Interreg North Sea

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COOL CITIES

Amsterdam University of Applied Sciences

Cool Cities

Work Package 1 Plan of Approach

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Use the navigation panel or the Table of Contents at the top of the document to quickly find your way through the Plan of Approach. WP1 covers a wide range of topics, and you may only need specific sections. Feel free to jump to the parts most relevant to your work and return to this document whenever you need clarification. If you come across unfamiliar terms or acronyms, check the Glossary of Definitions at the end. For background sources that informed this plan, see the Reference List, also located at the end. While not all references are cited directly in the text, they supported the research and methodology developed by AUAS for WP1.

Executive summary

This Plan of Approach outlines how Work Package 1 (WP1) of the Interreg NSR Cool Cities project will support eight partner cities in the governance and planning of urban heat adaptation. It is written for urban professionals, project partners, and urban planners involved in the co-creation of adaptation strategies.

Purpose

Cities in the North Sea Region are experiencing more frequent and intense heat. While many cities are taking action, such as planting trees or installing green roofs, adaptation efforts often do not clearly identify who is most at risk or how priorities should be set. Responsibilities are spread across departments, and available data on social and physical vulnerability is not always used. This makes it harder to plan for long-term, equitable adaptation.

WP1 helps cities translate climate risk data and policy goals into clear, inclusive, and actionable planning documents. It focuses on how cities can better organize their internal processes, align priorities, and plan interventions that are fair and effective. The plan also supports cities in thinking about the entire heat adaptation process, even though WP1 itself focuses mainly on the governance and planning phases. While WP1 focuses specifically on urban heat adaptation, we recognize that some partner cities may wish to reflect other local risks, such as flooding or drought, in their planning processes. These broader risks are not included in the formal scope of WP1, but cities are free to integrate them where they relate to or support heat adaptation goals.

Throughout this plan, we use terms such as climate risk, local risk, and heat risk. WP1 specifically addresses heat-related risks, based on the IPCC risk framework. However, many of the methods described—such as mapping, co-creation, and prioritisation—can also be applied to other climate risks, if cities choose to use them that way.

Objectives

WP1 has three main goals:

- To co-create strategic planning documents that guide long-term, equitable urban heat adaptation;
- To test and refine a planning method based on the IPCC climate risk framework and earlier European studies;
- To deliver practical lessons and tools that can be used by other cities working on similar challenges.

Activities

The work is organized into three key activities:

- WP1.1 – Local Context Summary Memos (LCSMs): These are city-specific overviews of heat risk, social vulnerability, and governance context. They combine spatial analysis, policy review, and stakeholder input.
- WP1.2 – Cool Network Plans (CNPs): These plans create a strategic vision for connected cool spaces and routes across each city, supporting long-term resilience goals.
- WP1.3 – Local Action Programmes (LAPs): These are prioritized project lists developed through co-creation, using a participatory Multi-Criteria Analysis (MCA) process to identify the most effective and fair interventions.

Each activity builds on the previous one and includes local workshops, joint reviews, and feedback loops to strengthen collaboration across departments and sectors.

Co-Creation and engagement methods

All activities in WP1 are based on a structured co-creation process. This means that cities and researchers work together from the start to shape the planning tools, choose the data, and make decisions. The process includes joint workshops, feedback sessions, mapping exercises, and guided discussions.

WP1 uses an adapted version of the Delphi method, which combines expert knowledge with step-by-step group reflection. This helps cities bring together people from cities and sectors to agree on goals, risks, and priorities. The method involves multiple rounds of discussion, validation, and adjustment. This makes the results more realistic, widely supported, and easier to use in real planning.

By using co-creation, WP1 ensures that strategies are not only conventionally sound but also locally rooted and ready to be used in real decision-making.

Methodological foundation

WP1 is built on the IPCC risk framework, which defines climate risk as a combination of:

- Hazard (e.g. heatwaves),
- Exposure (who and what is located in at-risk areas),
- Vulnerability, which includes:
    - Sensitivity (how strongly people are affected),
    - Adaptive capacity (how well they can respond or cope).

The approach adapts tools from the Vulnerability Sourcebook (Fritzsche et al., 2014) and builds on earlier European applications (e.g. Maragno et al., 2020; Ellena et al., 2023). These earlier studies helped show how local data can inform risk mapping but lacked stakeholder involvement. Cool Cities advances this work by applying and testing the method in eight cities, using structured co-creation to ensure that plans are data-driven and informed by local needs.

Urban Heat Adaptation

Problem, gaps, and the role of Cool Cities WP1

The challenge of urban heat adaptation

Cities in the North Sea Region (NSR) are facing more frequent and intense heatwaves. Urban professionals, such as planners, advisors, and policy makers, are under pressure to develop fair and effective responses. While most cities have ambitions to adapt, there's still a major gap between long-term goals and everyday planning and decision-making.

In practice, most progress in urban heat adaptation has focused on technical measures, such as planting trees, installing green roofs, or designing shaded spaces. These interventions are essential, but they often do not account for who is most vulnerable, how decisions are made, or how priorities are set. Projects are frequently shaped by what's already being built or what funding is available, not by a structured understanding of local heat risk.

At the same time, many cities already hold valuable local data on issues like age, income, housing, and health factors that strongly influence how vulnerable people are to heat. But these data are rarely used systematically to guide planning. Without clear governance responsibilities or cross-departmental collaboration, efforts are fragmented. Community engagement, when it happens, is usually limited to consultation rather than shared decision-making.

The result? Even well-meaning projects risk overlooking the most vulnerable groups, failing to deliver equity, or losing political support over time.

The knowledge and practice gap

Urban heat adaptation is more than just design and implementation. It requires a full process that includes:

- Governance (Who decides? Who is responsible?)
- Planning (What are the priorities? Where is the risk?)
- Design & Implementation (What solutions fit where?)
- Monitoring & Learning (What works? What needs to change?)
- Standardising (How is quality defined? How is accountability ensured?)

Yet most practice and tools today focus narrowly on implementation and technical design. There's a lack of practical, tested methods that support cities in:

- Assessing heat risk using spatial and social data,
- Aligning across departments and political agendas,
- Involving professionals and residents in co-creating plans,
- Translating risk analysis into clear, actionable strategies.

Scientific foundations: The IPCC Risk Framework

Cool Cities is based on the IPCC risk framework, which is widely used around the world to understand and respond to climate risks. According to the IPCC (2014, 2022), climate risk depends on three key parts:

- Hazard – for example, a heatwave that can cause harm to people and the city;
- Exposure – how many people or important places (like infrastructure, hospitals, schools) are located in areas affected by the heat;
- Vulnerability – how badly people or systems might be affected by the heat.

Vulnerability has two main parts:

- Sensitivity – how strongly people or systems are affected by heat. For example, older people or those with health problems are more sensitive to heat.
- Adaptive capacity – how well people or communities can prepare for, cope with, or reduce the effects of heat. This depends on factors like income, education, social support, access to green space, and housing quality, for example.

This risk model helps cities understand who is most at risk, where the biggest problems are, and what support people need to stay safe and healthy.

To make this model easier to use in practice, the Vulnerability Sourcebook (Fritzsche et al., 2014) was developed. It gives step-by-step guidance for using data to assess exposure,

sensitivity, and adaptive capacity. However, the Sourcebook was written mainly for the Global South, and some of its advice does not fit the situation in European cities.

Researchers like Maragno et al. (2020) and Ellena et al. (2023) tested this method in two European cities. They created maps that combined information on heat (such as PET – physiological equivalent temperature), green space access, and housing quality to show where people were most at risk.

But these studies were mostly done by researchers, without involving local stakeholders in choosing data or checking results. This made the method harder for cities to use in their planning work. The research showed that while the scientific method works, it needs to be adapted through co-creation, working with local professionals and communities to make it useful and trusted.

Cool Cities WP1 advances the state-of-the-art

Cool Cities WP1 builds on the scientific foundation. It tests the same scientific framework in eight cities, working with local stakeholders to adjust the method and make it part of real planning and decision-making processes.

WP1 (led by AUAS) focuses on governance and planning, using co-creation to help eight partner cities develop strategic planning documents that support long-term heat adaptation:

- WP1.1 – Local Context Summary Memo (LCSM): Integrates spatial risk analysis, governance insights, and local policy context. Includes a Heat Risk Index tailored to each city.
- WP1.2 – Cool Network Plan (CNP): A spatial and strategic vision for connected equitable cool spaces and routes.
- WP1.3 – Local Action Programme (LAP): Prioritizes projects based on a structured, co-created Multi-Criteria Analysis (MCA).

Unlike previous research, Cool Cities WP1:

- Applies this method across eight diverse cities, testing its flexibility and robustness;
- Uses co-creation with municipal professionals to refine and adapt tools;
- Encourages outputs are embedded directly into cities' existing planning systems;
- Supports coordination between all phases in the urban heat adaptation process.

This approach connects data with decisions, and makes equity and inclusion visible, measurable, and actionable in planning.

Linking planning with the full urban heat adaptation process

Although WP1 does not cover every stage of adaptation (e.g. design, implementation, monitoring and evaluating and standardizing), it is designed to support cities in governing and planning across the full cycle. Each output helps cities:

- Align stakeholders and responsibilities (Governance)
- Use data to define clear priorities (Planning)
- Prepare for design, implementation, monitoring, evaluation, and standardising (Next phases)

The LCSM, CNP, and LAP are not just reports, they are strategic tools that help cities plan with clarity, equity, and accountability. By anchoring them in co-creation and real governance and planning contexts, Cool Cities provides a tested pathway for cities to govern and plan urban heat more effectively and inclusively.

Work package 1 overview

What is WP1 about?

WP1 helps cities understand their local situation, including heat risks, social needs, and planning challenges. It turns this knowledge into practical strategies for urban heat adaptation. The goal is to support cities in creating and expanding networks of cool places by improving planning and governance, involving the right people, and using local data. Although WP1 does not assess other climate hazards, cities may choose to bring in additional local risks, such as drought or flooding, where these affect or strengthen urban heat adaptation efforts. This is at the discretion of the cities and not required in the WP1 methodology.

WP1 uses guiding research questions (see Figure 1) and focuses on co-creation and making sure the results can be used in real city planning over the long term.

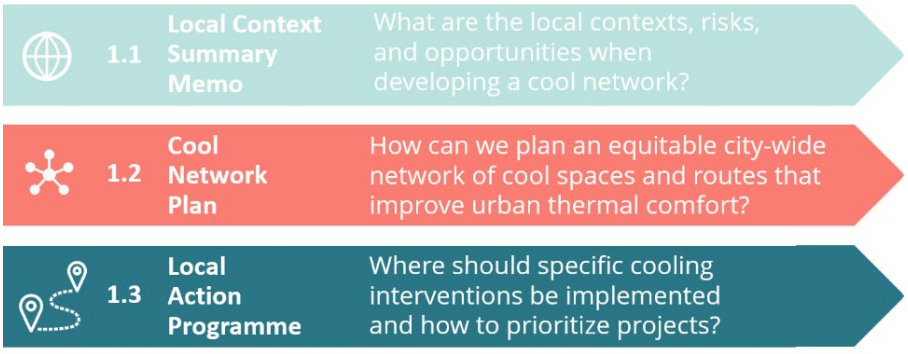

Figure 1: AUAS framing research questions

Who is the primary user group of WP1?

WP1 is mainly for urban planners and policy professionals working in local and regional governments. These users are responsible for tackling heat stress in the built environment. WP1 gives them tools, such as maps, methods, and planning frameworks, to assess local risks, identify vulnerable groups, and create strategies for cool networks. It also supports consultants and private sector planners who work with cities on heat-related projects. By fitting into existing planning processes and encouraging collaboration across departments, WP1 helps cities include heat adaptation in short-, mid-, and long-term plans. Urban planners from partner cities are especially encouraged to join WP1 meetings to share feedback and help shape the results.

What is the role of AUAS?

At AUAS, the Climate Resilient City research group focuses on applied research that supports real-world urban climate adaptation. As the WP1 leader, our role is to develop, test, and improve methods that help cities govern and plan for urban heat adaptation. We work closely with partner cities (PCs), Knowledge Partners (KPs) HCU, and ZEBAU to co-create tools like the LCSM, CNP, and LAP. While we support cities directly, our main goal is to produce knowledge that can also be used by other cities in the NSR.

Unlike a consultancy, our approach is based on mutual learning and ongoing reflection. Instead of delivering fixed solutions, we explore what works across different planning systems and governance structures. This helps us understand which methods are most useful and adaptable in practice, so they can be taken up by both small and large cities across the NSR.

By connecting research with real adaptation governance and planning needs, WP1 helps cities think strategically about heat, while also building evidence for future policy, planning, and training in the NSR. The goal is not just to deliver outputs, but to strengthen climate adaptation governance and planning more broadly.

What are the WP1 research questions?

WP1 focuses on the governance and planning side of urban heat adaptation. To create useful and realistic strategic planning documents, cities need to consider the full adaptation process, from governance and planning, to design, implementation, monitoring, and standardising. Each step supports the next: governance defines roles and responsibilities; planning identifies risks and sets priorities; design and implementation translate strategies into real interventions; monitoring tracks progress and effectiveness; and standardising ensures quality, comparability, and long-term improvement. If any step

is missing, adaptation projects risk becoming unrealistic, disconnected from practice, or difficult to implement.

AUAS has drafted a set of guiding research questions to support this full process. These were based on our expertise in governance and planning, and on existing literature in climate adaptation and urban decision-making. They are designed to support the development of each city's LCSM, CNP, and LAP, framing key themes such as strategy, equity, feasibility, and engagement.

Some initial input has already been collected from PCs through co-creation workshops, bilateral sessions, and partner meetings. This has helped shape the draft research questions. Each WP1 activity is structured around one main overarching question, supported by several smaller guiding questions. This structure helps ensure that every task or deliverable contributes to answering a clear set of shared questions, rather than feeling arbitrary or unclear. The aim is to keep the work grounded, relevant, and transparent, so cities always understand why we're doing what we're doing, and how it supports their local planning needs.

For WP1.1, we will share a final form inviting cities to vote on which questions are most relevant to their context. For WP1.2 and WP1.3, the guiding questions have already been drafted and will be refined and validated through the co-creation methods described in the co-creation section (e.g. bilateral sessions, workshops, and interactive feedback). This process ensures that the questions remain connected to local needs and continue to evolve throughout the project.

To strengthen ownership and alignment, we are using a Delphi-informed approach to structure decision-making. This step-by-step process encourages reflection, transparency, and shared direction, allowing each city to shape how WP1 responds to their specific needs.

WP1.1 lays the foundation with the LCSMs, with guiding questions related to five key topics of governance and planning:

- Heat stress and exposed people and places
- Vulnerable groups and areas
- Adaptation goals
- Stakeholder involvement
- Opportunities and barriers for governance and implementation

These questions will provide the foundation for the development of the CNPs and LAPs, while also highlighting where more knowledge, tools, or support may be needed.

WP1.2 focuses on the CNPs, with guiding questions across four key areas (subject to change during the refinement of WP1.2):

- Strategic visions and long-term goals
- Equity and inclusion
- Spatial priorities and planning logic
- Governance and stakeholder involvement

These questions will help cities connect local knowledge to planning decisions and ensure the CNP fits with wider urban agendas.

WP1.3 supports the LAPs. It will use questions related to areas (subject to change during the refinement of WP1.3):

- Project selection and prioritisation
- Feasibility and expected impact
- Co-creation and procedural fairness
- Evidence-based decision-making

These questions will guide cities in moving from strategy to action, while keeping equity and practicality in focus.

Together, these questions help cities create strategic planning documents that are not just plans on paper, but tools they can use in real planning and decision-making. WP1 works closely with WP2 (led by Arnhem with support from ZEBAU) and WP3 (led by HCU) to make sure methods are connected and the full adaptation process is supported.

How is co-creation used in WP1?

WP1 uses a structured, transdisciplinary co-creation process to help cities move from understanding local heat risks (LCSM) to developing strategic plans (CNP) and prioritizing projects (LAP). The process combines tools from the Delphi method, design thinking, and participatory planning, adapted to fit the real needs of local governments. Cities are not passive users of a fixed method. Instead, they are active co-developers of the outputs. Each step of WP1 includes feedback, reflection, and learning, building shared understanding within and across cities. In addition to the co-creation sessions planned below, KPs meet regularly to give updates, collaborate, and share knowledge.

Table 1: Co-creation planning

#	Co-creation type	Who	WP	2024				2025				2026				2027			
				Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
	Partner meetings	All partners	ALL	O	L/O	O	L	O/L	O	L	?	?	?	?	?	?	?	?	?
1	WP1 extra session attached to regular partner meeting (online)	All partners	ALL																
2	Bilateral co-creation sessions on data and policy (online)	AUAS + PCs	WP1.1																
3	Questionaire on policies, strategies, stakeholders, measures, indicators (online)	PCs	WP1.1																
4	World Café LCSM workshop (Gothenburg)	All partners	WP1.1																
5	Interactive presentation with Slido to set CNP goals (Hamburg)	All partners	WP1.2																
6	Mentimeter survey to prioritize research questions (online)	All partners	WP1.1																
7	Bilateral sessions to finalize LCSM inputs (online)	AUAS + HCU + PCs	WP1.1																
8	Workshop to support initial CNP decisions peer review & alignment (Sint-Niklaas)	All partners	WP1.2																
9	Bilateral sessions to refine and finalize CNP (online)	AUAS + PCs	WP1.2																
10	PC local co-creation CNP session: collective vision (PC led)	PCs	WP1.2																
11	Bilateral sessions LAP (online)	AUAS + PCs	WP1.3																
12	Workshop to support LAP development and MCA (TBD)	All partners	WP1.3																
13	Bilateral sessions LAP (online)	AUAS + PCs	WP1.3																
14	PC local co-creation LAP session: project prioritization (PC led)	PCs	WP1.3																
13	Bilateral sessions review WP1 (online)	AUAS + PCs	ALL																

What is the Delphi method in WP1?

WP1 follows a Delphi-informed structure: a step-by-step, multi-round process used to gather and refine expert and stakeholder input. It supports joint learning by combining individual and group sessions, feedback loops, and structured tools.

The process includes 13 co-creation opportunities across WP1.1 to WP1.3 and follows this logic:

- Each session builds on the last: from context (LCSM) to strategy (CNP), to action (LAP)
- Cities help refine indicators, research questions, and planning priorities over time
- The process blends structured forms, bilateral sessions, workshops, and polling
- It captures both shared goals and local differences, giving each city flexibility within a common framework

What is transdisciplinary co-creation?

Co-creation in WP1 attempts to bring together researchers and municipal professionals such as planners, policy officers, adaptation advisors, urban designers, project managers, and community engagement advisors. Together, they define problems, build knowledge, and create practical solutions. This approach:

- Promotes mutual learning between cities and knowledge partners
- Combines academic and practical expertise to improve both relevance and quality
- Supports both centrally facilitated sessions and locally led activities
- Encourages internal alignment, cross-department coordination, and political buy-in

How does WP1 use design thinking?

WP1 follows design thinking principles to guide engagement and decision-making. This approach is:

- Human-centred – focused on the needs of users (city planners, stakeholders, communities)
- Iterative – ideas are tested and refined through feedback and learning
- Collaborative – decisions are made together with cities, not for them

Examples in WP1:

- Empathize: Cities explore data and stakeholder needs in early sessions
- Define: Research questions and indicators are refined together
- Ideate & test: Cities use MCA to compare options and co-create solutions
- Adapt: Each city applies tools in context-sensitive ways

Types of engagement formats

Term	*Definition*
Bilateral online co-creation sessions	One-on-one digital meetings between each partner city and AUAS to work through key planning steps, validate findings, and adapt tools to local needs.
Questionnaire	A structured form used to gather input from cities about goals, preferences, or priorities. Responses help guide upcoming sessions and tool adjustments.
Workshops (World Café)	Interactive group meetings where small groups rotate between tables to discuss key questions. This format encourages equal participation and shared learning.
Interactive presentation	A live session combining short presentations with open dialogue, polling, or feedback. Used to present findings and invite reactions in real time.

What are the outputs from WP1?

WP1 delivers three main outputs that help cities plan for heat adaptation in a clear and structured way:

- The LCSM brings together spatial data, social vulnerability, and governance insights. It helps cities build a shared understanding of local heat risk.
- The CNP turns this understanding into a long-term vision. It maps out how cities can create a connected and fair network of cool spaces and routes.
- The LAP identifies and prioritizes specific project locations. It uses co-creation and MCA to guide fair and informed decision-making.

Together, these outputs help cities move from analysis to action, across short-, mid-, and long-term planning. You can think of WP1's activities like a funnel: each step narrows and focuses the work, feeding directly into the roadmap developed in WP3 (see Figure 2).

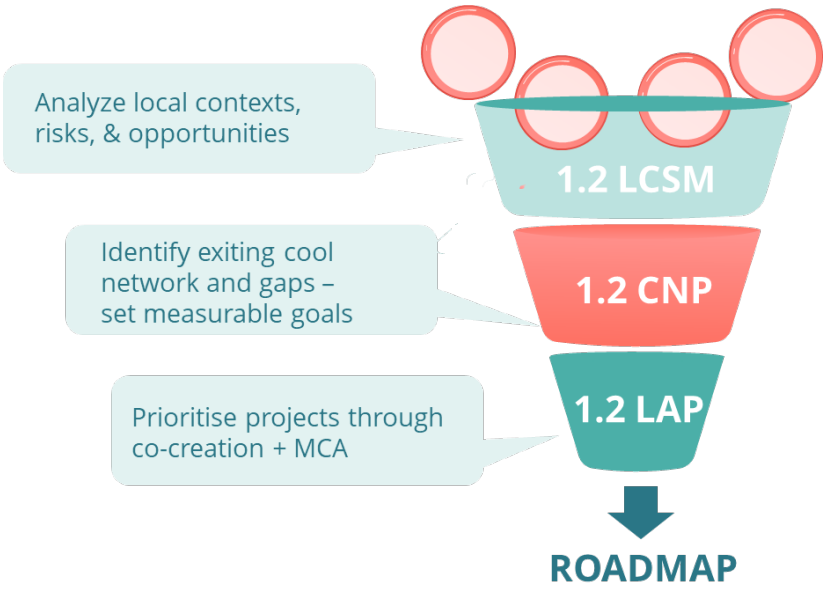

Figure 2: : WP1 outputs build on each other and feed into the Roadmap in WP3

WP1 activities overview

What are the activities in WP1?

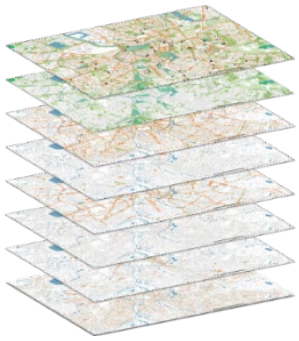

Figure 3: Layering data is a conventional approach to climate adaptation analysis and planning. AUAS 2021

WP1 includes five activities. The core of the work is formed by WP1.1, WP1.2, and WP1.3. These are directly connected and build on each other step by step, from understanding local risks to creating strategies and selecting actions. WP1.4 supports communication of outputs and results. WP1.5 was a one-time launch event and is not part of the main workflow. Each activity is linked to a set of research questions (see next page), and all activities use a shared co-creation process.

WP1.1 What are the local contexts, risks, and opportunities when developing a cool network?

Output: LCSMs

WP1.1 helps each city build a shared understanding of local heat risks. It combines:

- Spatial analysis of heat, green space, and vulnerability
- Governance and policy review of how heat is addressed
- Stakeholder input to align findings with real-world needs

This forms the evidence base for WP1.2 (CNPs) and WP1.3 (LAPs).

WP1.1 Goal & objectives

Goal: To map and assess local heat risk and vulnerability, based on physical conditions, social data, and synthesize governance contexts. Note: WP1.1 only maps risks related to heat. However, cities may incorporate other local climate risks in their internal planning if they believe these are important for understanding or addressing heat resilience.

Objectives:

- Collect and map relevant spatial heat indicators
- Identify sensitive and vulnerable population groups
- Review local adaptive capacity
- Analyse policies and strategies linked to heat adaptation

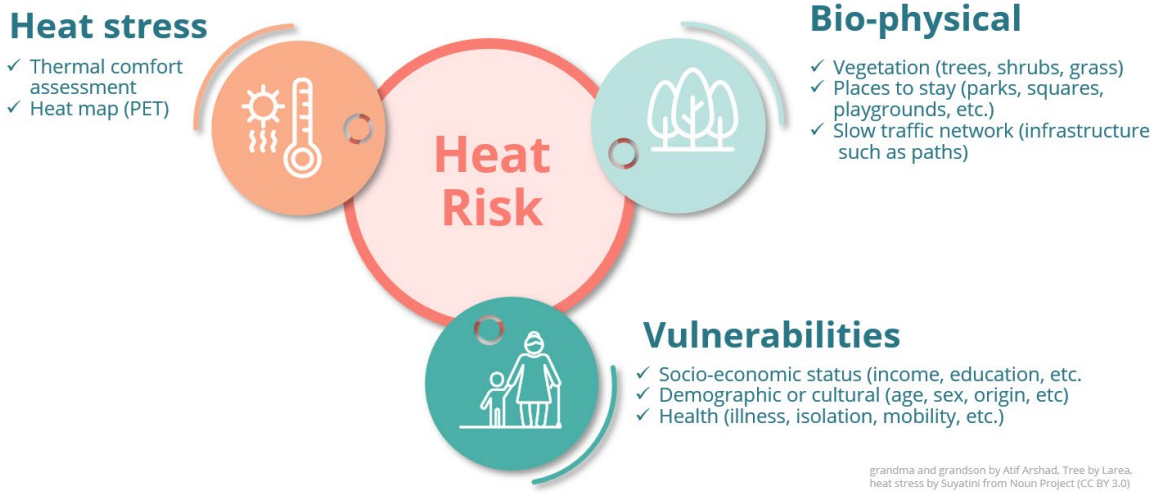

Figure 4: the components of the spatial part of the LCSM together give a clear indication of where heat risks exist, serving as a good foundation for the CNPs and LAPs

WP1.1 Contents

- An interactive StoryMap
- A synthesis of local policies, strategies, and stakeholders
- Co-creation session summaries
- A set of spatial maps, including (*when data availability allows):
    1. Heat/shade (e.g. PET, Tmrt, shadow)
    2. Green and blue infrastructure
    3. Places to stay
    4. Slow traffic routes
    5. Vital urban functions
    6. Future and planned urban projects
    7. Social exposure indicators
    8. Vulnerability indicators
    9. TCA of places to stay and slow traffic routes
    10. Combined heat risk index (HRI)

WP1.1 Roles & responsibilities

Figure 5: WP1.1 roles and responsibilities

AUAS

- Leads spatial and governance analysis
- Supports data collection and mapping where needed
- Facilitates co-creation

PCs

- Share relevant spatial and policy data
- Join co-creation sessions and validate draft and final results

KPs

- Review methods and ensure alignment with WP2 and WP3

WP1.1 Planning

WP1.1 runs from Q1 2024 to Q3 2025. Initial activities focused on collecting spatial and policy data, supported by bilateral sessions and a workshop. In Q2 2025, AUAS will finalize the spatial and governance analyses and deliver the final draft LCSMs. Partner cities are expected to provide feedback by Q3 2025. Once validated, the LCSMs will inform WP1.2 and WP1.3 planning and prioritization processes.

Table 2: Q1 covers January to March, Q2 covers April to June, Q3 covers July to September, and Q4 covers October to December.

1.1 Tasks		2024				2025				2026				2027			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
	Partner meetings	O	L	O	L	O	L	L	O	O	L	O	L	O	L	O	L
Co-creation	Organize & facilitate 1st set of bilateral sessions (online)																
	Organize & facilitate World Café LCSM workshop (Gothenburg)																
	Organize & facilitate 2nd set of bilateral sessions (online)																
	Summarize co-creation sessions/workshops																
Policy	Develop comparative analysis methodology																
	Collect PC's policy summaries																
	Conduct literature review																
	Synthesize local (national, municipal, regional) policies																
	Synthesize EU policies																
	Final revisions policies																
Spatial	Develop heat risk assessment methodology																
	Inventory existing heat maps and datasets																
	Provide data support, collection, and standardization																
	Create relevant datasets (external/AUAS)																
	Create series of risk maps per partner city																
	Final revisions inventory + risk maps																
Output	Create/update LCSM layout - StoryMap																
	Summarize local contexts																
	Final revisions online LCSM																

WP1.2 How can we plan an equitable city-wide network of cool spaces & routes that improve urban thermal comfort?

Output: CNPs

Figure 6: Saint-Omer advanced vulnerability map, Urban Heat Atlas

WP1.2 builds on the LCSM to help cities develop a CNP, a long-term, city-wide vision introduced earlier in this document. It includes maps, goals, and strategies that guide how cooling can be integrated across public space, mobility, greening, and health agendas. The CNP also sets the foundation for selecting projects in WP1.3.

WP1.2 Goal & objectives

Goal: To establish a long-term, city-wide vision for a resilient Cool Network that mitigates heat stress, enhances urban thermal comfort, and promotes equitable, sustainable, and climate-adaptive urban environments.

Objectives:

- Translate spatial and governance insights from the LCSM into a forward-looking strategy
- Map existing and missing cool spaces and routes
- Define clear goals, functions, and principles for the network
- Align the vision with existing urban plans (e.g. climate, mobility, public space)
- Provide a foundation for project selection in the LAP

WP1.2 Contents

- A guidance document with a suggested structure
- A city-wide map of cool spaces & routes, highlighting current assets & gaps
- A written vision and strategic objectives for the network
- Alignment with other city plans and priorities

WP1.2 Roles & responsibilities

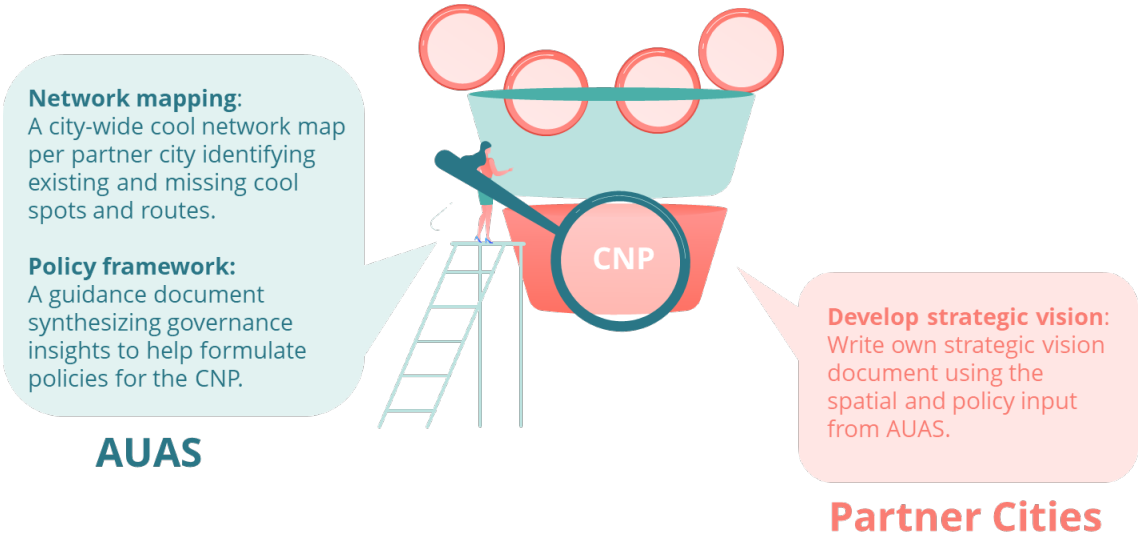

Figure 7: WP1.2 Roles and responsibilities

AUAS

- Prepares base maps of cool spaces and routes
- Provides a guidance document with suggested structure
- Facilitates co-creation of the method and outputs with cities and knowledge partners

PCs

- Draft their own CNP using the AUAS guidance and maps
- Align the vision with local policies and urban agendas
- Host local co-creation sessions to gather and validate input

KPs

- Review and provide feedback on the CNP method to ensure alignment with WP2 and WP3

WP1.2 Planning

WP1.2 runs from Q1 2025 to Q4 2025. It begins with the development of a shared method for creating CNPs. In Q3/Q4 2025, AUAS will deliver draft cool network maps and a guidance document with a suggested structure. Partner cities will then hold local co-creation sessions to adapt the maps, define network goals, and align with other urban agendas such as greening, health, and mobility. Cities are expected to draft and validate their CNPs in Q1/Q2 2026 (if feasible). These strategic visions will then form the basis for selecting concrete project locations in WP1.3.

Table 3: Q1 covers January to March, Q2 covers April to June, Q3 covers July to September, and Q4 covers October to December.

	1.2 Tasks	2024				2025				2026				2027			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
	Partner meetings	O	L	O	L	O	L	L	O	O	L	O	L	O	L	O	L
Co-Creation	Organize & facilitate interactive presentation Slido (Hamburg)																
	Organize & facilitate w orkshop (Sint-Niklaas)																
	Organize bilateral sessions (online)																
	Summarize co-creation sessions/w orkshops																
Content	Develop CNP guidance document																
	Develop cool netw ork mapping methodology																
	Create cool netw ork maps (8)																
	Final revisions cool netw ork maps (8)																
Output	Create/update CNP layout - StoryMap																
	CNP guidance document																
	Final revisions CNP maps (online)																

WP1.3 Where should specific projects be implemented and which should be prioritized?

Output: LAPs

WP1.3 helps cities turn their strategic CNP into a list of concrete project locations. It uses an MCA method to support fair and informed decision-making. The LAP includes maps, a list of potential sites, and input from key stakeholders. It guides cities on where to invest first and how to align actions with social, spatial, and governance priorities.

Figure 8: Municipality of Breda, map for prioritization workshop. Cool Towns 2021

WP1.3 Goal & objectives

Goal: To identify and prioritize location-based actions that support the city's Cool Network vision and can be implemented in the short, mid, and long term.

Objectives:

- Build on insights from the LCSM and CNP
- Use MCA to assess spatial, social, and institutional priorities
- Identify suitable project locations
- Engage local stakeholders in setting priorities
- Develop a clear and actionable LAP for each city

WP1.3 Contents

- A list and map of potential project locations
- Guidance on who should be involved and when
- A co-creation and decision-making framework using MCA
- Recommendations for planning, timing, and coordination.

WP1.3 Roles & responsibilities

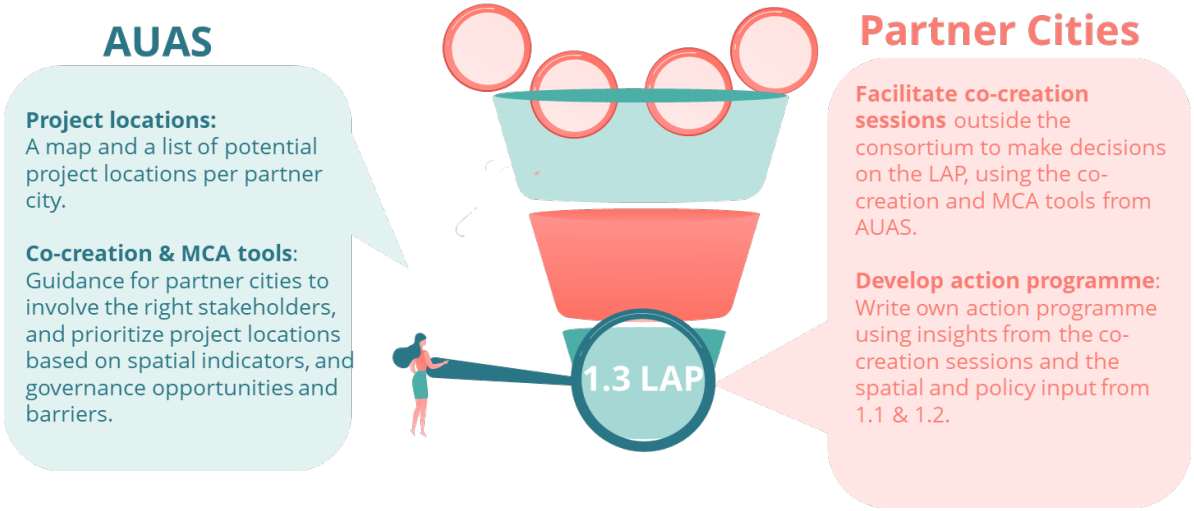

Figure 9: WP1.3 Roles and responsibilities

AUAS

- Develops the MCA framework and co-creation method
- Provides base maps of potential project locations
- Facilitates method testing and refinement with PCs and KPs

PCs

- Organize local co-creation sessions
- Apply the MCA to select and prioritize project sites
- Draft their LAP, including timelines, stakeholders, and coordination needs

KPs

- Review and provide feedback on the LAP method to ensure alignment with WP2 and WP3

WP1.3 Planning

WP1.3 takes place from Q3 2025 to Q2 2026.

Table 4: Q1 covers January to March, Q2 covers April to June, Q3 covers July to September, and Q4 covers October to December.

	1.3 Tasks	2024				2025				2026				2027			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
	Partner meetings	O	L	O	L	O	L	L	O	O	L	O	L	O	L	O	L
Co-Creation	Organize & faciliate 1st w orkshop (TBD)																
	Organize bilateral sessions (online)																
	Organize & faciliate 2nd w orkshop (TBD)																
	Summarize co-creation sessions/w orkshops																
Content	Develop LAP guidance document																
	State-of-the-art literature review over MCA + stakeholders																
	Develop co-creation method MCA																
	Draft LAP list and maps (8)																
	Final revisions LAPs																
Output	Create/update LAP layout - StoryMap																
	LAP ToC																
	Final revisions online LAP																

Other activities

WP1.4 – Communication

WP1.4 focuses on sharing WP1 progress and outcomes with other projects, city networks, and policy audiences.

WP1.5 – Start event

The WP1.5 launch event was held in Rotterdam in April 2024. It helped set the direction for WP1, built early relationships, and introduced the co-creation approach. While not part of the main analysis, it was key for team building and alignment.

Definitions

Co-creation - A collaborative process where researchers and local actors (e.g. planners, policymakers, stakeholders) work together to define problems and create solutions. It is central to all activities in WP1 and supports practical, shared decision-making.

Combined heat risk index (HRI) - A map that shows where heat risk is highest by combining data on heat, exposure, and vulnerability. It helps cities see where action is most urgent and supports fair, data-based planning decisions.

Cool network plan (CNP) - A long-term plan that shows the city's vision for creating a connected network of cool places. It includes maps, strategies, and policies that highlight where cool spaces already exist and where new ones are needed.

Delphi method - A structured group method used to collect expert opinions and reach shared understanding. In Cool Cities, it is adapted to include local experts and stakeholders, using step-by-step feedback and reflection. This helps guide decisions that are informed, fair, and supported by different voices.

Design thinking - A step-by-step, people-focused way of working used in Cool Cities. It helps cities and stakeholders work together to understand problems, come up with ideas, and test solutions. The process includes repeating steps (called iterations) to improve ideas over time and make sure they fit the local context.

Future and planned urban projects - Infrastructure or public space projects that are currently being built or are planned for the near future. These may include street upgrades, housing improvements, or green space expansions. Aligning heat adaptation with these projects can increase efficiency and impact.

Geographic information systems (GIS) - A digital tool used to collect, analyse, and show location-based data on maps. GIS helps cities understand where risks like heat are highest, where people live, and where changes are needed. It supports planning by showing patterns and connections across space.

Green and blue infrastructure - Natural elements in the city that help cool the environment and support well-being. Green areas include trees, grass, and parks. Blue areas include lakes, rivers, and canals. These spaces are essential for managing heat and supporting healthy urban ecosystems.

Knowledge partners (KPs) - Knowledge partners include universities, research institutes, and expert organizations that support the project. They help make sure the methods are

sound, useful, and relevant to local needs. KPs also give feedback and support cross-city learning.

Local action programme (LAP) - A document that lists and maps project locations for heat adaptation. It builds on the cool network plan and includes information about which stakeholders are involved, and what opportunities and challenges may affect each location.

Local context summary memo (LCSM) - A short report that describes each city's local situation. It includes maps and policy summaries that explain local heat risks and how planning is currently done. This memo is the starting point for the next steps in the project.

Mean radiant temperature (Tmrt) - A measure of the heat people feel from surrounding surfaces and sunlight. It helps assess how much heat is absorbed or reflected in outdoor areas.

Multi-criteria analysis (MCA) - A method that helps cities compare and choose between different project locations. It allows cities to look at different types of data, such as maps, social needs, and local plans, and weigh them together with expert and local input. MCA supports fair decisions by showing trade-offs and helping different departments and actors agree on what matters most.

Partner cities (PCs) - Partner cities are the local governments taking part in the Cool Cities project. They share local data, participate in co-creation sessions, and apply the WP1 tools to develop their own strategies for heat adaptation.

Physiological equivalent temperature (PET) - PET is a way to measure how hot it feels to the human body, based on air temperature, humidity, wind, and sun. It helps cities understand heat risks in public spaces and supports better planning for comfort and safety.

Places to stay - Outdoor public areas where people often sit, rest, or spend time. Examples include parks, squares, playgrounds, schoolyards, and busy shopping streets. These places are important in heat planning because they are where people can be most exposed to heat. Even cemeteries, which offer shade and cooling, are included in this group.

Risks (in WP1): In WP1, the term "risks" refers specifically to heat-related risks, based on the IPCC climate risk framework. The WP1 methodology does not include other hazards (e.g. flooding, drought), though cities may choose to consider these in parallel if relevant to their planning needs.

Slow traffic routes - Streets or paths where walking and cycling are the main way to move, and cars are limited or not allowed. These routes connect key places like parks, schools, or

train stations. They are important in heat planning because people use them daily and can be exposed to heat during travel.

Social exposure indicators (e.g. age, density, SES) - Data showing where people live, and which groups may be more exposed to heat. Examples include population density, the number of children or elderly residents, and socioeconomic status (SES). This helps cities focus efforts where risk is highest.

Stakeholders - People or organisations who are affected by or have an interest in heat adaptation. These include municipal departments, residents, NGOs, health services, and private partners.

Standardising (or Benchmarking) - The process of defining shared standards, indicators, or goals to track quality, enable comparison, and support continuous improvement. In Cool Cities, standardising supports evaluation and scaling across cities.

Thermal comfort assessment (TCA) - A tool used to find and understand areas in the city where people may suffer from heat. It combines heat maps with information on public spaces, mobility, and vulnerable groups. TCA helps cities decide where to act and how to improve comfort for everyone. It was first created in the Cool Towns project and improved further in Cool Cities.

Vital urban functions (e.g. health, education) - Key public services and daily needs such as hospitals, schools, grocery stores, and public transport hubs. These places are important to protect during heat events because they serve vulnerable groups and large numbers of people.

Vulnerability indicators (e.g. health, isolation, housing) - Information about how strongly people might be affected by heat. This includes factors like low income, poor housing quality, health conditions, social isolation, or limited mobility. These indicators show where support is most needed.

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Not all sources used have been explicitly cited in text, however, AUAS has used this list of references to inform their research in WP1.

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