deliverable title**	**Description**	**Delivery period**

Activity 1.3	
Title	Intersections: decision support

Activity 1.3	
Start period	Period 3, 13 - 18
End period	Period 5, 25 - 30
Description	1. Intermediate destinations, intersections: how do you determine which exit to take at the intersection. Making a well-considered choice, this is the approach. (a) putting together experience cases (see Work Package 2). But also collect issues. (b) Where do you start, with the goal/technical solution (task/risk), the location where the opportunity lies (linking opportunity for redevelopment) OR with the willingness/support. 2. What intersections are there, and what is needed to walk through them/take the exit. Legitimacy, what to prioritize, based on of which, actions, strategies. Certain choices, strategies, cookbook, ingredients, tools, skills, sources, experiences, etc. 3. How: (risk informed) Land use planning and strategies. Buying and expropriation etc. is an option, but combining functions with existing land uses and cooperation with land users is more efficient! So, how to mobilize land for sponge cities?

Deliverables 1.3			
Running number	**Deliverable title**	**Description**	**Delivery period**

Activity 1.4	
Title	Action perspectives
Start period	Period 5, 25 - 30
End period	Period 7, 37 - 42
Description	1. Engaging with landowners and homeowners. Who are they? Explore their motivations to get them on board. How to engage and motivate them? 2. Solutions on private property: how do you do that? How do the insights/findings from 1.2 and 1.3 help with this? Also about maintenance. How do you involve the neighbourhood and motivate (land) owners? 3. Land use policy instruments. Maintenance by residents, out of the hands of the municipality. New

Activity 1.4	
	roles, shifting responsibilities. Different per country /social-political.

Deliverables 1.4			
Running number	**Deliverable title**	**Description**	**Delivery period**

Activity 1.5	
Title	Reflection/ testing/ reporting of roadmap
Start period	Period 6, 31 - 36
End period	Period 8, 43 - 48
Description	1. Round reflection / testing / within the case studies -> conference or workshop? Interactive website/game. Guidance/training on how to use the document. Short route versus full route. 2. Final deliverable: reporting or road map. For municipalities (engineers, planners, decision makers) and home-/ landowners! Form yet to be determined, such as PDF, brochure/cookbook, online /interactive website, card game, infographic/poster. Available in Dutch, English, German and French.

Deliverables 1.5			
Running number	**Deliverable title**	**Description**	**Delivery period**
D.1.5.1	Roadmap for Sponge Cities in Northwest Europe		

Investments

Work package 2

Work package title

Transdisciplinary piloting to implement sustainable groundwater management in four urban districts

Project Specific Objectives

Your objectives should be:

- realistic and achievable by the end of the project;
- specific (who needs project outputs delivered in this work package, and in which territory);
- measurable – indicate the change you are aiming for.

Define one project specific objective that will be achieved when all activities in this work package are implemented and outputs delivered.

Technical, spatial planning and community engagement solutions to strengthen and rebalance sustainable groundwater recharge and release,
Collectively designing, testing, and up-scaling solutions within the framework of WP1 through a multi-stakeholder approach to strengthen and rebalance sustainable groundwater recharge and release, encouraging follower projects in NWE.

Think about the communication objective that will contribute to the achievement of the specific objective. Communication objectives aim at changes in a target audience's behaviour, knowledge or belief.

Exchanging local practices in stakeholder engagement, project development (design, testing, upscaling groundwater solutions), and urban strategies to enhance pilot collaboration for project partners. Communicating sustainable groundwater recharge/release principles to stakeholders and communities, inspiring best practices, and promoting a groundwater-centric urban water cycle across NWE cities.

Work package summary

WP2 enables transnational cooperation in four pilot cities via collective activities for design, test, and upscale solutions. Collaborative testing sites engage actors to enhance protection and preservation of groundwater quality and recharge and release dynamics. Pilot cities develop activities to (i) engage multi-scalar actors, (ii) design tailor-made groundwater management devices in diverse urban settings (urban, peri-urban, industrial, polder), (iii) learn from and assess testing of devices for groundwater, and (iv) ultimately inspire other stakeholders to replicate processes and solutions. WP2 leverages trans-disciplinarity of partners and diversity of urban contexts to foster mutual learning and draft (i) a process tool-box for activating pilots and stakeholder participation, (ii) a technical tool-box of groundwater solutions, (iii) and Spatial recommendations and tailored land-use, land policy strategies, finally collected in the Roadmap for Sponge Cities.

Activities

Activity 2.1	
Title	Co-analysis to engage Groundwater Recharge and Release Pilot Sites
Start period	Period 1, 1 - 6
End period	Period 2, 7 - 12
Description	A2.1 focuses on analysing groundwater dynamics and engaging stakeholders across the four pilot sites. This action integrates site managers, developers, urban planners, citizens, and associations to assess groundwater quality and quantity at various scales, addressing both local and urban factors relevant to pilot development, as determined by A1.1. Lens-Liévin and Stuttgart pilots investigate quantity and quality of (ground)water, while Brussels and Zwolle include participatory activities (e.g. guided groundwater source walks and inventory) to raise awareness of groundwater dynamics and foster community solidarity between recharge and release. Results are shared with professionals and institutions to aid informed decision-making in the pilots and through the pathways of A1.2. A2.1 ultimately enhances local networks, captures valuable experiences, and builds a shared language on groundwater management. A2.2 matches pilot local conditions with designs for groundwater recharge and release. Mapping conditions and the analysis of A.2.1 provides context-based information to enhance the design of principles and devices for groundwater, crucial for climate change adaptation. Transdisciplinary approach is based on collaboration between researchers (ULB, TU Dortmund, Deltares) and institutions through work sessions and interviews. Principles and devices are designed based on reviewing existing projects in similar contexts and on the capacity building of A3.1. Local conditions are explored by mapping urban features in four pilots, by intertwining urban morphology, typologies, ownership with soil infiltration rates and ecosystems, enabling the identification of key issues and challenges for the trainings of A3.2. This comprehensive mapping identifies urban spaces where principles and devices are most suitable for groundwater recharge or release, aiding to navigate intersections of A1.3 and support changes in pilot

Activity 2.1	
	cases.

Deliverables 2.1			
Running number	**Deliverable title**	**Description**	**Delivery period**
D.2.1.1	Report on the (preliminary) analysis of the pilot cases	D2.1.1 compiles experiences from all pilot cases on the co-analysis process and results, drawing from desk research (GIS data, statistical databases, site contexts, previous studies, existing computer models) and participatory workshops (multi-stakeholder input, local knowledge, and terrain work).	Period 2 , 7 - 12
D.2.1.2	Report on the stakeholder engagement and activation of pilot cases	D2.1.2 will compile experiences from all pilot cases on stakeholder engagement, bringing into image the initiation phases of the pilot projects, covering political support, negotiations, meetings, etc., including the documentation of participatory activities with citizens and their outcomes.	Period 2 , 7 - 12
D.2.1.3			

Activity 2.2	
Title	Mapping of pilot local conditions and design adaptive and resilient principles and devices for groundwater recharge and release
Start period	Period 2, 7 - 12
End period	Period 3, 13 - 18
Description	Mapping of pilot local conditions and design adaptive and resilient principles and devices for groundwater recharge and release A2.2 matches pilot local conditions with designs for groundwater recharge and release. Mapping conditions and the analysis of A.2.1 provides context-based information to enhance the design of principles and devices for groundwater, crucial for climate change adaptation. Transdisciplinary approach is based on collaboration between researchers (ULB, TU Dortmund, Deltares) and institutions through work sessions and interviews. Principles and devices are designed based on reviewing existing projects in similar contexts and on the capacity building of A3.

Activity 2.2	
	1. Local conditions are explored by mapping urban features in four pilots, by intertwining urban morphology, typologies, ownership with soil infiltration rates and ecosystems, enabling the identification of key issues and challenges for the trainings of A3.2. This comprehensive mapping identifies urban spaces where principles and devices are most suitable for groundwater recharge or release, aiding to navigate intersections of A1.3 and support changes in pilot cases.

Deliverables 2.2

Running number	Deliverable title	Description	Delivery period
D.2.2.1	Research on context based designs of groundwater devices and principles for pilot sites	D2.2.1 details transdisciplinary research on groundwater device design, documenting partner worksessions and interviews with local actors. It compiles reviewed projects in similar contexts and presents proposed adapted groundwater devices and principles tailored to diverse pilot conditions.	Period 3 , 13 - 18
D.2.2.2	Report on the mapping of urban features to identify challenges and opportunities for the pilot sites	D2.2.2 presents the local conditions and mapping features in the pilot cases based on urban morphology, typology, ownership status, soil values and infiltration rates. The deliverable presents the identified key issues, challenges and opportunities for the diverse pilot conditions and urban spaces	Period 3 , 13 - 18

Activity 2.3	
Title	Co-design to implement Groundwater Recharge and Release Pilot Sites
Start period	Period 3, 13 - 18
End period	Period 4, 19 - 24
Description	A2.3 enables a multi-actor method to develop shared visions for pilot sites. Supported by A1.3 decisions support, the co-design action involves engaging stakeholders—such as citizens, professionals, and institutions—in discussions to reach collective decisions aimed at improving the quality and acceptance of groundwater

Activity 2.3	
	implementations. It utilizes the adapted principles and devices of A2.2 to facilitate these discussions. Local conditions vary, allowing for a wide-range testing of principles and devices to enhance collaborations among four pilots. The process begins with drafting and adapting visions and strategies for each site, followed by in-depth design work for specific pilot spaces and subjects that applies devices and interventions for groundwater recharge and release, while integrating social practices and biodiversity. This process is accompanied by the trainings of A.3.2, tackling key issues and local challenges and contributing to the D3.2.1-D3.2.4. A2.3 is further supported by two co-design workshops in Brussels and Zwolle, where institutions are dedicated to creating inclusive, circular water districts by actively engaging citizens.

Deliverables 2.3

Running number	Deliverable title	Description	Delivery period
D.2.3.1	Report on the co-designed groundwater solutions (visions, strategies, devices and interventions)	D2.3.1 presents visions and strategies as well as in-depth design for specific pilot cases for groundwater interventions, tackling the diverse local key issues. It describes the multi-actor design process, results of co-design sessions and how the governance process was institutionalised.	Period 4 , 19 - 24
D.2.3.2	Report on the two co-diagnostic sessions of VBX and Zwolle	D2.3.2 details the two co-design workshops in Brussels and Zwolle and their citizens engagement, as well as how their results have shaped and were integrated in the design process in D2.3.1.	Period 4 , 19 - 24

Activity 2.4	
Title	Co-testing of pilot projects
Start period	Period 5, 25 - 30
End period	Period 7, 37 - 42
Description	A2.4 combines testing of groundwater recharge and release devices with future planning for the Sponge City concept. Building on co-design insights from A2. 2 and A2.3, A2.4 evaluates devices like infiltration

Activity 2.4	
	zones and urban ponds/rivers and tests different land-use and property solutions and perspectives proposed by A1.4. A2.4 will engage local communities through hands-on activities to promote proactive management and reinforce collaborations. Co-evaluation workshops are organised to share results and enhance cooperation across the four pilot sites, feeding the transnational sessions of A3.3. This involves a transdisciplinary approach with researchers and institutions, fostering mutual learning through collective sessions and presentations. Concurrently, A2.4 develops scenarios for groundwater management impacts, using findings from A2.1. Basic recommendations are crafted to maintain net infiltration rates and ensure water quality in urban planning, aiding the long-term implementation of the Sponge City concept and contributing to A2.5.

Deliverables 2.4

Running number	Deliverable title	Description	Delivery period
D.2.4.1	Report on the tested groundwater solutions (visions, strategies, devices and interventions)	D2.4.1 describes the testing of groundwater solutions in the pilot cases, as well as the testing of different land-use and property strategies. The deliverable further details the collective sessions and presentations between the partners for mutual learning on pilot implementation.	Period 7, 37 - 42
D.2.4.2	Report on the collaborative activities with local stakeholders and the co-evaluation workshops	D2.4.2 reports the different local activities for community engagement in pilot implementation and activities that contributed towards pilot collaboration, as well as the results of the co-evaluation workshops between the stakeholders on the tested solutions and strategies.	Period 7, 37 - 42

Activity 2.5	
Title	Recommendations and solutions for the Roadmap for sponge cities
Start period	Period 6, 31 - 36
End period	Period 8, 43 - 48

Activity 2.5	
Description	A2.5 integrates learnings from pilot sites with recommendations to replicate effective groundwater recharge and release principles, advancing the Sponge City concept. This action synthesises assessment results from the pilots with local institutional and technical knowledge, broadening the scope and refining planning mechanisms to facilitate further implementations. It involves strong collaboration with research institutions (ULB, TU Dortmund, Vegas, Deltares) and local authorities (Brussels, Lens-Liévin, Stuttgart, Zwolle) to draft recommendations that address institutional, spatial, and technical barriers. A2.5 consolidates results from previous phases into a deliverable which includes deepened evaluations via interviews with pilot participants to assess processes, limits, and opportunities, and disseminates findings through accessible podcasts to inspire other contexts and stakeholders in sustainable groundwater management. These recommendations and experiences will contribute to A1.5, supporting the Roadmap for Sponge Cities, and A3.3, supporting the transnational trainings for upscaling successful practices.

Deliverables 2.5

Running number	Deliverable title	Description	Delivery period
D.2.5.1	Synthesis on the assessment results from the pilots cases	D2.5.1 gives a synthesis on the assessment results from the four pilots to engage stakeholders to replicate a sustainable dynamic groundwater management. It collects processes, design solutions, spatial implementation plans, along with pilot-story podcasts and interviews to reach a broader audience.	Period 8, 43 - 48

Outputs

Regarding the drop-down list of Programme output indicators:
For every project output you define, you must choose one Programme output indicator to contribute to from the drop-down list and quantify your contribution.
Overall, as a project you must contribute to a minimum of 2 out of the 4 following output indicators.
Important: Please note that if you choose output indicator O.2 then you must also choose output indicator O.3 AND one more output indicator for a total of 3 out of 4 (e.g., O.2, O.3 and O.4).

- O.1: Strategies and action plans jointly developed
- O.2: Pilot actions developed jointly and implemented in projects

- O.3: Jointly developed solutions
- O.4: Participations in joint training schemes

Output 2.1	
Output Title	Process Toolbox for activating pilots and stakeholder participation for Groundwater Recharge and Release Sites
Programme Output Indicator	2.4.O.3: Jointly developed solutions
Measurement Unit	solutions
Target Value	1,00
Delivery period	Period 7, 37 - 42
Output Description	Output 1 is a toolbox designed to activate pilot projects by engaging multiple actors through participative processes toward the Sponge City concept. The output outlines specific procedures and tools to engage multi-level public players for various purposes, ranging from raising awareness to conducting collective on-site analyses for new developments.
Output 2.2	
Output Title	Technical toolbox for groundwater management and designing principles and devices for Groundwater Recharge and Release Sites
Programme Output Indicator	2.4.O.3: Jointly developed solutions
Measurement Unit	solutions
Target Value	1,00
Delivery period	Period 7, 37 - 42
Output Description	Output 2 compiles principles and devices to enable the Sponge City concept in urban districts with specific spatial and ecological conditions. The output is a technical toolbox that showcases potential technical design instruments and practices for groundwater recharge and release implementations in pilot sites. The output is developed through a multidisciplinary and participative approach.

Output 2.3	
Output Title	Spatial recommendations and tailored land-use, land policy and ownership strategies for implementation of Groundwater Recharge and Release Sites
Programme Output Indicator	2.4.O.3: Jointly developed solutions
Measurement Unit	solutions
Target Value	1,00
Delivery period	Period 7, 37 - 42
Output Description	Output 3 defines spatial recommendations and strategies to implement the Sponge City concept by compiling learnings and evaluations. The output outlines pathways for enabling changes, drawing on experiences from the four pilot projects. The spatial recommendations also reflect on inclusive climate actions and collective management strategies.

Investments

Work package 3

Work package title

Establish targeted training modules for specific expert disciplines and stakeholder groups involved

Project Specific Objectives

Your objectives should be:

- realistic and achievable by the end of the project;
- specific (who needs project outputs delivered in this work package, and in which territory);
- measurable – indicate the change you are aiming for.

Define one project specific objective that will be achieved when all activities in this work package are implemented and outputs delivered.

From science to practice: Upskill professionals of public sector in city and regional administration and related service providing community (e.g. urban planners, civil engineers, decision/policy makers) by capacity building initiatives

Think about the communication objective that will contribute to the achievement of the specific objective. Communication objectives aim at changes in a target audience's behaviour, knowledge or belief.

Striving for a wider application of the strategy and solutions to be developed, communication aims at reaching other cities and a comprehensive expert and service providing community serving public administration in environmental and spatial development.

Work package summary

In the early phase of the project training of staff of the project partners will be done, serving also as a frontrunner of the training modules offered in the second half of the project to wider regional networks in cooperation with regional training providers. Training includes modules on strategy development, methodology of action planning and the solutions to be transnationally developed in the project.
These include training of technical and administrative staff, water managers and urban planners, experts and service providers on monitoring and modelling of climate change related impacts, targeted measures and technical solutions as well as strategy and action planning

Activities

Activity 3.1	
Title	Capacity building of the project team
Start period	Period 1, 1 - 6

Activity 3.1	
End period	Period 3, 13 - 18
Description	Transnational workshops on relevant key issues for the solutions to be developed, organised for the project team. Workshop 1 shall deal with the technical tools used in the project (modelling approaches, processes of and technical approaches for infiltration of rainwater, hydro-geochemical aspects like mobilisation of pollutants on contaminated sites…). Workshop 2 focusses on multi-actor community involvement aspects and 3 shall deal with the spatial planning and land-use related solutions. Workshop 4 shall deal with the strategy and compilation of action plans. We plan these 4 workshops for the project team in the first project year scheduled at semi-annual partner meetings. Each workshop approx. 20 participants, in total 80 participants.

Deliverables 3.1

Running number	Deliverable title	Description	Delivery period
D.3.1.1	Joint report of transnational workshops on solution development	Summary report solution development The report will comprise the documentation of four workshops (agenda, minutes of meetings, attendance lists, presentations and training documentation, major conclusions)	Period 2 , 7 - 12

Activity 3.2	
Title	Mutual-learning and reflective monitoring, Capacity building of project partner staff
Start period	Period 3, 13 - 18
End period	Period 4, 19 - 24
Description	A3.2 comprises mutual-learning activities across all partner cities to support WP 1 and 2. Collaborative problem-solving, strategic planning, and mentorship pairings will foster ongoing collaboration in pilot actions. An online mutual-learning platform will facilitate continuous knowledge sharing throughout the pilot's process of co-analysis, co-design and co-testing.

Activity 3.2	
	Key events are workshops at each pilot site with project partners' staff and related institutions, to present methodology and procedures, first results, discuss the key issues and local challenges. This wider audience enables a first review of the activities, approaches and solutions envisaged. Trainers from the transnational partnership will be involved, safeguarding twinning of pilot sites within new contexts. The workshops shall also function as "enabling trainings", qualifying and motivating PPs staff for a wider application of the solutions beyond the pilot actions. The activities will include ca. 60 participants

Deliverables 3.2

Running number	Deliverable title	Description	Delivery period
D.3.2.1	Report of the local workshop in Stuttgart pilot	Documentation of the local workshop in Stuttgart pilot (agenda, minutes of meetings, attendance lists, presentations, major conclusions)	Period 4 , 19 - 24
D.3.2.2	Report of the local workshop in Zwolle pilot	Documentation of the local workshop in Zwolle pilot (agenda, minutes of meetings, attendance lists, presentations, major conclusions)	Period 4 , 19 - 24
D.3.2.3	Report of the local workshop in Brussels pilot	Documentation of the local workshop in Brussels pilot (agenda, minutes of meetings, attendance lists, presentations, major conclusions)	Period 4 , 19 - 24
D.3.2.4	Report of the local workshop in Lens Lievin pilot	Documentation of the local workshop in Lens Lievin pilot (agenda, minutes of meetings, attendance lists, presentations, major conclusions)	Period 4 , 19 - 24
D.3.2.5	online learning platform	.....	Period 8 , 43 - 48

Activity 3.3	
Title	Transnational trainings on joint project results
Start period	Period 6, 31 - 36
End period	Period 8, 43 - 48
Description	Transnational trainings will be jointly organised in

Activity 3.3	
	different regions and in cooperation with regional training organisations to present key project results to public regional & local expert community. These trainings will broaden the scope of pilots as demonstration projects, inspiring other contexts and institutionsSuch trainings will be • Key issues in strategy and action planning for climate resilient urban development • Modelling and prognosis of subsoil processes related to infiltration and groundwater recharge • Decision support tool for the management of urban water cycles • Tools and procedures for community participation in water related issues • Legal and administrative options for public welfare-oriented land-use principles 5 trainings á 35 participants, 175 participants Public final project event in Stuttgart, ca. 125 participants

Deliverables 3.3

Running number	Deliverable title	Description	Delivery period
D.3.3.1	Modelling and prognosis of subsoil processes related to infiltration and groundwater recharge	Transnational training at Training Centre for Contaminated Sites Baden-Württemberg Documentation of the training on transnational key project results (agenda, attendance lists, presentations, major conclusions) including presentations of all pilot sites	Period 8 , 43 - 48
D.3.3.2	.....	....	

Activity 3.4	
Title	National and international conferences
Start period	Period 5, 25 - 30
End period	Period 8, 43 - 48
Description	As most partners are active in scientific-technical associations and water networks at international (IAH, EWA, EurEau etc.) and national (FH-DGG DWA, …….) level, project solutions and results will be communicated to the expert community at various

Activity 3.4	
	conferences and workshops organised within these networks. This dissemination channel will facilitate uptake of project results effectively, however it is difficult to estimate a total number of audience to be reached. A specific RAINBOW session is planned to be integrated into the AquaConSoil 2027 conference, a biennial European premium event for knowledge dissemination and collaboration among scientists, policymakers, decision-makers and industry representatives. Ca. 75 participants.

Deliverables 3.4

Running number	Deliverable title	Description	Delivery period
D.3.4.1	Transnational training at AquaConSoil international event	Documentation of the Session including programme, presentations and texts for the conference proceedings	Period 6 , 31 - 36
D.3.4.2	conference collection	summary report collating all conference related activities, the presentations held plus a summary of the conferences concerning audience and key contacts reached	Period 8 , 43 - 48

Activity 3.5	
Title	RAINBOW awareness campaign
Start period	Period 1, 1 - 6
End period	Period 8, 43 - 48
Description	Communication activities to keep the related city and expert communities aware of progress and results of the project, announcing events and training activities and ……..

Deliverables 3.5

Running number	Deliverable title	Description	Delivery period
D.3.5.1	Communication Plan and	summary report collating all communicaion	Period 8,

Deliverables 3.5			
Running number	**Deliverable title**	**Description**	**Delivery period**
	monitoring report	related activities, …….	43 - 48

Outputs

Regarding the drop-down list of Programme output indicators:
For every project output you define, you must choose one Programme output indicator to contribute to from the drop-down list and quantify your contribution.
Overall, as a project you must contribute to a minimum of 2 out of the 4 following output indicators.
Important: Please note that if you choose output indicator O.2 then you must also choose output indicator O.3 AND one more output indicator for a total of 3 out of 4 (e.g., O.2, O.3 and O.4).

- O.1: Strategies and action plans jointly developed
- O.2: Pilot actions developed jointly and implemented in projects
- O.3: Jointly developed solutions
- O.4: Participations in joint training schemes

Output 3.1	
Output Title	Training of project team and PPs staff and key stakeholders
Programme Output Indicator	2.4.O.4: Participations in joint training schemes
Measurement Unit	participations
Target Value	140,00
Delivery period	Period 4, 19 - 24
Output Description	.....

Output 3.2	
Output Title	Training of international experts and decision making community by final project conference
Programme Output Indicator	2.4.O.4: Participations in joint training schemes
Measurement Unit	participations
Target Value	200,00
Delivery period	Period 8, 43 - 48
Output Description	.....

Output 3.3	
Output Title	Training of local, regional and national expert community by 5 joint trainings in the partner regions
Programme Output Indicator	2.4.O.4: Participations in joint training schemes
Measurement Unit	participations
Target Value	175,00
Delivery period	Period 8, 43 - 48
Output Description	

Investments

C.5 Project Results

What do you expect to change because of the activities you plan to implement and the outputs you plan to deliver? Please take a look at the programme result indicators and select those that you will contribute to.

Result 1	
Programme result indicator	2.4.R.1: Joint strategies and action plans taken up by organisations
Measurement unit	joint strategy/action plan
Baseline	0,00
Target value	5,00
Delivery period	Period 1, 1 - 6
Describe in more detail the change expected [recommended in Step 1: 500 characters]	The project team will jointly develop a general strategy and roadmap for Sponge Cities in NWE, which provides a framework for action planning for deploying sustainable dynamic groundwater resource management and tailored land policy strategies facilitating access to private land. Based on that and in transnational cooperation with the partnership each participating city will set in place during the lifetime of the project an action plan to be fully implemented in the upcoming years, increasing its CC related resilience.

Result 2	
Programme result indicator	2.4.R.2: Solutions taken up or up-scaled by organisations
Measurement unit	solutions
Baseline	0,00
Target value	4,00
Delivery period	
Describe in more detail the change expected [recommended in Step 1: 500 characters]	Three solutions tested, verified and demonstrated in 4 pilot actions for climate adaptive water management in a variety of specific local situations • Decision-support tool for technical groundwater management • Recommendations for action on tailored land policy strategies that contribute to get access to (private) land for Sponge City infrastructure

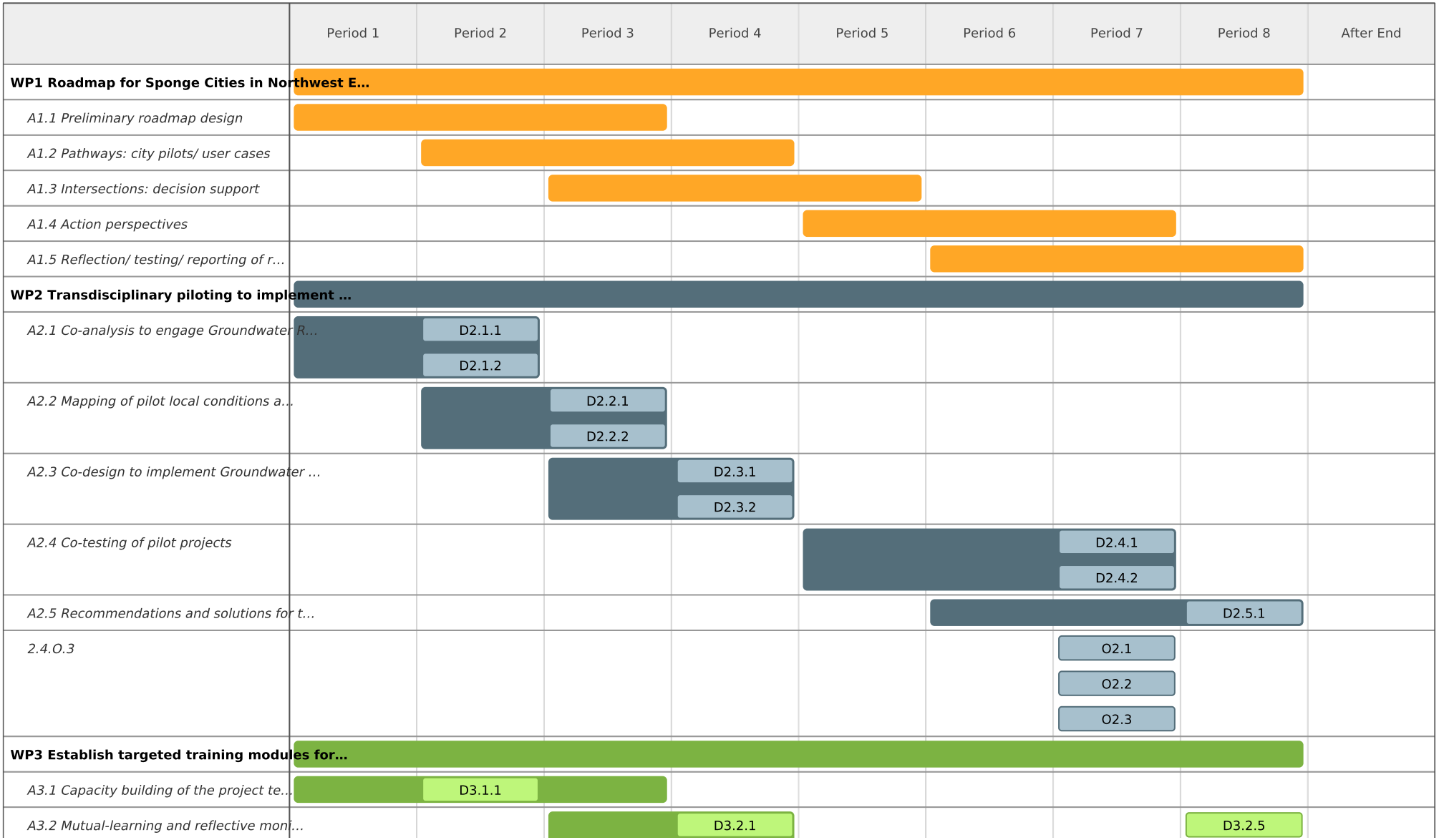
Result 2	
	• Tool-box for community participation processes on groundwater related issues The solutions jointly developed are tackling key challenges and barriers for implementation of the Sponge City concept.

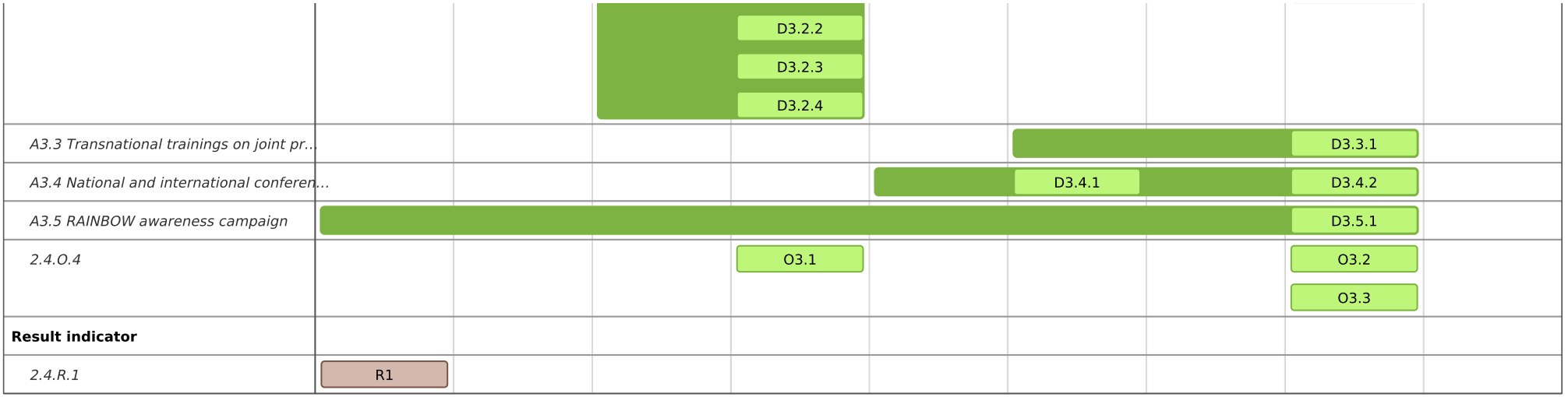
Result 3	
Programme result indicator	2.4.R.3: Completion of joint training schemes
Measurement unit	participants
Baseline	0,00
Target value	75,00
Delivery period	
Describe in more detail the change expected [recommended in Step 1: 500 characters]	In the early phase of the project training of staff of the project partners will be done, serving also as a frontrunner of the training modules offered in the second half of the project to wider regional networks in cooperation with regional training providers. Training includes modules on strategy development, methodology of action planing and the three solutions as there are decision-support-tool, land policy strategies and community participation. These include training of technical and administrative staff, water managers and urban planners, experts and service providers on monitoring and modelling of climate change related impacts, targeted measures and technical solutions as well as strategy and action planning.

Result 4	
Programme result indicator	2.4.R.4: Organisations with increased institutional capacity due to their participation in cooperation activities across borders
Measurement unit	Organisation
Baseline	0,00
Target value	25,00
Delivery period	
Describe in more detail the change expected	Organisations of the 10 partners will promote

Result 4	
[recommended in Step 1: 500 characters]	transnational cooperation, exchange knowledge and experience through active participation in project workshops and trainings, thus strengthening their capabilities in groundwater resources management and increasing their institutional capacity. Though the trainings and the dissemination activities especially among the regional city networks of the partners, also other cities (estimated around 15 in total) will significantly benefit, take-over and so increasing their capacities too.

C.6 Project Time Plan




D3.2.2
D3.2.3
D3.2.4
A3.3 Transnational trainings on joint pr...
D3.3.1
A3.4 National and international conferen...
D3.4.1
D3.4.2
A3.5 RAINBOW awareness campaign
D3.5.1
2.4.O.4
O3.1
O3.2
O3.3
Result indicator
2.4.R.1
R1

C.7 Project management

In addition to the thematic work you will do in your project, you will need time and resources for coordination and internal communication. Please describe below how you plan to organise yourself to ensure the project work runs smoothly.

C.7.1 How will you coordinate your project?

Who will be responsible for coordination? Will you have any other management structures (e.g., thematic groups, WP managers)? How will the internal communication work?

Lead Partner LHS will be responsible for project coordination, thus securing an efficient organizational structure and internal communication flow with the JS and between PPs and LP. This includes a sound financial management and cost planning structure. LHS has decades of experience in managing EU-funded projects and a lot of expertise in INTERREG, hereby acting as a lead partner several times. We foresee two levels of management:
1. Strategic: Project Steering Committee (PSC) will be the body consisting of one representative of each Project Partner duly authorised to represent the respective LP and PP institutions. The PSC will be formally established at the project kick-off. The PSC will be responsible for monitoring of project implementation, validation of content & finance and reviewing the project management in periodic meetings. In case of necessary changes to the work plan PSG will make decisions. PSC will be taking decisions for RAINBOW project consortium by a majority of 4/5 votes. The PSC will come together in semi-annual meetings and on demand online.
2. Operational: Project Management Team (PMT): According to the thematic structure of the WPs the operational level of project management will be done by project management team PMT, meeting bi-monthly and formed by the overall project manager of LP and its financial manager, communication manager and each WP-leader. This reflects the interrelation and integration of WP activities and The PMT will be formally established at the project kick-off meeting. The PMT will meet usually online to discuss performed and planned activities/deliverables, and to monitor project implementation. The PMT will communicate with PSC by e-mails, phones and online meetings according to demand.
The LP takes the overall responsibility for sound implementation and coordination via its role as the head of the project management bodies PSG and PMT. Associated partners will be involved as observers and advisers in the project.

C.7.2 Which measures will you take to ensure quality in your project?

Quality management: How will you ensure project quality (quality control measures)? Risk management: List the three main risks of your project and potential mitigation measures.

Quality of RAINBOW project will be monitored at two levels. During each period day-to-day quality monitoring and support will be performed by WP-leaders, who will stay in full contact with all PP involved in the WP and responsible for the individual deliverables & outputs. WP-leaders are already identified at preparation stage the partners responsible for each deliverable & output within their WPs. Regular meetings during each period are foreseen for each WP.
WP-leaders will also stay in day-to day e-mail contact with LP and PMG, especially in case of any correction measures at project level are needed. The partners responsible for leading the individual WPs are:
PP10 (NL) for WP1
PP2 (BE) for WP2
LP (DE) for WP3
At the end of each reporting period a partner meeting will be organized and then the WP-leaders will report on the overall progress of the WP, i.e. all deliverables & outputs within their WPs. PMG will give an assessment of deliverables & outputs within each WP and will propose correction measures whenever applicable. PP being the meeting host will prepare (with help of LP) minutes from each project meeting & send it to all PPs. One kick-off and eight semi-annual meetings (the last in combination with final conference) will be organised within the partnership .
Evaluation of RAINBOW project progress will be done twice in a year during partner meetings by PSC directly involved in day-to day project implementation able to evaluate the project progress.
From today's perspective three main risks should be considered:

- Staff risk: loss of key skills due to inactive periods of project staff due to sick leaves, resignation, internal shifting, etc.

We encounter this risk by anticipatory acting enabling strategic decisions in due time to achieve replacements by equally skilled and qualified staff.

- Management risk: Failure to comply with time limits for processing WPs due to unexpected situations like delayed administrative acting, etc.

We are confident to tackle this risk by continuous monitoring and steady assessment executed by PMT, enabling early reporting of delays and decisions on reasonable adjustments if necessary.

- Technical implementation risk: Implementation in the pilots is hampered due to lacking accessibility of field areas, data availability not according to expectations, not enough sampling material, etc.

To manage this risk, all required information has been identified in the proposal stage. With start of WP 2, stakeholders like land owners, residents, site staff, etc. will be engaged and involved in the process enabling early coordination and adjustment if necessary.

C.7.3 What will be the general approach you will follow to communicate about your project?

Who will coordinate project communication and how will he/she ensure the involvement of all partners? How will the communication function contribute to uptake and scale up of your project results? Please note that all communication activities, including a compulsory communication strategy as first deliverable, should be included in the work packages as an integral part of your project. There is no need to repeat this information here.

According to the project specific objectives and related target groups the general communication approach focusses on

- Municipalities and developers/land owners in relation to the sponge city strategy and roadmap
- Sensibilisation of citizens and city administrations for climate change related effects, especially the general public and residents of the pilot cities in relation to measures and solutions which can be implemented
- Technical experts in administrations and related service providing community which should be reached with the training and capacity building activities to facilitate the uptake of project outputs

The role of communication manager (CM) will be taken by an external expert of LP, an experienced communication expert for Interreg Programme. A communication strategy describing communication objectives and target groups in detail and elaborating recommendations how to reach them efficiently will be compiled within the first three months of project lifetime. A communication plan with a specified time schedule listing all planned activities in an implementation table will be part of the strategy. The strategy will be reviewed once a year and adjusted if needed. It will be done in close cooperation with all partners and will ensure an ongoing outreach after project lifetime to achieve uptake of project results.
To ensure involvement of all partners each PP will assign a person responsible for communication. The CM will advise the PP communication specialists to ensure adherence to programme requirements take care of proper branding of project activities, A project communication team (PCT) will be established at kick-off meeting involving all PPs to be coordinated by the CM. The PCT will meet on demand and online to coordinate all major issues related to the project communication plan and the general approach. CM will instruct and support the partner communities with local activities and events, transferring project information to the national language, etc.
CM will establish standard communication channels and activities such as project website and social media eg. establishing RAINBOW LinkedIn community. PP will deliver their contributions to the CM who will integrate them in appropriate media like the weekly newsletter and the Linkedin community, thus ensuring regular updates on project achievements. CM constantly inviting them to contribute and to deepen specific aspects via the PMT will facilitate all partners' involvement. The team will also ensure the transfer of deliverables & outputs to reach target groups through the most impactful and well-established channels in their regions for ongoing information about RAINBOW activities.
CM will ensure an outreaching communication with the wider public finding an appropriate communication style and language. To create a project recognition factor, slogans and "catchy messages" will be collected and different types of messages labelled to achieve specific target groups.

C.7.4 How do you foresee the financial management of the project and reporting procedures for activities and budget (within the partnership and towards the programme)?

Define responsibilities, deadlines in financial flows, reporting flows, project related transfers, reclaims, etc.

to be developed...

C.7.5 Cooperation criteria

Please select all cooperation criteria that apply to your project and describe how you will fulfil them.

Cooperation criteria		Description
Joint development	Yes	The project has been jointly developed by the consortium of PP. We have started the project preparation in December 2023. The intervention logic, project aim and scope of pilot actions have been identified jointly.
Joint implementation	Yes	All PP will be actively involved in project implementation and communication. Within WP 1 all PP will jointly work on roadmap, strategy and action plans, WP2 jointly implementing pilot actions, and WP 3 jointly organizing trainings and workshops.
Joint staffing	Yes	In all WPs the staff of respective PP will be working jointly in international teams on all pilot actions: PA Stuttgart together with LP, PP2, PP9, PP 4; PA Brussels with LP, PP2, PP6, PP7, PP8; PA
Joint financing	Yes	LP will submit a regular Joint Finance Report based on certificated costs of all PP. After acceptance the total amount of ERDF will be transferred to LP. Respective amounts will be distributed as soon as possible by LP towards the PP.

C.7.6 Horizontal principles

Please indicate which type of contribution to horizontal principles applies to the project, and justify your choice.

Horizontal principles	Type of contribution	Description of contribution
Sustainable development	positive effects	In line with UN SDGs 6, 11 and 13 we mitigate the influence of climate change in urban environments. By developing a holistic strategy for protection and restoration of water-related ecosystems and involving stakeholders we act as a role model
Equal opportunities and non-discrimination	neutral	General non-discrimination principles will be obtained. PP will give special attention to equal access to project events and information and to prevent any discrimination because of age, gender, religion, ethnicity or sexual orientation.
Equality between men and women	neutral	All partners are fulfilling gender equality policies. All genders (men, women, diverse) contributors have equal opportunities to be involved in the project.

C.8 Long-term plans

As a programme, we would like to support projects that have a long-lasting effect in the territory and those who will benefit from them. Please describe below what you will do to ensure this.

C.8.1 Ownership

Please describe who will ensure the financial and institutional support for the outputs/deliverables developed by the project (e.g., tools), and explain how these outputs/deliverables will be integrated in the work of the institutions.

C.8.2 Durability

Some outputs/deliverables should be used by relevant groups (project partners or others) after the project's lifetime, in order to have a lasting effect on the territory and the population. For example, new practices in urban transport need to be used by local authorities to have cleaner air in the city, and the whole population will benefit from this. Please describe how your outputs/deliverables will be used after the project ends and by whom.

D - Project budget

D.1 Project budget per fund

Partner number	Status	Organisation abbreviation	Country (click in cell to access drop-down list)	ERDF	ERDF % Rate	% of total ERDF	Public Contribution	Auto Public Contribution	Private Contribution	Total partner contribution	Total eligible budget	% of Total eligible budget
LP1	Active	LHS	Deutschland (DE)	566.328,00	60.00	27.31	377.552,00	0,00	0,00	377.552,00	943.880,00	27.31
PP2	Active	USTUTT	Deutschland (DE)	593.949,87	60.00	28.64	395.966,58	0,00	0,00	395.966,58	989.916,45	28.64
PP3	Active	TUDO	Deutschland (DE)	0,00	0.00	0.00	0,00	0,00	0,00	0,00	0,00	0.00
PP4	Active	BRGM	France (FR)	0,00	0.00	0.00	0,00	0,00	0,00	0,00	0,00	0.00
PP5	Active	CALL	France (FR)	0,00	0.00	0.00	0,00	0,00	0,00	0,00	0,00	0.00
PP6	Active	VBX	Belgique/België (BE)	695.592,20	60.00	33.54	463.728,14	0,00	0,00	463.728,14	1.159.320,34	33.54
PP7	Active	CZ-CS	Belgique/België (BE)	0,00	0.00	0.00	0,00	0,00	0,00	0,00	0,00	0.00
PP8	Active	ULB	Belgique/België (BE)	217.933,11	60.00	10.51	145.288,74	0,00	0,00	145.288,74	363.221,85	10.51
PP9	Active	Zwolle	Nederland (NL)	0,00	0.00	0.00	0,00	0,00	0,00	0,00	0,00	0.00
PP10	Active	Deltares	Nederland (NL)	0,00	0.00	0.00	0,00	0,00	0,00	0,00	0,00	0.00
Total				2.073.803,18			1.382.535,46	0,00	0,00	1.382.535,46	3.456.338,64	100.00

D.2 Overview partner / cost category

Partner number	Organisation abbreviation	Country (click in cell to access drop-down list)	Staff cost	Office and administrative costs	Travel and accommodation	External expertise and services	Equipment	Infrastructure and works	Other costs	Lump sum	Total eligible budget
LP1	LHS	Deutschland (DE)	428.000,00	64.200,00	25.680,00	426.000,00	0,00	0,00	0,00	0,00	943.880,00
PP2	USTUTT	Deutschland (DE)	707.083,18	0,00	0,00	0,00	0,00	0,00	282.833,27	0,00	989.916,45
PP3	TUDO	Deutschland (DE)	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
PP4	BRGM	France (FR)	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
PP5	CALL	France (FR)	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
PP6	VBX	Belgique/België (BE)	685.592,20	102.838,83	41.135,53	7.500,00	10.000,00	312.253,78	0,00	0,00	1.159.320,34
PP7	CZ-CS	Belgique/België (BE)	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
PP8	ULB	Belgique/België (BE)	294.563,52	44.184,52	17.673,81	2.800,00	4.000,00	0,00	0,00	0,00	363.221,85
PP9	Zwolle	Nederland (NL)	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
PP10	Deltares	Nederland (NL)	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Total			2.115.238,90	211.223,35	84.489,34	436.300,00	14.000,00	312.253,78	282.833,27	0,00	3.456.338,64