SWEDEN

2026 CITY DATA INSIGHTS

LANCET COUNTDOWN: HEALTH AND CLIMATE CHANGE IN EUROPE

The 2026 Europe Cities Report of the Lancet Countdown presents a systematic, policy-relevant set of climate change and health indicators for European cities. This document highlights key Sweden-specific city-level findings.

As the world's fastest-warming continent, Europe faces an escalating public health crisis. Cities sit on the front line of this threat, with dense populations, heat-trapping infrastructure and limited cooling due to inadequate green space. All of this multiplies the dangers from climate-related heatwaves, floods, droughts and wildfires. These environmental hazards directly harm human health and disproportionately affect the most vulnerable, including children, older adults, outdoor workers and low-income communities. Cities also offer substantial opportunities for effective climate action.

In 2023, about 41% of Sweden's population (4.3 million out of 10.5 million people) lived in 14 cities, according to the Urban Audit definition. Of this urban population, 37.2% lived in Stockholm, Sweden's largest city, while a further 24.7% lived in the second- and third-largest cities, Göteborg and Malmö. This high population density exacerbates the health risks of climate change for urban populations. Within Sweden's urban population, 722,900 people (17%) were aged over 65 and 746,200 (17.3%) were children under 15, meaning over a third are at higher risk from climate change.

Heat and Health

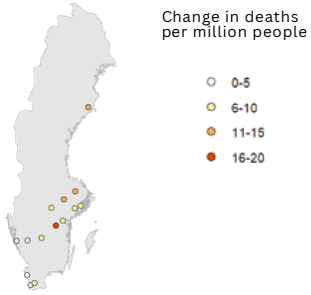
Urban populations are increasingly exposed to extreme heat, contributing to rising heat-related illness and mortality and undermining livelihoods and wellbeing.

Heat-related mortality

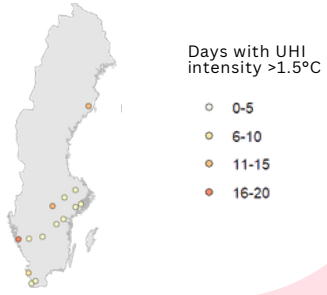
Across Swedish cities, average annual heat-related deaths increased by 4.2 per million between 2015 and 2024 as compared to 1991 to 2000 (indicator 1.1.2).

Umeå recorded the largest increase in average annual heat-related deaths per million people (142%), rising from 8.5 per million in 1991–2000 to 20.6 in 2015–2024 (indicator 1.1.2).

Change in heat-related mortality rate between 1991–2000 and 2015–24, expressed as the number of annual deaths per million people.



Average number of days with UHI>1.5°C between 2003-2020 across cities in Sweden



Heat exposure in cities

Most cities trap heat, creating an "urban heat island" (UHI) effect that makes urban areas significantly hotter than nearby rural areas. As climate change raises global temperatures and intensifies heatwaves, the UHI effect worsens health risks, driving increases in a range of heat-related health impacts, including heat exhaustion, cardiovascular strain and mortality, particularly among vulnerable populations.

For example, between 2003 and 2020, Göteborg recorded more than 300 days on which urban temperatures exceeded those of surrounding rural areas by more than 1.5°C. This averaged 19.3 days per summer, more than three times the Swedish urban average of around six days (indicator 1.1.1).

Sustainable urban cooling

To safeguard public health and prevent heat-related deaths, cities must adapt to extreme heat. Expanding tree cover offers a practical and effective means of cooling urban environments and building community resilience.

Urban tree cover

To support urban cooling, reduce air pollution and protect public health, the UN Economic Commission for Europe recommends that cities maintain at least 30% tree cover.

Swedish cities had an average tree cover of 62,132 hectares in 2020, equivalent to 41.6% of total urban land area. Of the 14 cities, 11 had tree cover of 30% or more in 2020 (indicator 2.2.4).

Umeå had the largest tree cover by area (180,300 hectares, or 75.2% of total area), while Malmö had the smallest (171 hectares, 1.1%), despite recording the largest percentage increase since 2000 (33%, from 129 to 171 hectares) (indicator 2.2.4). Malmö adopted the 3-30-300 principle in 2023, reflecting its commitment to building resilience to heat.

Heat-reflecting surfaces

Darker, heat-absorbing materials contribute to rising urban temperatures. Replacing them with lighter, reflective or natural materials can help to lower land surface temperatures, for example by replacing concrete with soil or vegetation. In Sweden, however, the extent of such surfaces has declined, leaving considerable scope to expand their use for urban cooling (indicator 2.2.2).

Sustainable and Healthy Transport

Active travel and public transport

Active and healthy transport, such as walking and cycling, and the use of public transport support urban decarbonisation and improve air quality by reducing vehicle emissions. It also builds daily physical activity into everyday journeys, significantly lowering the risk of chronic disease and improving mental health and wellbeing.

The Sustainable Transport Score measures how easily residents can walk, cycle or use public transport in a city, with 7 out of 10 considered a good score. In 2022, Swedish cities fell short, with an average score of 5.3 out of 10. On average, the cities had 23% of their total area within 250 metres of at least one public transport stop and 48.3% of all pathways supported walking, while dedicated cycling infrastructure covered only 18% of all roads (indicator 3.3.1).

In 2022, Stockholm achieved the highest overall score (6.2 out of 10). Across individual indicators, the top and bottom performers were (indicator 3.3.1):

- Walking: Göteborg was the most walkable, with 63% of roads having pedestrian-friendly paths; Västerås the least, at 30%.
- Cycling: Västerås offered the best cycling access, with 31.5% of roads having cycle lanes; Jönköping the lowest, at 3.5%.
- Public Transport: Stockholm led, with 46% of its area within 250 metres of a public transport stop; Borås had only 11%.

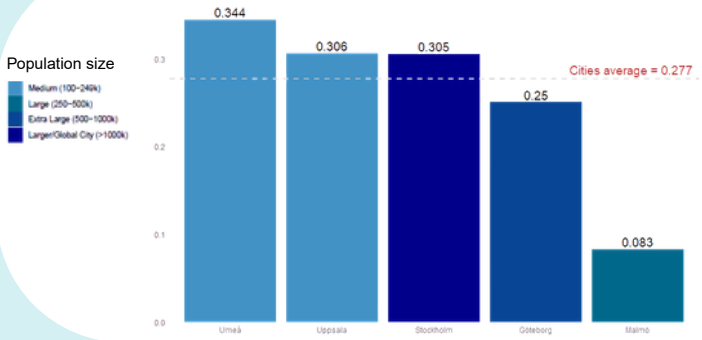
Heat-resilient cycling infrastructure

Climate change is bringing increasingly frequent and prolonged periods of extreme heat to cities, limiting when people can safely walk or cycle outdoors. Building heat-resilient pedestrian and cycling infrastructure, particularly through natural tree shading, is becoming vital to protect urban residents and keep communities moving safely.

In Sweden, 27.7% of cycling paths and shared cycling and pedestrian paths were shaded by tree cover between 2018 and 2020 (indicator 2.2.5).

Of the Swedish cities exposed to moderate to high heat stress, Borås and Norrköping had the highest proportion of shaded infrastructure, both at 36.5% (indicator 2.2.5).

Proportion of shaded cycling infrastructure in cities in Sweden



Energy, Air Pollution and Health

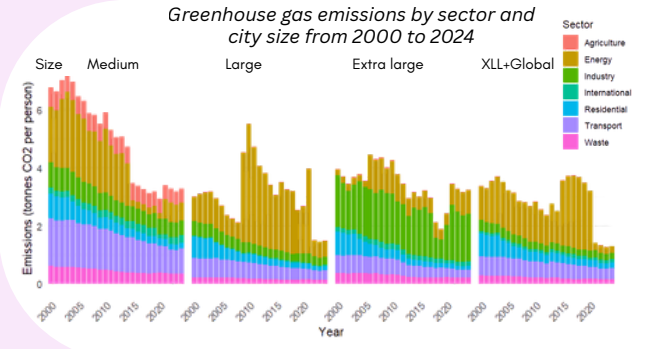
Fossil fuel combustion is a primary driver of both rapid global heating and fine particulate pollution ($PM_{2.5}$), each of which poses severe risks to human health. Household solid fuel combustion is a further major source of $PM_{2.5}$ and short-lived climate pollutants. Moving away from these polluting fuels by decarbonising energy systems and electrifying household heating removes these pollutants and greenhouse gas emissions at source, substantially reducing premature deaths and chronic illness attributable to $PM_{2.5}$.

Sectoral sources of greenhouse gas emissions

Between 2000 and 2024, greenhouse gas emissions per person across Swedish cities declined by 20%, with the largest reduction in the residential sector (78.5%), followed by the energy sector (62.5%) (indicator 3.1.1).

In the residential sector, Göteborg recorded the greatest reduction in emissions between 2000-2024 (83.7%, from 0.79 to 0.13 tonnes of CO_2 per person), followed by Malmö (81.1%, from 0.74 to 0.14 tonnes) and Västerås (80.6%, from 0.86 to 0.17 tonnes) (indicator 3.1.1).

Greenhouse gas emissions by sector and city size from 2000 to 2024



$PM_{2.5}$ attributable mortality

Between 2000 and 2023, the overall premature mortality rate attributable to $PM_{2.5}$ from dirty fuel use declined by 68.6% across Swedish cities. There was a decrease in $PM_{2.5}$-attributable mortality in the household sector of 67.8% from solid fuel use, while the power generation sector verified a 86.6% reduction, consistent with a transition to cleaner energy sources (indicator 3.2.1).

In 2023, Stockholm recorded Sweden's highest number of premature deaths attributable to $PM_{2.5}$ from dirty fuels (518), of which 66.2% were linked to the transport sector. Göteborg saw the largest fall in the $PM_{2.5}$ attributable mortality rate between 2000 and 2023, down 75.3% (indicator 3.2.1).

Chen-Xu J, Kriit HK, Semenza J, et al. The 2026 Europe Cities report of the *Lancet* Countdown on health and climate change: cities at the forefront of climate change action. Lancet Public Health 2026; published online Sep 9. https://doi.org/10.1016/S2468-2667(26)00100-3

The Lancet Countdown Europe is a regional research collaboration providing an overview of the relationship between public health and climate change, the region's response to climate change, and the health benefits that emerge from this transition. The Lancet Countdown was established in partnership with Wellcome.

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