



THE URBAN BURDEN
OF DISEASE ESTIMATION
FOR POLICY MAKING

PREPARING CITIES FOR CLIMATE AND HEALTH IMPACTS

Cities are where climate change and health intersect most visibly – and where we can make the fastest improvements.

Integrated climate-health governance and adequate funding are necessary to deliver zero-regrets health benefits including fewer premature deaths from heat, cleaner air, and stronger social resilience.

By integrating adaptation and mitigation measures in cities' climate action plans (CAPs), city decision makers can better deliver health benefits while promoting equity in a more cost-effective way.

CLIMATE ADAPTATION AND HEALTH

In Europe, more than 70% of the population lives in urban areas and this is projected to increase.¹

As Europe heats up twice as fast as the global average,² cities experience more frequent and severe impacts across all sectors,³ leading to economic losses⁴ and public health harm.

CLIMATE AND AIR POLLUTION

Heat is already a major driver of health harm in urban areas. In 2025, almost two-thirds of the 24,400 deaths recorded in European cities were directly attributable to heat,⁵ especially in vulnerable people.

Dense, hot urban environments can trap atmospheric pollutants, creating a pollution island where heat and pollution reinforce each other. This significantly worsens respiratory and cardiovascular disease, increasing premature death.^{6,7}

URBAN HEAT ISLAND (UHI) EFFECT

Dense infrastructure, sealed surfaces, high building volumes, and limited green space increase the impact of climate change in urban areas. The UHI effect can increase surface temperatures by 10–15°C.⁸

Warmer conditions also help pathogens spread. In Europe, nearly two out of every three vector-borne and zoonotic diseases are influenced by climate change.⁹

EXTREME HEAT

High temperatures aggravate cardiovascular and respiratory diseases, and rising night-time temperatures reduce the body's capacity to recover, increasing cumulative stress. Vulnerable groups are disproportionately affected and often have the least access to cooling, green space, or supportive services.

CLIMATE MITIGATION AND ADAPTATION

More than half of European cities have dedicated CAPs.¹⁰

CLIMATE ACTION PLANS

CAPs are strategic planning frameworks city authorities use to reduce greenhouse gas emissions (mitigation),¹¹ while also reducing the vulnerabilities of people and assets (adaptation), and increase their overall ability to cope with climate change impacts (resilience).

CAPs can deliver healthier urban environments, cut carbon emissions, and build resilience while reducing pollution^{13,14} and the risk of malpractice.¹⁵ However, only a minority of EU cities consider both mitigation and adaptation in their plans.

Disjointed governance structures and misaligned funding often lead to duplication, missed synergies, and inefficiencies.¹⁶ For instance, urban cooling for adaptation might lack energy-efficiency retrofitting programs funded for mitigation.¹⁷

Sectorial thinking and processes also contribute to the marginalisation of health topics at urban level. For example, EU cities often treat climate-health action as a national responsibility.

Recent studies show that no EU city strongly prioritises climate-health integration, while only a third (36%) included health adaptation strategies.¹⁸

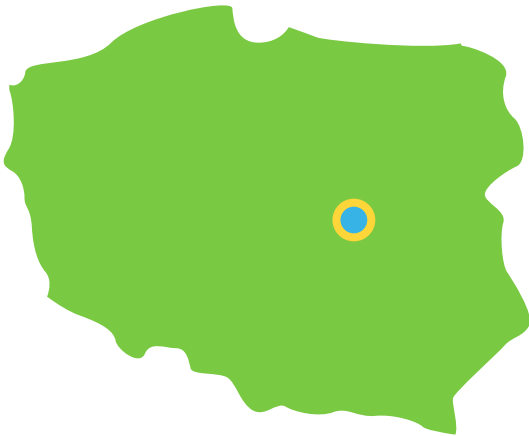
THE EU'S CLIMATE RESILIENCE AND RISK MANAGEMENT FRAMEWORK

The new EU integrated framework for climate resilience is set to be launched at the end of 2026.²⁰ It aims to establish a more ambitious approach to climate resilience, covering Member States and the EU as a whole.

The framework is set to follow the findings of the first European climate risk assessment (EUCRA). This assessment warned that 36 climate risks have already reached critical levels and stressed the need for urgent and decisive action. Health is one of five priorities included.



INTEGRATED CLIMATE MITIGATION AND ADAPTATION



WARSAW (POLAND)

CLIMATE RISK PROFILE

Warsaw faces climate risks linked to Continental or Western Europe, with increasing heatwaves and extreme weather events.²⁴ The growing risk of urban heat island effect is particularly critical.^{25, 26}

CLIMATE MEASURES

Warsaw's climate policy prescribes adaptation and mitigation actions to be implemented simultaneously.²⁷ For example, Warsaw prioritises several integrated climate action measures, including protecting and increasing green areas, improving energy efficiency, and investing in sustainable transport.

SOFIA (BULGARIA)

CLIMATE RISK PROFILE

Sofia faces climate risks linked to Central-Eastern Europe, with increasing exposure to heat extremes, exacerbated by urban density, and extreme weather events.²⁸

CLIMATE MEASURES

Sofia's climate city contract integrates climate mitigation and adaptation measures, with a focus on non-climate drivers and their impact on vulnerable populations.²⁹ For example, the city plans landscape methods that help trees grow faster and produce fuller canopies, so they can absorb more carbon, cool down local areas, and make green spaces healthier and more resilient.



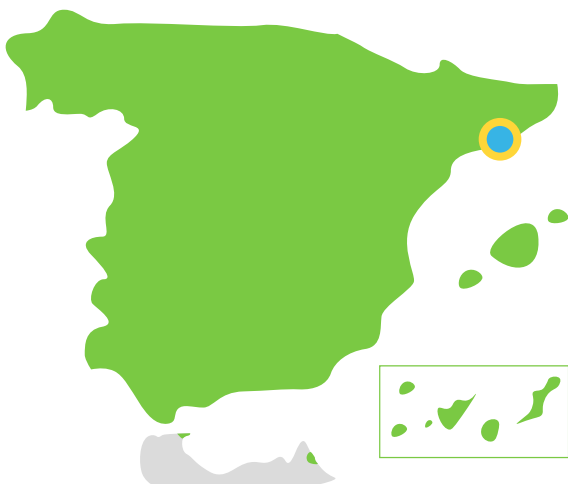
BARCELONA (SPAIN)

CLIMATE RISK PROFILE

Barcelona faces climate risks linked to Southern European, including heat extremes and heatwaves already at critical levels,²¹ exacerbated by urban density, and an increased risk of vector-borne diseases.

CLIMATE MEASURES

Barcelona scaled up its use of nature-based solutions in infrastructure to cut greenhouse gas emissions while improving urban biodiversity and benefits to residents, including accessible cooling spaces. For example, the city created a detailed tree map,²² which tracked the urban biodiversity using existing tools, e.g. Copernicus, helping improve green spaces and make them more resilient, e.g. EnRoute project.²³



FUNDING CLIMATE ACTION

The estimated investment needed to build climate resilience across Europe is €15-64 billion a year through to 2030.³⁰

A 2023 survey of the EU Mission on Adaptation signatories found that nearly all city respondents (93%) cited insufficient funding as one of their greatest challenges for implementation, e.g. to cover investments, re-design, and retrofitting required to make European urban centres climate resilient.³¹

City authorities face large transitional costs for planning, coordination, and staff capacity. Adequate investments can support cities to pursue large-scale, transformational adaptation, moving away from small-scale, incremental measures.³²

The City Climate Capital Hub set up by the EU Commission is an example of a platform designed to support project preparation and financing for integrated adaptation and mitigation projects.³³ More such targeted funds and finance are urgently needed to foster cross-sectoral collaboration.

THE NEXT EU BUDGET 2028-2034

The EU's long-term budget provides a multiannual financial framework (MFF) with dedicated spending programmes.

For the next EU budget, the European Commission has proposed a 35% spending target for climate (mitigation and adaptation) and environmental goals.

However, this target is inadequate to address climate change, biodiversity loss and pollution, undermining the EU's health protection goals,³⁴ especially those of vulnerable populations, suffering the most from climate-exacerbated pollution in cities.³⁵



POLICY RECOMMENDATIONS



CITY-LEVEL DECISION-MAKERS

- Adopt integrated strategies on health, climate mitigation, and adaptation
- Integrated urban actions should be prioritised where health needs are greatest and capacities are weakest
- Take an integrative approach to protect people's health from climate impacts, with city departments working together, including health divisions and residents in planning and implementation



EU-LEVEL DECISION-MAKERS

- Make health-protective investments a priority in the Climate Resilience and Risk Management Framework, especially in energy, transport, agriculture, industry, and urban planning
- Include financing for health and climate adaptation, especially on nature-based solutions, in the next EU budget 2028-2034
- Strengthen the role of cities and regions in the EU long-term budget, with dedicated funding to scale up integrated climate mitigation and adaptation measures deliver health benefits, especially for vulnerable groups

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The data presented in this policy brief was gathered as part of the [UBDPolicy project: UBD Policy stands for Urban Burden of Disease Policy](#). This EU-funded project is aimed at estimating the health and socioeconomic costs and benefits of air quality, noise, lack of urban green spaces, heat and temperature, physical activity, and inequity for nearly 1,000 European cities in the EU and monitors three-year trends and impacts of urban planning, transport planning, and environmental policies.



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