

# GERMANY

## LANCET COUNTDOWN ON HEALTH AND CLIMATE CHANGE DATA SHEET 2023

### Health and climate change in Germany

The *Lancet* Countdown on Health and Climate Change is an academic collaboration of over 200 researchers from around the world, which annually takes stock of the evolving links between health and climate change through 40+ peer-reviewed indicators. Since 2016, these indicators have provided regular, reliable global and regional stocktakes on climate change and health. This document summarises key findings from the 2023 Report of the *Lancet* Countdown\* which reveal that in Germany:



Populations are increasingly exposed to health-threatening **extreme heat**, with associated increases in heat-related illness and mortality.



**Air pollution** is affecting the health of local populations, with a high burden of disease and deaths that could be avoided by transitioning to zero emission, clean energy sources.



The persistent net **subsidising of fossil fuels** for billions of dollars restricts funds available for health-supportive services, and hampers a transition towards clean, zero-emission energy.



**Unhealthy diets** are contributing to greenhouse gas (GHG) emissions and undermining health and wellbeing. Deaths attributable to dietary risks could be reduced through balanced, low-emission diets.

These findings underline the urgency of strengthening local health systems, adapting to climate change, and pursuing efforts to reduce greenhouse gas emissions through interventions that simultaneously deliver health co-benefits. These actions will help build healthier, more resilient populations, and forge the way to a thriving future for Germany.

### Heat and health

Exposure to high temperatures threatens people's lives, health, and wellbeing, leading to death and heat-related disease, and increasing healthcare demand during heatwave episodes. Older people, socio-economically deprived communities, very young children, pregnant women, and those with underlying health problems are particularly at risk.

1.8°C

From 2018 to 2022, the average summer temperatures that people were exposed to were 1.8°C higher than the 1986–2005 baseline average (indicator 1.1.1).

2.3X

From 2013–2022, the total number of heatwave days experienced annually by children under the age of one was 1.8 times greater than the equivalent demographic from 1986–2005. Adults over age 65 experienced 2.3 times as many heatwave days across the same timeframe (indicator 1.1.2).



From 2013–2022, each infant and adult over age 65 was exposed to an average of 7.9 life-threatening heatwave days per year (indicator 1.1.2).

#### ECONOMIC IMPACT OF HEAT

Heat exposure limits labour productivity, which undermines livelihoods and the social determinants of health.

**34 million** potential labour hours lost due to heat exposure in 2022, an increase of 12% from 1991–2000 (indicator 1.1.4).



Construction workers were hit the hardest, seeing 60% of the potential hours lost and 57% of the potential income losses in 2022 (indicators 1.1.4 & 4.1.3).

#### FUTURE THREATS

2°C SCENARIO

In a scenario in which temperatures are kept to under 2°C of heating, heatwave exposure for people over age 65 is projected to be 4 times greater by mid-century (2041–2060 average) (indicator 1.1.2).

## Air pollution, energy transition and health co-benefits

The low adoption of clean renewable energy and the continued use of fossil fuels and biomass lead to high levels of air pollution, which increases the risk of respiratory and cardiovascular disease, lung cancer, diabetes, neurological disorders, adverse pregnancy outcomes, and leads to a high burden of disease and mortality.

Transitioning energy systems to renewables would benefit human health, simultaneously reducing air pollution; mitigating greenhouse gas emissions; and contributing towards universal, affordable, and clean energy.

30%

In 2020, over 55,000 deaths were attributable to small particulate matter (PM<sub>2.5</sub>) generated from human activities. This was a 30% decrease from 2005 (indicator 3.2.1).



Of these deaths in 2020, 36% were caused by PM<sub>2.5</sub> from fossil fuel burning, while 14% were due to the use of biomass (indicator 3.2.1).

### RENEWABLE ENERGY TRANSITION



Use of renewable energy has grown steadily in recent years, contributing 31% of total electricity output but only 6% of total energy supply in 2020. The same year, 16% of total energy supply came from coal (Indicator 3.1.1).

6%

In 2020, fossil fuels still accounted for 93.4% of all road transport energy, and electricity accounted for only 0.6%. The use of biofuels has been slowly increasing over time, accounting for nearly 6% of transport energy in 2020. (indicator 3.1.3).

Carbon prices help economies transition away from high-carbon fuels, whereas fossil fuel subsidies provide incentives for health-harming emissions and slow the low-carbon transition. Redirecting fossil fuel subsidy funds to incentivising the expansion and affordability of low-carbon power and to health-promoting interventions would deliver net benefits to local populations, and support a just transition.

\$5.6bn

In 2020, Germany had a net-negative carbon revenue, indicating that fossil fuel subsidies were higher than carbon prices. The country allocated a net total of US\$5.6 billion in fossil fuel subsidies in 2020 alone, an amount equivalent to 1% of the nation's health expenditure (indicator 4.2.4).

## Diet and health

Promoting shifts to healthier, more plant-based diets can substantially reduce agricultural GHG emissions, while also delivering major co-benefits for public health through improvements to dietary risk factors and reduced deaths due to unbalanced diets.



In 2020, consumption of red meat and dairy led to emissions of 0.53 CO<sub>2</sub>e per person. In that year, red meat and dairy accounted for 36% of all agriculture-related emissions (indicator 3.3.1).



In 2020, over 87,000 deaths were associated with excessive consumption of dairy, red meat, and processed meat. Another 132,000 deaths were attributable to insufficient consumption of nutritious plant-based foods (including fruits, vegetables, legumes, wholegrains, nuts, and seeds) (indicator 3.3.2).

## Engagement in health and climate change

To respond to the health impacts of climate change, locally relevant data and research is required to inform policies, and to enable governments to take a leading role in championing health-centred climate action on mitigation and adaptation within Germany and in international negotiations.



The number of peer-reviewed scientific articles on health and climate published with lead authors based in Germany has been trending up for decades, peaking with 58 papers in 2020 and 2021 and followed by 50 papers in 2022 (indicator 5.3).

FOR FURTHER INFORMATION, VISIT:  
**WWW.LANCETCOUNTDOWN.ORG**

\*Romanello M, di Napoli C, Green C et al. The 2023 report of the *Lancet* Countdown on health and climate change: the imperative for a health-centred response in a world facing irreversible harms. *Lancet* 2023; published online Nov 14. [https://doi.org/10.1016/S0140-6736\(23\)01859-7](https://doi.org/10.1016/S0140-6736(23)01859-7).