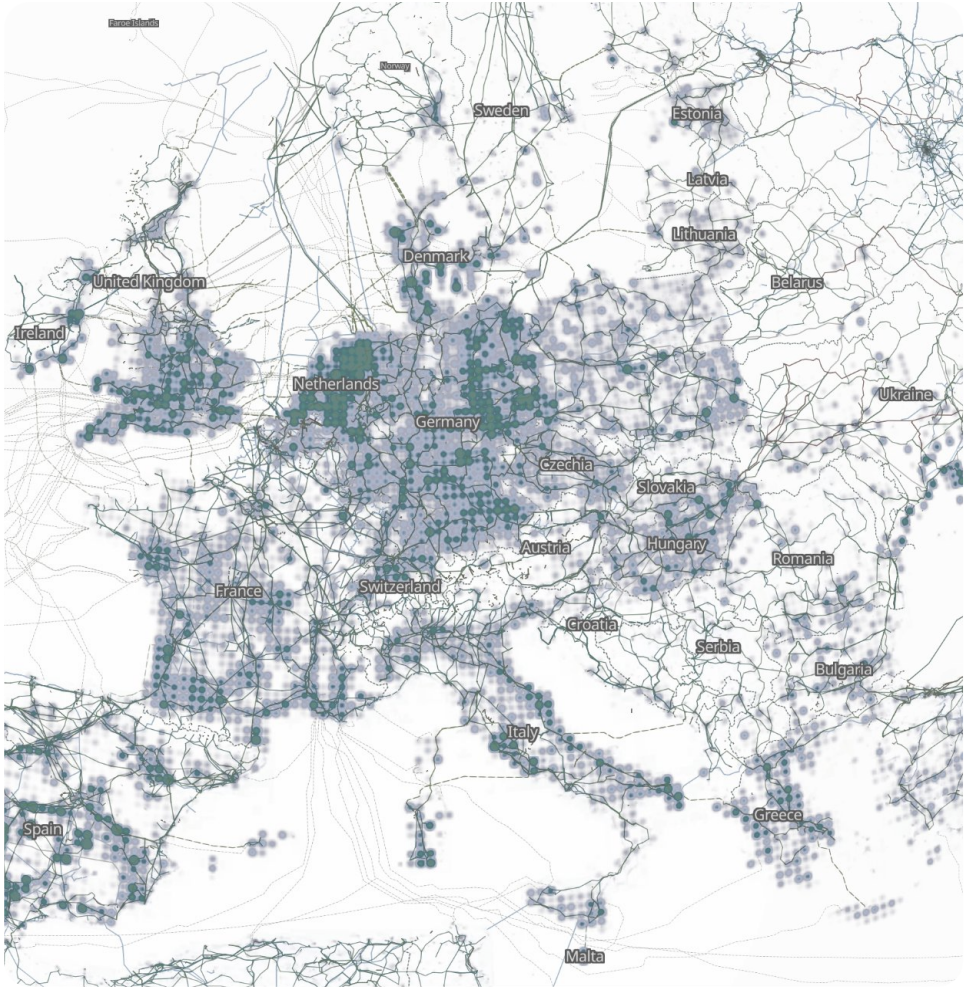
04 Dm

NET ZERO CITIES

EU MISSION PLATFORM | CLIMATE NEUTRAL AND SMART CITIES

Securing Urban Futures

City stories and emerging patterns across climate, security and resilience



Funded by the European Union

The European Commission is not responsible for any use that may be made of the information this deck contains.

Map source & credit: Open Infrastructure Map / © OpenStreetMap contributors. Adapted by Dark Matter Labs.

November 2026

A series of field conversations

Climate Action Resilience *& Security*

In 2026, we held a series of field conversations with Mission Cities to explore how they are connecting areas of work that are often treated separately: climate action, security and resilience.

We wanted to understand where those connections are already happening in practice, through existing places, services, relationships, obligations and ways of working, and what becomes possible when they are seen as part of the same resilience landscape.

Rather than looking only for new plans, projects or infrastructure, the conversations asked what capacities cities already have, how they are being adapted, and where stronger connections could help cities respond to both long-term climate change and periods of disruption.

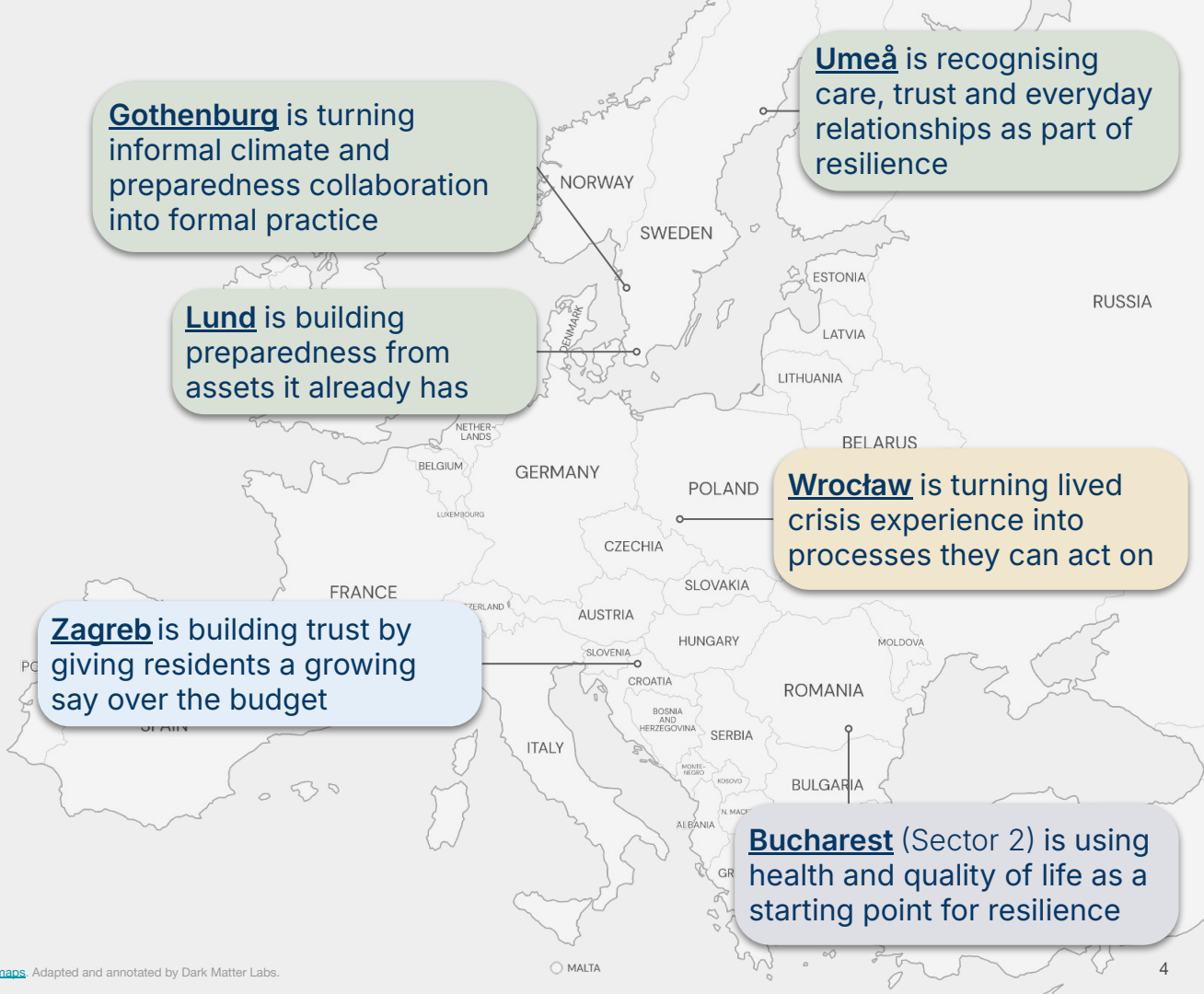
Together, they offer a view of resilience as something that is not only planned for emergencies, but built through the everyday functioning of the city.

Notes from the field

The field conversations span **Zagreb, Lund, Umeå, Gothenburg, Wrocław and Bucharest**, cities where climate action, security and resilience are being connected under different local conditions.

Rather than looking for a single model, the conversations explore what these different contexts make visible: where responsibilities sit, which relationships and capabilities already exist, what pressures are driving action, and what makes greater integration possible, or difficult in practice.

Six cities can only offer a partial view of the wider Mission landscape. The intention is to begin surfacing recurring patterns, tensions and possibilities, and to open a conversation that other Mission and Mission-Minded Cities can recognise themselves in, challenge and build on.



Map source & credit: Ultimaps. Adapted and annotated by Dark Matter Labs.

Field Conversations

Stories to build from

The conversations have been shaped into short city stories that hold onto the specificity of each place, while making the underlying dynamics easier to see.

Rather than summarising everything that was said, each story follows the parts of the conversation that help explain how something became possible, what it depended on, where it encountered friction, and what that experience might open up elsewhere.

They are intended to be read as points of reference, not templates: a way of looking into another city's practice and asking what resonates, what differs, and what new questions it raises for your own context.

A way into each story:

1. What is already happening: the practice, project, relationship or shift taking place.

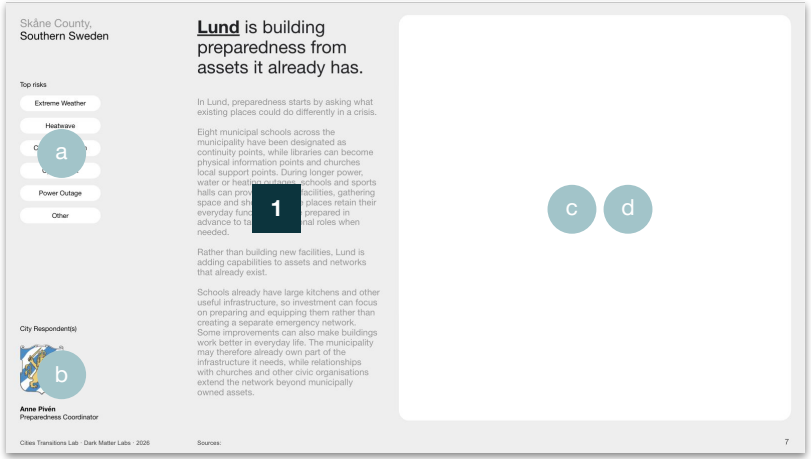
2. What made it possible: the capacities, institutions, assets or relationships it could build from.

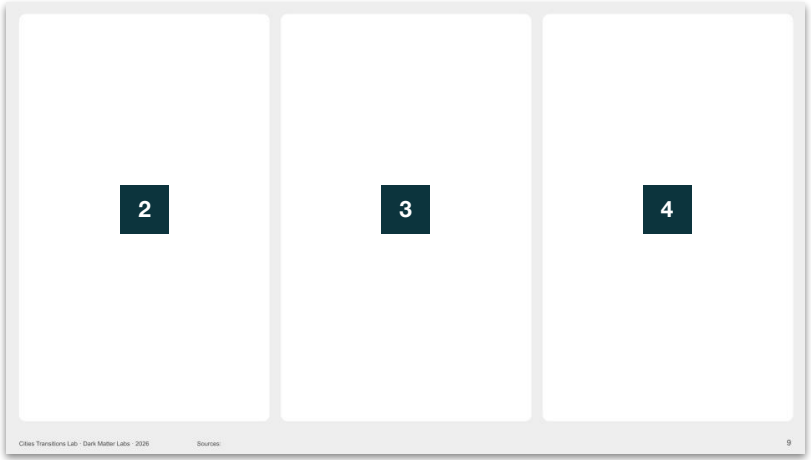
3. Where it gets difficult: the tensions, gaps and constraints that remain.

4. What it might open up: a question, possibility or starting point for another city.

a. Risks shaping the context
b. Who took part in the conversation
c. A voice from the field: a short quote that helps bring the story to life
d. An image of the story: a photograph or illustration representing the practice, place or relationship.

Highlighted conclusions: DML interpretation of what the field evidence suggests.





Skåne County,
Southern Sweden

Lund is building preparedness from assets it already has.

Risk Context

- Power & Digital Failure
- Water Disruption
- Extreme Weather
- Cyber Attack
- Food / Supply Disruption

In Lund, preparedness starts by asking what existing places could do differently in a crisis.

Eight municipal schools have been designated as continuity points to help keep municipal services running during disruption, while libraries can become physical information points and churches local support points. During longer power, water or heating outages, schools and sports halls can provide cooking facilities, gathering space and showers. Residents are generally expected to maintain their own household emergency supplies, so these places are not a substitute for household preparedness but part of the wider system that keeps essential functions and support going.

Rather than building new facilities, Lund is adding capabilities to assets and networks that already exist.

Schools already have large kitchens and other useful infrastructure, so investment can focus on preparing and equipping them rather than creating a separate emergency network. Some improvements can also make buildings work better in everyday life. The municipality may therefore already own part of the infrastructure it needs, while relationships with churches and other civic organisations extend the network beyond municipally owned assets.



City Respondent(s)

Anne Pivén
Preparedness Coordinator

Sources, notes & credits: Risk context and city story: field conversation with Lund's Emergency Preparedness Coordinator; Lund Risk and Vulnerability Analysis 2023–2026; Lund public information on crisis-support locations and strategic premises. DML interpretation: framing of existing assets as a preparedness strategy, including their potential value in everyday use. Pull-quote: captured in field notes from the Emergency Preparedness Coordinator. Illustration: Meggan Collins, Dark Matter Labs; hypothetical school, not a specific Lund site.

2 / What made this possible?

2a / A growing preparedness function

Lund has six preparedness coordinators, alongside preparedness planners within individual departments. That matters because the work does not sit only with one specialist team: there are already people inside different parts of the municipality who can identify continuity needs and connect them back to preparedness.

2b / Local action could build on a wider preparedness model

Swedish municipalities already use trygghetspunkter (community support points) as places where residents can receive information and basic support during disruption. Lund is building from this wider preparedness practice alongside its own continuity points, with existing routes to fund, decide and activate sites. National requirements are also moving in this direction, with proposed legislation requiring municipalities to have access to designated gathering places.

2c / Existing relationships with civic organisations

Libraries, churches, culture and leisure and voluntary organisations were already part of Lund's everyday civic life. These existing relationships extend the preparedness network beyond assets the municipality owns itself, bringing in places and organisations that residents already know and use.

2d / There were already routes to decide, fund and activate

A supply-preparedness steering group had previously helped make decisions around this work, funding sat behind the programme, and crisis management already has authority to activate sites and deploy resources when needed. So the second use was not only an idea: Lund already had some of the organisational machinery needed to turn it into something operational.

3 / Where is it still difficult?

3a / Having the right buildings is not the same as being ready to use them

Lund has identified schools and other places that can take on a second role, but making that role dependable is slower. Property processes, equipment, IT, staffing and responsibility all need to align, and the preparedness team still lacks a complete view of municipal premises. The property work alone has taken around three years.

→ The deeper issue is the gap between "this place could be useful" and "we can rely on this place when something goes wrong."

3b / A resilient place depends on the systems and relationships around it

Many of Lund's risks stretch across electricity, water, food, digital systems and multiple organisations. Libraries, churches and other local places also depend on the trust, networks and everyday relationships around them. Those wider dependencies are harder for the municipality to see and hold together.

→ This raises a broader question: can the same thinking move from "what else could this building do?" to "what systems and relationships need to be in place for this building to remain useful when everyday life is disrupted?"

3c / Preparedness still needs to move further into everyday municipal work

Lund's preparedness capacity has grown, but the work remains largely focused on what happens once a crisis occurs. The ambition is to become more preventative and connect preparedness more closely with climate adaptation, energy, social sustainability and other municipal decisions. Those connections are emerging, but remain largely relationship-based and civil-servant-led.

→ The challenge is not only to grow preparedness capacity, but to make it part of how the wider municipality works before a crisis happens.

4 / What could another city take?

The Lund case offers a useful starting point for cities looking to strengthen crisis response with limited budgets or little scope for new construction.

→ One way to work through this:

A / Find
→ Map the places the city already has: schools, libraries, sports halls, community spaces and others.

B / Repurpose
→ Identify a second role each place could play during disruption, ideally with everyday benefits too.

C / Prepare
→ Define the equipment, staffing, procedures, investment and responsibilities needed to make that role reliable.

D / Trace
→ Identify the systems each place depends on, energy, water, communications, transport, food and digital infrastructure.

E / Connect
→ Link places with departments, infrastructure providers and local organisations through everyday planning and decision-making.

Sources, notes & credits: What made this possible? and Where is it still difficult? are distilled from the field conversation with Lund's Emergency Preparedness Coordinator; highlighted conclusions are DML interpretations. What could another city take? is a DML synthesis. The Find–Repurpose–Prepare–Trace–Connect sequence is an illustrative pathway, not a Lund framework.

Västerbotten County,
Northern Sweden

Risk Context

- Extreme Weather
- Flooding
- Landslides
- Wildfire / Drought
- Power Outage

City Respondent(s)

UMEÅ KOMMUN

Erik Eklund
Development Strategist

Viktoria Vingmarker
Climate Adaptation Strategist

Linda Gustafsson
Gender Equality Strategist

Umeå is recognising care, trust and everyday relationships as part of resilience

In Umeå, resilience is increasingly understood through the everyday relationships and behaviours that help people respond and adapt, not only through infrastructure and emergency plans. The city has a long history of integrating social conditions and equality into climate work, recognising that different groups experience change and risk differently.

This capacity is already visible in everyday life. During snowy, icy and very cold conditions, residents adapt how they travel and help one another, including offering lifts at bus stops. Because these are recurring winter conditions rather than exceptional emergencies, mutual support and adaptation are already part of ordinary urban life.

The opportunity is to recognise and strengthen these relationships as part of the city's resilience capacity. Umeå is exploring this through work on social capital, neighbourhood planning and projects such as Care Fabric ↗, which examines how public space, participation, culture and creativity can strengthen care, belonging and trust. This work is being connected to preparedness, climate adaptation and mitigation rather than treated as a separate social agenda.



Sources, notes & credits: Risk context and city story: field conversations with Umeå's Development Strategist, Climate Adaptation Strategist and Gender Equality Strategist; Umeå Municipality and SMHI public information on Framtidens klimat i Umeå kommun and Umeå's neighbourhood social-capital work. DML interpretation: framing of care, trust and everyday relationships as resilience capacity. Pull-out: DML synthesis of the Gender Equality Strategist's comments; not a verbatim quotation. Image: Foto/illustration: Myndigheten för civilt försvar; image accessed via Malmö stad Instagram; illustrative image, not Umeå.

2 / What made this possible?

2a / Decades of social-sustainability work created a foundation

Umeå has spent around 20–25 years bringing equality and different living conditions into city planning and climate work. That experience has shown that change is not only about knowledge, but also about changing routines and ways of working. This gives Umeå a foundation for treating social conditions and relationships as part of resilience, alongside infrastructure and emergency plans.

2b / The city already looks beyond “the average citizen”

Umeå does not treat residents as one uniform group. Its climate work looks at differences in living conditions, emissions and people’s capacity to change, while a neighbourhood-level social capital index helps make connection, belonging and unequal capacity more visible. This helps show who may have less capacity to adapt when disruption happens.

2c / There are already routes connecting social capacity to formal preparedness

This is not only a social-sustainability idea. In one geographically isolated community, the municipality is already looking across childcare, elderly care, fire services and preparedness together. Care Fabric is also exploring how planning, public space, participation and culture can strengthen trust and belonging. These give Umeå practical places where social resilience can become part of how the city prepares, rather than remaining a separate social agenda.

2d / Recurring winter conditions make everyday resilience visible

Snow, ice and extreme cold regularly require people to change routines and sometimes help on another, for example by offering lifts. Because these are recurring conditions rather than rare disasters, Umeå already has lived examples of the behaviours and relationships that help people adapt when normal life is disrupted.

3 / Where is it still difficult?

3a / Social resilience is recognised, but not yet consistently built into preparedness

Umeå’s social-sustainability work already connects trust, care and belonging to people's ability to adapt, but this is not yet part of regular work with preparedness. At the same time, the preparedness function is expanding quickly in response to new national requirements, leaving limited room to build new connections across municipal goals.

→ The deeper issue is the gap between recognising that social relationships matter for resilience and routinely planning with them.

3b / Everyday resilience can be difficult to see because nobody calls it resilience

Some of the capacity that helps people adapt already sits in ordinary behaviour and relationships. Mutual help and changing routines during difficult winters are part of everyday life in Umeå, rather than something formally organised as preparedness.

→ That creates a different kind of challenge: if resilience looks like ordinary life, how does the city recognise what already helps people adapt, and what is worth strengthening before a crisis happens?

3c / Knowing where a risk falls is not the same as knowing who can adapt

Umeå already has spatial evidence showing where some physical risks are concentrated, but the picture of who may struggle most is less complete. Work has begun around groups such as older people exposed to heat or icy conditions, but social vulnerability is not yet mapped as consistently as physical exposure.

→ The deeper issue is that a map of hazards only tells part of the resilience story: the city also needs to understand who may have less capacity to adapt when disruption happens.

4 / What could another city take?

The Umeå case offers a useful starting point for cities that want to understand resilience beyond hard infrastructure and formal emergency plans.

→ Questions another city could ask:

A / Care	→ What do people already do for one another when everyday life is under pressure?
B / Networks	→ What relationships, places, organisations or routines make that possible?
C / Exclusion	→ Who is less likely to have access to those forms of support?
D / Trust	→ What is the city already doing that strengthens or weakens trust, belonging and connection?
E / Enablement	→ How could preparedness recognise and support this capacity without trying to organise or control it?

Sources, notes & credits: What made this possible? and Where is it still difficult? are distilled from field conversations with Umeå’s Development Strategist, Climate Adaptation Strategist and Gender Equality Strategist; highlighted conclusions are DML interpretations. What could another city take? is a DML synthesis. The Care–Networks–Exclusion–Trust–Enablement questions are illustrative prompts, not a Umeå framework.

Västra Götaland County,
Western Sweden

Gothenburg is turning informal climate and preparedness collaboration into formal practice

Risk Context

- Flooding / Cloudbursts
- Sea-level Rise
- Heatwaves
- Landslides / Quick Clay
- Cyberattacks
- Food / Supply Disruption
- Disinformation

In Gothenburg, a new connection between climate and preparedness began with a conversation over coffee. Four directors from different parts of the city recognised that mitigation, adaptation and preparedness were dealing with overlapping problems, and began exploring where the three areas connect, conflict and could be planned together. The initiative emerged informally from within the organisation, before there was any formal mandate for this kind of collaboration.

That informal connection has since become a more structured way of working. The idea developed into a workshop process, with teams building shared language and messages and bringing mitigation, adaptation and preparedness into future plans. Climate adaptation and preparedness have also agreed to keep meeting, review upcoming plans together and identify joint activities.

The opportunity is to make this kind of collaboration less dependent on particular people finding each other. Gothenburg shows how an informal connection can become the starting point for a way of working the organisation can repeat and sustain.



> “A preparedness perspective is needed in all decisions

Patrik Jansson
Planning Lead, Public Safety & Preparedness

City Respondent(s)

Salomon Abresparr
Process Manager, Climate Neutral Gothenburg 2030

Anna Gollungberg
Climate Adaptation Planning Lead

Patrik Jansson
Planning Lead, Public Safety & Preparedness

Sources, notes & credits: Risk context and city story: field conversations with Gothenburg’s Process Manager for Climate Neutral Gothenburg 2030, Climate Adaptation Planning Lead and Planning Lead for Public Safety & Preparedness; Göteborgs Stads risk och sårbarhetsanalys 2023 and Klimatanalys för Göteborgs stad 2024. DML interpretation: framing of informal cross-departmental collaboration as a route towards more durable organisational practice. Pull-quote: captured in field notes from Gothenburg’s Planning Lead for Public Safety & Preparedness. Image: AI-generated DML illustration of the described meeting; not a documentary photograph.

2 / What made this possible?

2a / Relationships had already been built through earlier crises

Gothenburg's preparedness lead described strong relationships across municipal administrations —much of them strengthened during the pandemic and through the work required since then, given the increasingly uncertain global environment in which we find ourselves. This had bolstered trust, and colleagues were now increasingly mindful of one another when related issues arose.

2b / There were already concrete problems that both teams needed to solve

Preparedness and climate adaptation had begun working together through the city's risk and vulnerability analysis, particularly around cloudbursts and heatwaves. Existing flood analysis have given them a shared evidence base, so the connection was grounded in real risks and services rather than an abstract ambition to collaborate.

2c / People had repeated opportunities to encounter each other's work

A leadership forum brought mitigation, adaptation and preparedness into the same space and surfaced the need for closer work. A later Viable Cities Transition Lab Forum on preparedness and climate reinforced that connection, so the conversation over coffee was part of a longer process of people beginning to see how their work related.

2d / The informal idea was given a formal place to continue

The initial conversation later became an assigned workshop and "Sync and Coordinate" process, focused on developing a shared vocabulary and common story across mitigation, adaptation and preparedness. The outputs from this collaboration were presented to management in September, giving the work a more formal organisational route to continue.

3 / Where is it still difficult?

3a / It is hard to see what is happening across the whole city

Climate, adaptation, preparedness and resilience work sit across different administrations and municipal companies, with responsibility intentionally spread across the organisation. Teams are also based in different buildings, making informal encounters and collaboration less likely. That creates a rich base of activity, but makes it harder to hold a shared picture of what already exists and where the connections are.

→ The deeper issue is not a lack of activity, but how to make distributed capacity easier to see and connect.

3b / Climate and preparedness goals can pull in different directions

The joint work has surfaced practical tensions between climate and preparedness goals. Choices that make sense from one perspective can create vulnerabilities from another, whether around vehicle fleets, bottled emergency water or the balance between long-term transition and short-term readiness.

→ The deeper issue is how to make trade-offs visible early enough to work through them, rather than discovering them after decisions have already been made.

3c / It is still difficult to make this way of working routine

The collaboration has moved beyond an informal conversation into a more structured process, but Gothenburg is a large, decentralised organisation and preparedness requirements are expanding quickly. Embedding the connection across plans, decisions and departments is therefore a more longer-term organisational task.

→ The deeper issue is how to turn a good cross-departmental process into something the wider organisation can carry routinely over time.

4 / What could another city take?

The Gothenburg case offers a useful starting point for cities where climate and preparedness work is already happening, but the connections between them are still emerging.

→ One way to work through this:

A / Notice
→ Where are climate, adaptation and preparedness already encountering the same risks, services or decisions?

B / Connect
→ Bring the relevant people together around something concrete rather than around "integration" in the abstract.

C / Translate
→ Surface where teams use different language, assumptions or time horizons.

D / Navigate
→ Use real decisions to identify synergies, dependencies and trade-offs.

E / Embed
→ Create a recurring place for the relationship to continue through plans, reviews or joint activities.

Sources, notes & credits: What made this possible? and Where is it still difficult? are distilled from field conversations with Gothenburg's Process Manager for Climate Neutral Gothenburg 2030, Climate Adaptation Planning Lead and Planning Lead for Public Safety & Preparedness; highlighted conclusions are DML interpretations. What could another city take? is a DML synthesis. The Notice–Connect–Translate–Navigate–Embed sequence is an illustrative pathway, not a Gothenburg framework.

City of Zagreb,
Northwestern Croatia

Risk Context

- Extreme Heat
- Earthquake
- Severe Storms
- Urban Flooding

City Respondent(s)

Nebojša Ivančević
Senior Expert Advisor
Administration General Secretariat

Zagreb is building trust by letting residents help decide where some of the money goes

In Zagreb, resident participation is built into neighbourhood spending. Through a programme known as *Daj prijedlog za bolji kvart*, residents propose and vote on local projects funded by the city. The third cycle has €1.76 million across 13 districts, and ideas can also be taken to district representatives.

This already shows up in the city's climate work. More than 270 residents applied to have their courtyards greened through ActGREEN, a NetZeroCities pilot project. The city funds work on privately owned courtyards through building representatives. 39 courtyards had been greened by mid 2026.

The opportunity is to connect this participatory habit to preparedness. So far it shapes everyday projects such as courtyards, playgrounds and crossings, while crisis response remains largely city-led. For example offering cool spaces in free museums and pools during the summer heatwave. It remains unclear whether trust is actively planned for, or whether resident-led responses during disruption could become part of preparedness.



Sources, notes & credits: Risk context and city story: field conversation with Zagreb's Senior Expert Advisor in the Administration General Secretariat (EU Projects Team); City of Zagreb information on climate adaptation 2025–2028 and courtyard greening; Index.hr on Daj prijedlog za bolji kvart; and NetZeroCities on Zagreb's sustainable urban transformation. DML interpretation: framing resident participation and courtyard greening as a foundation for trust and a possible route into preparedness. Pull-out: DML synthesis of interview comments; not a verbatim quotation. Image: Photo: dvorista.in, via Kongres Magazine

2 / What made this possible?

2a / Political backing gave departments a clear green light

Zagreb's EU projects adviser described visible support from the elected city government as the main reason the courtyard project moved. Every project goes to the City Assembly, and he noted it was approved by everyone present. That let offices plan and budget ahead, rather than waiting to see whether priorities would shift.

2b / A small EU projects team helps other offices deliver

The General Secretariats' EU projects team supports the city's 16 offices where they lack capacity to apply for or run EU projects. On the courtyard project, the Office for Reconstruction carried the budget, while the Economy and Environmental Sustainability office and the Civil Protection and Safety office were close partners.

2c / There was a concrete, visible problem to solve

Heatwaves, the 2024 storm and two earthquakes in 2020–21 have all tested the city. The courtyard greening gave those pressures a practical answer in the dense, older city centre. The courtyards sit in privately owned buildings, so the people who use them see the benefit directly.

2d / Routes to residents already existed

The project drew on an NGO partner with experience in citizen participation, on city district representatives, and on the participatory budget. This meant residents could be invited in through channels they already knew. The interviewee noted more than 270 applications to the public call, and said representatives cited resident requests when the project went to the Assembly.

3 / Where is it still difficult?

3a / Preparedness sits in a different office from climate work

Civil protection is handled by the Office for Municipal Self-Government, Transport, Civil Protection and Safety. EU projects and climate work sit elsewhere. They meet through projects like the courtyards, but when asked who could sign off a combined approach, the answer was an elected official, not a named role or process.

→ The deeper issue is not whether the city cares, but whether links built through one project can become a standing connection

3b / Momentum rests heavily on political backing

The interviewee was clear that without support from the top, projects stall or restart from zero, and he noted peer cities that dropped climate commitments after elections. Zagreb has that support now, but nothing in the conversation showed it being written into plans or budgets.

→ The deeper issue is how to make today's support last beyond a single political cycle.

3c / It is not clear where preparedness money would come from

The interviewee estimated that more than 14.88 % of the city budget supports mitigation and adaptation, but he said this needs checking with the regional energy agency, and it is not in the climate action plan. He expects spending to go first to waste, housing and energy, so preparedness would compete with these.

→ The deeper issue is how to see what the city already spends on adaptation and preparedness, so it can be planned together.

4 / What could another city take?

The Zagreb case offers a useful starting point for cities where residents and political leaders already back climate action, but preparedness sits in a separate office.

→ One way to work through this:

A / Listen
→ Which projects residents already chose (a courtyard, a crossing, a playground) also reduce heat, flood or safety risk?

B / Invite
→ Ask civil protection to join the planning of an existing project, rather than starting a new group.

C / Trust
→ Pick one project and ask what it could do in a heatwave or after a storm, such as acting as a cooling space.

D / Trace
→ Map where adaptation and preparedness spending already sits across budget lines, and who holds each.

E / Anchor
→ Move from one leader's backing to something written into a plan or budget that outlasts the political cycle.

Sources, notes & credits: What made this possible? and Where is it still difficult? are distilled from a field conversation with Zagreb's Senior Expert Advisor in the Administration General Secretariat (EU Projects Team); highlighted conclusions are DML interpretations. What could another city take? is a DML synthesis. The framing of resident participation as a foundation for trust and a possible route into preparedness is a DML interpretation, not a Zagreb framework.

Bucharest Sector 2 is using health and quality of life as a starting point for resilience.

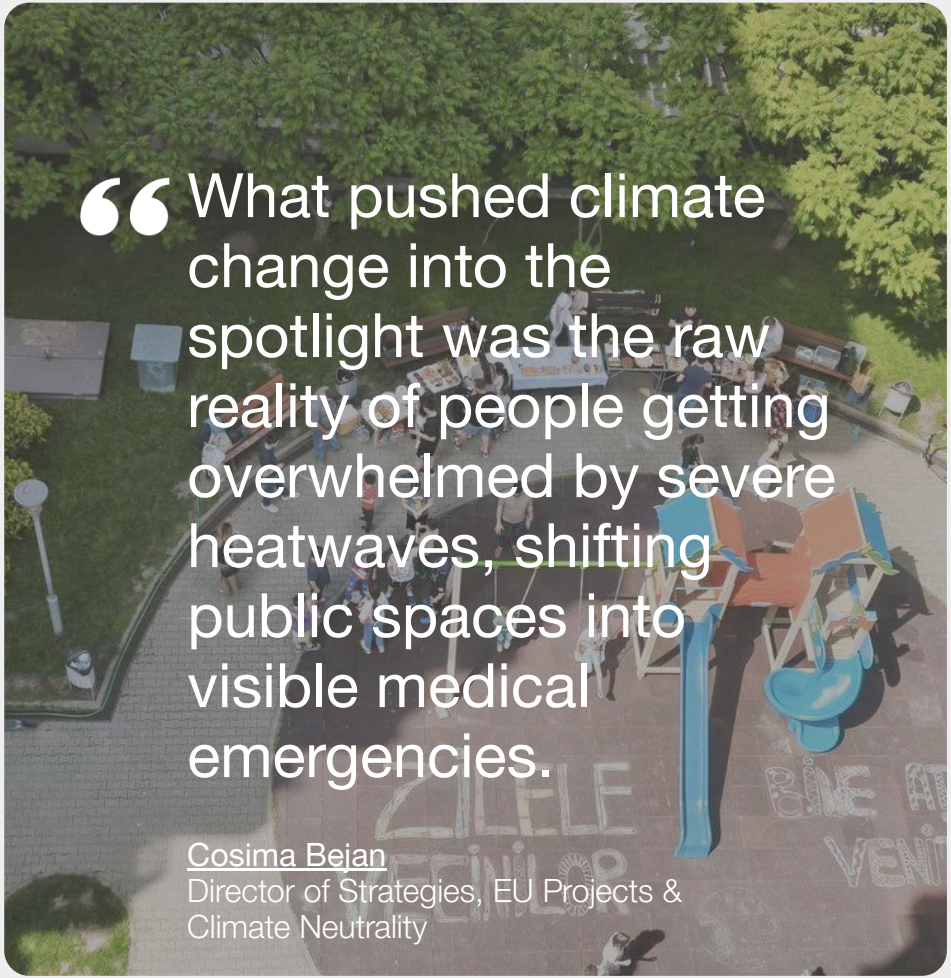
Risk Context

- Earthquakes
- Extreme temperatures
- Flash floods
- Poor Air Quality
- Utility systems failure

In Bucharest Sector 2, seeing the health impacts of extreme weather has expanded the climate team's focus towards resilience and community care. It has also brought the climate and civil protection teams into contact for the first time.

The starting points already exist: modular units provide water, shade, rest and preventive care for elderly residents; eight first-aid points operate through social assistance offices and community centres; and schools are designated as emergency shelters.

The opportunity is to recognise care and public health as part of the sector's resilience capacity, and connect it to relationships already forming across climate action and civil protection. Sector 2 is already moving in this direction through a proposed community-resilience living lab co-created with residents.



City Respondent(s)

Cosima Bejan
Director of Strategies and EU projects, Climate Neutrality Compartment

Madalina Costache
Project Manager

Sources, notes & credits: Risk context and city story: field conversation with Bucharest Sector 2 Director & Project Manager from the Strategies & EU Project Directorate/ Climate Neutrality Compartment and written follow up from the Emergency Compartment. Buletin de Bucuresti and PAAR 2025 for Bucharest. DML interpretation: framing of health and quality as life as resilience capacity. Image: Luna Vecinilor in Sector 2

2 / What made this possible?

2a / A committed team, with a formal climate role

The team was able to create an official Climate Neutrality Compartiment, with a formal role in the organigram. They recognize the need to hold an official mandate for driving the transition, and are using this role to build bridges across departments on issues they find critical, such as resilience and climate adaptation.

2b / A preparedness function that already holds real assets and operational knowledge

The emergency management team already holds the role of drafting prevention and intervention plans, maintaining the shelter register and the siren network. They are connected across the full municipality, as part of 63-actor committee.

2c / The ability to convene across boundaries

Sector 2 had built a working practice of connecting to external capability - local university on technical design, urban planning consultancies on regeneration and engagement, parks administration at PMB level and water agency at national level on green and blue infrastructure. The climate team can identify the expertise it needs, negotiate terms with bodies that sit at a different administrative levels, and treat dependency on outside partners as a normal operating condition.

2d / The Climate Team drives what gets funded

The climate team sits within the EU projects and Strategy Directorate, driving and deciding what gets resourced. This gives them leverage to act not only on climate adaptation, but also heat and community resilience.

3 / Where is it still difficult?

3a / Holding an integrated resilience perspective

Climate action, emergency management, and investments operate separately, with climate and civil protection initiating their collaboration only recently. As emergency shelters have traditionally been under the mandate of the civil protection team, their strategic value is yet to be fully embedded across wider resilience planning.

→ The opportunity is for the climate team to develop and hold a unified, cross-departmental resilience framework and approach, linking existing assets with long-term climate planning.

3b / Connecting community care and social infrastructure to resilience mechanisms.

Sector 2 has established strong relationships with technical and institutional partners. Informal community networks and social care initiatives remain largely untapped as operational resilience resources. While the municipality has recently partnered with grassroot NGOs focused on neighborhood social cohesion, it is not clear whether these community ties are linked to formal crisis response mechanisms.

->The challenge is building upon existing community care initiatives, leveraging the trust they have built to reinforce the municipality's emergency response capacity.

3c / Moving from awareness of risks to understanding potential cascading impacts

Bucharest Sector 2 has a clear understanding of its primary risks, while detailed vulnerability data regarding infrastructure, public health, and localized social vulnerabilities are not yet directly accessible for climate and resilience decision-making. However, the climate team recognizes the value of integrated databases for more strategic decision-making.

-> The opportunity is to establish an interconnected risk and vulnerability assessment, so long-term and cascading impacts can be better anticipated and investments directed where it matters.

4 / What could another city take?

The Bucharest Sector 2 case offers a useful starting point for cities that want to act on resilience before they have a formal mandate for it.

→ One way to work through this:

A / Start
→ Look where your existing climate mandate enables you to act, and begin there.

B / Connect
→ Tap into existing local relationships and capacity. Build partnerships that complement your mandate and skills.

C / Pilot
→ Start with small projects that demonstrate value and impact.

D / Build
→ Tap into the assets, staff and services the city already runs.

E / Reach
→ Work across silos with other teams around a shared purpose or task, rather than propose new structures.

Sources, notes & credits: What made this possible? & Where is it still difficult? - distilled from field conversation with Bucharest Sector 2 Director & Project Manager from the Strategies & EU Project Directorate/ Climate Neutrality Compartment and written follow up from the Emergency Compartment. Highlighted conclusions and What could another city take? are DML interpretations and synthesis.

Lower Silesian Voivodeship,
Southwestern Poland

Wrocław is turning lived crisis experience into a processes they can act on

Risk Context

- Flooding
- Drought
- Heatwaves
- Hybrid war
- Population movements
- Food security

In Wrocław, preparedness has been shaped by events the city has actually lived through.

The Crisis Management Centre's flood specialists began work after the 1997 flood, and have since dealt with two or three major floods and more than a dozen smaller ones. The city still finds unexploded wartime ordnance on building sites, sometimes evacuating whole blocks or a hospital. During the refugee crisis that followed Russia's invasion of Ukraine, it turned schools, the old airport terminal and the Orbita arena into places where people lived for weeks.

That experience is recorded in detailed operational plans but much of its value depends on the people who know how to interpret it. The opportunity for Wrocław now is to make preparedness less dependent on the memory and skills of particular people and to build institutional capability across departments.

This matters most now as the risks the city is exposed to continue to change and compound, eg. cloudbursts now disrupt transport most years and drought increases flood risks as rain runs off dry ground instead of soaking in.



City Respondent(s)

Piotr Laska
Head of Crisis Management Centre

Sources, notes & credits: Sources, notes & credits: Risk context and city story: field conversation with Head of Crisis Management Centre in Wrocław. Additional sources include report on refugee population in Polish cities, NBS as flood defenses, Wroclaw's adaptation plan in development. DML interpretation: framing of emergency response preparedness as the foundation for a broader resilience strategt. Image: Michal on Unsplash

2 / What made this possible?

2a / Long-term expertise within the municipality

The Crisis Management Centre acts as the coordinating point for crisis response and resident safety. It took its current form after the 2007 Crisis Management Act, but its institutional lineage, and some of its staff, go back to the Municipal Civil Defence Inspectorate of 1998. Routines and plans have been tested repeatedly by real events, not only exercises, which means decades of knowledge and innovation inside the municipality.

2b / Real crises have tested the city's routines at scale

Wrocław's has a lived experience of disruption, from floods to population movements. Between February and April 2022, the city's population grew by an estimated 29 per cent as people fled the war in Ukraine. The city, in collaboration with NGOs and private sector, activated temporary services and accommodation.

2c / Some routes to decide, fund and activate already exist

The Crisis Management Centre coordinates crisis response and resident safety across the city. During the refugee crisis the city proposed buildings and the voivode issued the decisions to use them. Under the 2024 Civil Protection Act, Central funding through the voivode covers equipment, protective structures and training.

2d / Places and partners the city can already draw on

The city owns its schools and many have already received water cookers, sleeping mats and thermal mugs, and smaller generators are due. The evacuation plan places information points in schools, local activity centres and buildings linked to neighbourhood councils. Beyond municipal property, the Centre works with volunteer fire brigades, NGOs Tratwa and Umbrella, and the Polish Red Cross. Some shopping centres have offered to admit people to air conditioned spaces and cinemas during heat waves.

3 / Where is it still difficult?

3a / Knowledge is concentrated in people

Knowledge sits in people and on paper. Building and embedding institutional capability beyond experienced individuals is a real opportunity for Wrocław and it can lead to strengthening cross-departmental collaboration and new ideas for adaptation and security interventions.

→ The deeper issue is the gap between what experienced staff know how to do and what a newcomer could act on from the written plan.

3b / The risks are shifting faster than the experience that guides the response

Cloudbursts now block transport most years. Drought is increasing flood risk as rain runs off dry ground. As a logistics hub, disruption carries wider risks. The city understands its risk profile, but future and cascading risks, and how to act on them, could be better developed.

→ The deeper issue is that experience prepares a city for crises like the ones it has had. Climate change and new security threats call for preparing for ones it has not had yet

3c / The city is dependent on decisions made elsewhere

Waterworks as the only critical infrastructure the city manages itself. Energy, gas and district heating sit with state and private operators, and designation of critical entities under the CER Directive is led by government and the voivode. Flood protection depends on embankments and reservoirs owned by the State Treasury and run by Wody Polskie. Since the 2024 flood, the upstream Mietków reservoir on river Bystrzyca can no longer be filled to its former level.

→ The deeper issue is that the conditions that impact the city can change through decisions made elsewhere.

4 / What could another city take?

The Wrocław case is a useful reference for cities that already have well functioning crisis response but want to learn from lived experience of another city and to continue improving the systems they rely on.

→ One way to work through this:

A / Capture

→ Record the judgements experienced staff make that the written plans do not state, including lessons from the refugee crisis and smaller routine activations.

B / Structure

→ Turn plans into decision support: triggers, who decides, which buildings and partners are activated, and what each depends on. What new dual-use ideas, interventions, partnership can we think of now before a disruption?

C / Rehearse

→ Test the structured plan in exercises led by newer staff, with experienced staff observing.

D / Extend

→ Apply the same approach beyond flooding, for example to cloud burst and transport disruption or air conditioning failures during heatwave.

Sources, notes & credits: What made this possible? and Where is it still difficult? are distilled from a field conversation with Wrocław's crisis-management team; highlighted conclusions are DML interpretations. What could another city take? is a DML synthesis. The framing of lived crisis experience as a transferable approach to building preparedness is a DML interpretation, not a Wrocław framework.

City Patterns

Emerging patterns

Many patterns emerged. These seven were selected because they recurred across different city contexts, had clear implications for practice, and together capture the main areas where climate, preparedness and everyday urban systems are beginning to intersect.

A partial view: They reflect six Mission Cities, not the wider Mission landscape as a whole.

1 / Organisational Landscape

Cities often have the capacity, but the connections between departments are weak or uneven.

Climate, adaptation, preparedness and infrastructure continuity are already being worked on across cities, but the connections between them vary considerably. Collaboration often depends on particular people, proximity or informal relationships rather than ways of working the organisation can reliably reproduce.

Where we saw it

→ **Göteborg**: strong teams, uneven visibility between them.
→ **Umeå**: connections can disappear when individuals move on.
→ **Wrocław**: cross-department work is dependent on existing individual expertise and relationships.

Key tension

How do cities strengthen connections across functions without assuming everything needs to sit in one central team?

2 / Understanding Risks

Cities often understand the hazards they face, but have a less complete picture of what fails next, where, and for whom.

Cities already map risks such as heat, flooding, drought, power failure and cyberattack. The harder task is seeing how disruption cascades through systems and places: what services depend on, where impacts fall, and what this means for essential functions and vulnerable groups.

Where we saw it

→ **Gothenburg**: snow disrupted roads, staff mobility and elderly care.
→ **Lund**: individual risks are known, but system dependencies are harder to see.
→ **Bucharest Sector 2**: hazards are known, but impacts on people and assets are less clear.

Key tension

Risk assessments are often organised around individual hazards, while real disruptions move across systems and places.

3 / Policy Obligations

Cities are often left to translate external policy obligations into local action.

Cities may be responsible for implementing resilience measures without having much influence over policy design, designation or timing. National and EU strategies do not always make clear how risks and responsibilities will land at city level, where people, infrastructure and essential services are concentrated.

Where we saw it

→ **Bucharest Sector 2**: national requirements are prompting action, but wider responsibilities remain unclear.
→ **Umeå**: national requirements are growing faster than local guidance.
→ **Lund**: national rules still need translating into local responsibilities.

Key tension

Cities are expected to act locally, even when the rules, responsibilities and funding are set elsewhere or are still unclear. For example the CER Directive.

Note: These patterns are Dark Matter Labs' synthesis of interviews with participating cities. They highlight a selected set of recurring themes and tensions, rather than everything that surfaced in the research, and should not be read as comprehensive assessments of each city..

4 / Dual-use Opportunities

Cities are starting to give existing assets and investments additional resilience roles.

Existing buildings, public spaces, infrastructure and services are being used or considered for more than one purpose, connecting everyday functions with climate adaptation and preparedness. Rather than creating separate systems, cities are beginning to add new capacity to what already exists.

Where we saw it

→ **Zagreb**: museums and pools became free cooling spaces during heatwaves.
→ **Lund**: schools, libraries and churches already take on crisis roles.
→ **Gothenburg**: schools are gaining crisis functions, with more resilience being considered at design stage.

Key tension

Dual-use often stops at single assets, while many of the assets needed for wider resilience sit outside city control.

5 / Decision-making & Governance

Decision-making is often clearer during an emergency than during the long work of preparing for one.

Once a crisis occurs, cities usually have defined emergency structures. Preparing beforehand cuts across property, education, climate, infrastructure, care, finance and preparedness, making questions of mandate and responsibility much harder.

Where we saw it

→ **Gothenburg**: informal collaboration had to become a formal process.
→ **Lund**: cross-department connections are often built bottom-up, while formal decision routes remain unclear.

Key tension

Resilience can be everybody's responsibility while the authority to coordinate it belongs clearly to nobody.

6 / Civic Fabric & Social Resilience

Cities rely on social resilience but they rarely treat it as infrastructure.

Residents, neighbourhood organisations, local institutions and informal relationships can help people adapt, share information and support one another when normal systems are under pressure. Some cities are beginning to recognise this capacity, but it often sits outside conventional resilience planning and investment.

Where we saw it

→ **Lund**: local organisations and neighbours are seen as part of crisis support.
→ **Zagreb**: district structures and participatory budgeting support neighbourhood action.
→ **Umeå**: trust, care and social capital are being treated as resilience capacity.

Key tension

How can cities treat social resilience as a critical infrastructure without assuming they can own or control it?

7 / Investment

The costs and benefits of resilience often fall in different places

Resilience investments often create value across departments, organisations, owners and time horizons. One department may pay while another benefits; upstream interventions may protect multiple properties; and asset upgrades can create everyday and emergency value. Budgets are rarely organised around these shared benefits.

Where we saw it

→ **Bucharest Sector 2**: resilience costs are hard to justify within existing procurement.
→ **Umeå**: climate and preparedness budgets remain separate despite shared benefits.
→ **Gothenburg**: The most effective intervention may sit upstream, leaving unclear who acts and who pays.

Key tension

Who should pay when the cost sits in one budget but the benefits appear somewhere else?

Note: These patterns are Dark Matter Labs' synthesis of interviews with participating cities. They highlight a selected set of recurring themes and tensions, rather than everything that surfaced in the research, and should not be read as comprehensive assessments of each city.

What could this mean for your city?

The cities in this research are starting from very different places, but one finding comes through consistently: building greater resilience does not always mean starting something new.

Existing climate work, investments, assets and relationships may already provide some of the foundations..

You could start by asking:

When?

When one system fails, what fails next and who is affected first?

What?

What would resilience look like at neighbourhood scale, rather than asset by asset?

Who?

Who owns the assets your city depends on for resilience, and what would need to be agreed before a crisis?

Where?

Where does social resilience already exist and how can the city invest in it and support it?

How?

How can collaboration across climate, preparedness and infrastructure outlast the people who start it?

Which?

Which investments could reduce several risks at once, and how should costs and benefits be shared?

Interested in exploring one of these questions further?

NetZeroCities is considering future capability-building activities to help cities apply these ideas to their own climate-transition work.

Tell us what your city would like to explore. Your response will help us understand shared demand and shape possible next steps.

Express your interest ↗

Download report in document format

Developed by Dark Matter Labs as part of NetZeroCities.

Research and development by **Meggan Collins, Maria Klint, Amelia Kuch, Alexandra Anghel, Metadel Mengestu**.

With thanks to the city officials and practitioners across the NetZeroCities cities who generously shared their time, experience and reflections through interviews and conversations. Their insights form the basis of the city stories and cross-city patterns in this report.

Report design, illustrations and diagrams by Meggan Collins, Dark Matter Labs, unless otherwise credited.

Funded by the European Union

The European Commission is not responsible for any use that may be made of the information this deck contains.

This work is licensed under a Creative Commons Attribution-NonCommercial 4.0 International licence (CC BY-NC 4.0). It may be shared and adapted with appropriate attribution for non-commercial purposes. Third-party material remains subject to its original licence or copyright.