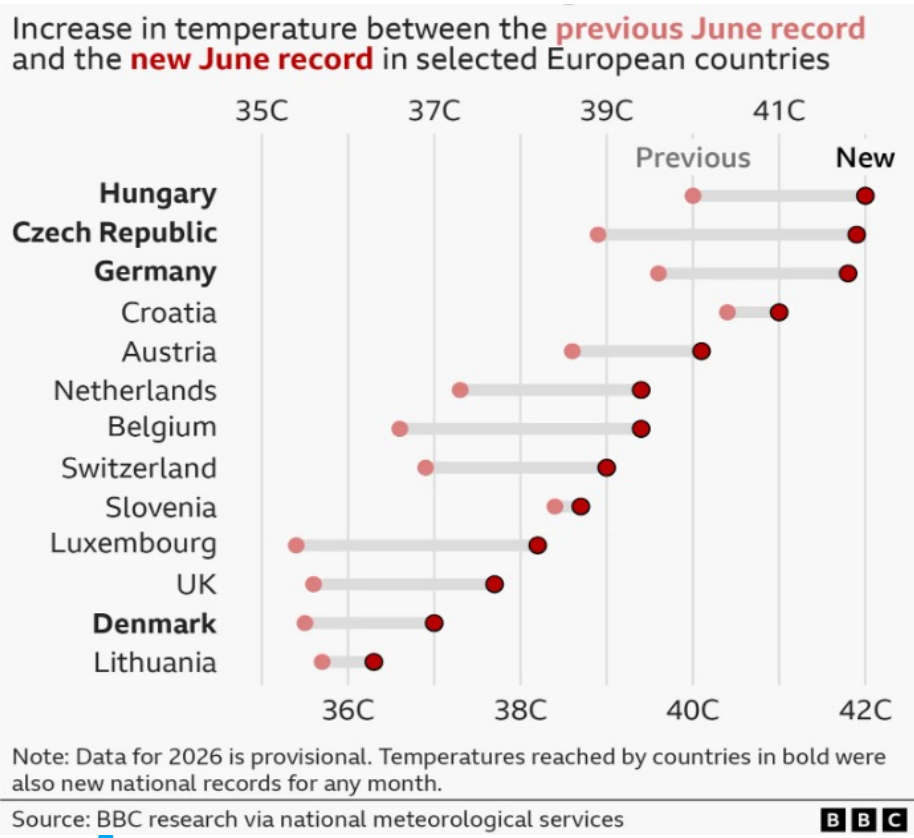




Cities On The Front Line: *What The Science Says, And Why The IPCC Is Now Looking At Them*

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Vice Chair, Intergovernmental Panel on
Climate Change

Record breaking 2026 Summer brings an estimated 35 thousand excess European deaths. Hottest summer ever recorded in Western Europe



At least 35,000 excess deaths recorded in Europe's back-to-back heatwaves

True figure likely to be much higher as it only covers about half of continent and does not include August totals



A woman dips her head in the lion fountain in Piazza del Popolo in Rome in an attempt to cool down on a scorching August day. Photograph: Amer Ghazzal/Shutterstock



WHY IS EUROPE WARMING SO QUICKLY?

Europe is warming more than twice as fast as the global average

Linear trend in annual surface air temperature for 1996–2025

Data: ERA5 • Credit: C3S/ECMWF

EUROPEAN
STATE OF THE
CLIMATE

REPORT 2025



PROGRAMME OF
THE EUROPEAN UNION



IMPLEMENTED BY



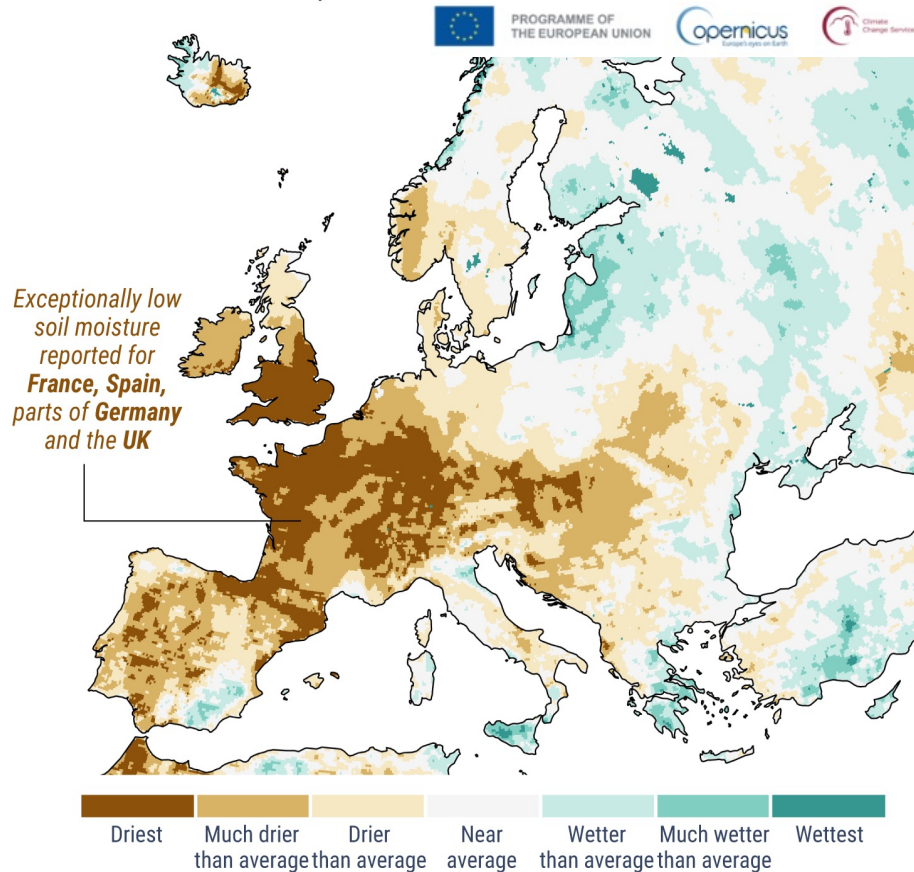
WORLD
METEOROLOGICAL
ORGANIZATION

Copernicus.eu, ESOTC 2025

Europe's Soils and Rivers Reach Exceptionally Low Levels in July 2026

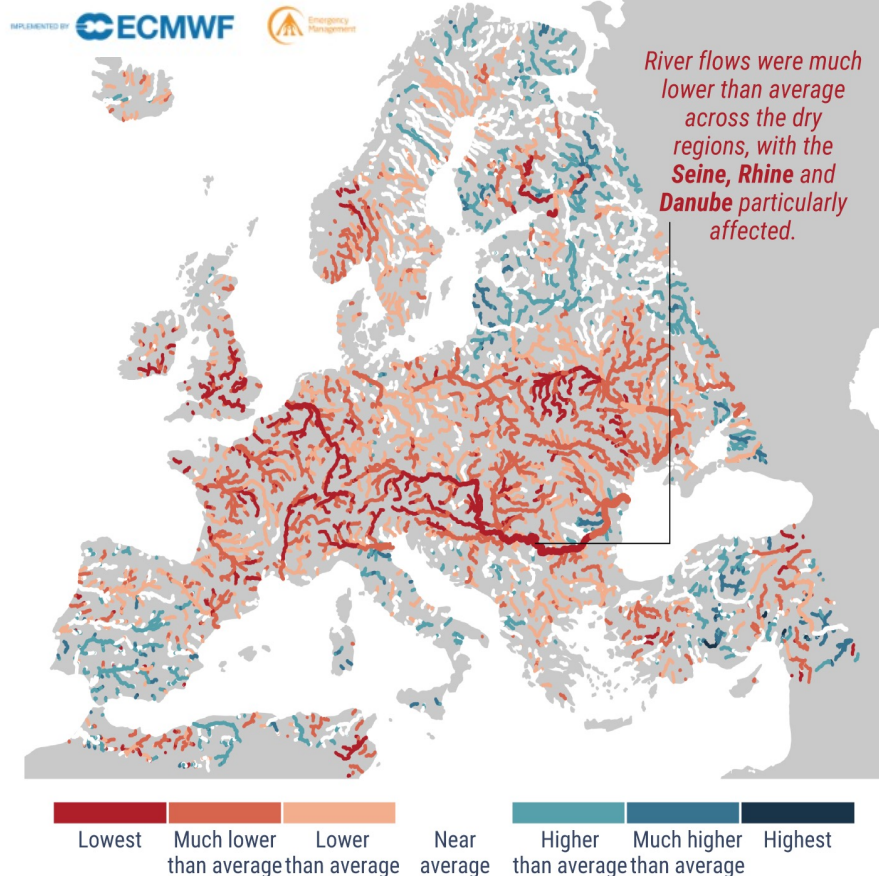
Anomalies and extremes in surface soil moisture

Data: ERA5-Land (1979–2026) • Reference period: 1991–2020 • Credit: C3S/ECMWF



Anomalies and extremes in monthly average river flow

Data: EFAS (1992–2026) • Reference period: 1992–2020 • Credit: CEMS/C3S/ECMWF

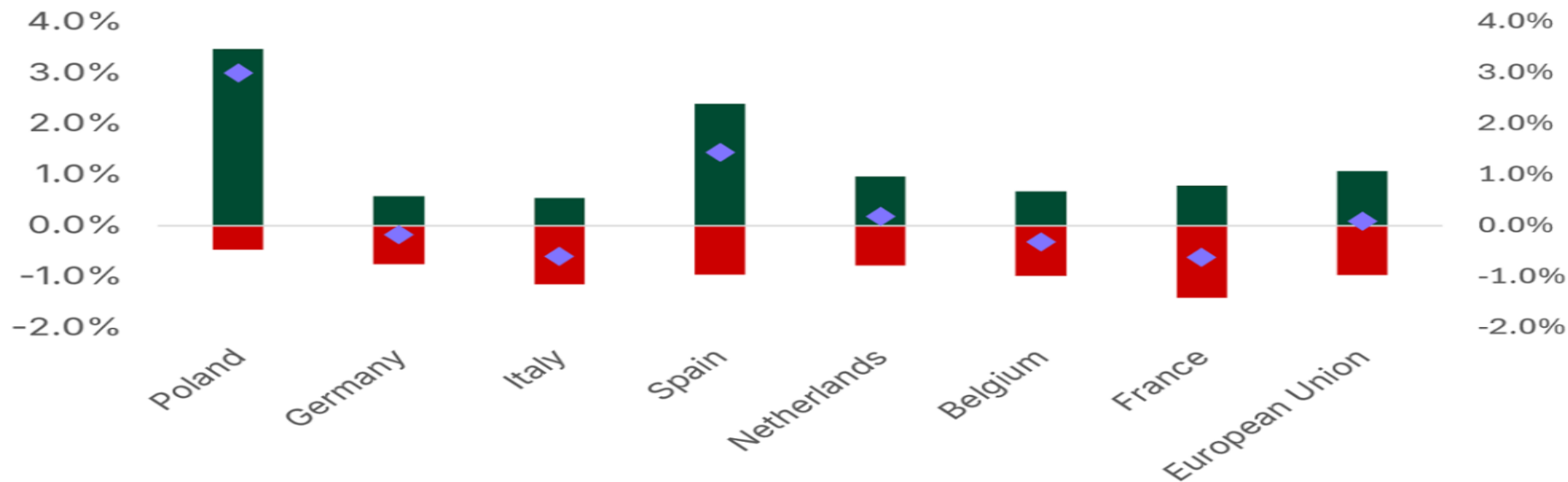


“Extreme heat and drought are reducing river water levels and increasing river temperatures” - Dr. Ürge-Vorsatz Diana

Drought forces Romania nuclear plant shutdown

GDP growth forecast and extreme heat effects

European Union & selected economies



■ GDP growth forecast European Commission

■ Total GDP effect extreme heat

◆ GDP growth including extreme heat damage



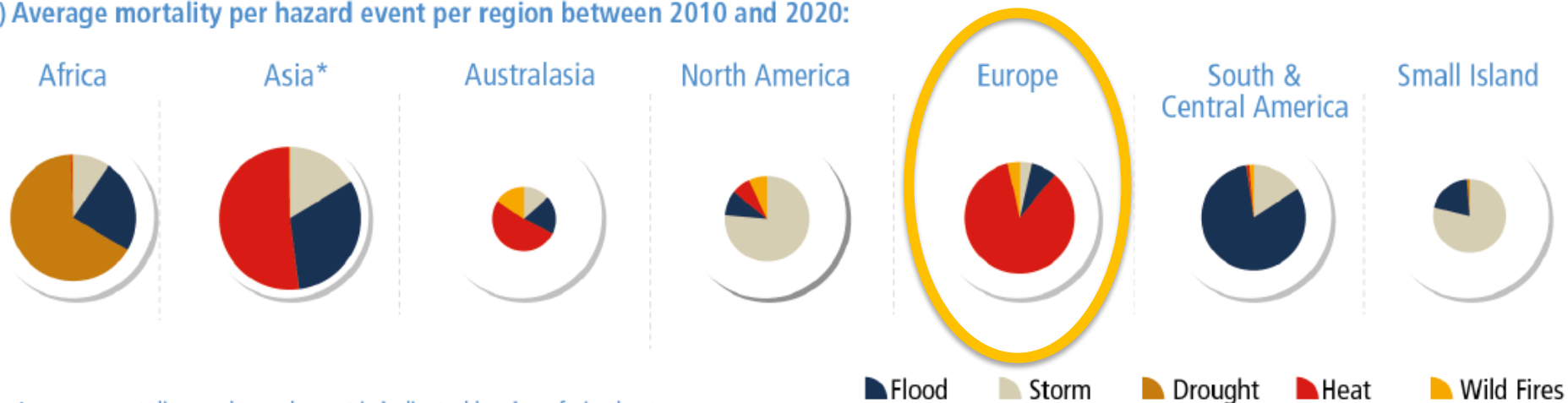
Why Cities?



Why Cities are key to adaptation and resilience

- ❑ 75% of EU population in cities
- ❑ Disruption in urban systems does not stay in cities: it quickly **cascades** across power grids, international supply chains, and surrounding rural resource networks.
- ❑ Urban heat islands **exacerbate urban heat**, presently often adding more degrees to heatwaves than global warming
- ❑ impermeable urban surfaces drastically heighten stormwater runoff and **flood risk and exposure**
- ❑ Rapid response measures to e.g. **fires and floods** are more challenging in urban areas due to limited transport capacities for major settlements
- ❑ Cities are most **vulnerable** for extreme-induced **energy system disruptions** since most basic services (food, water, sewage, transport, thermal safety (heat/cold), even finances) rely on power

c) Average mortality per hazard event per region between 2010 and 2020:



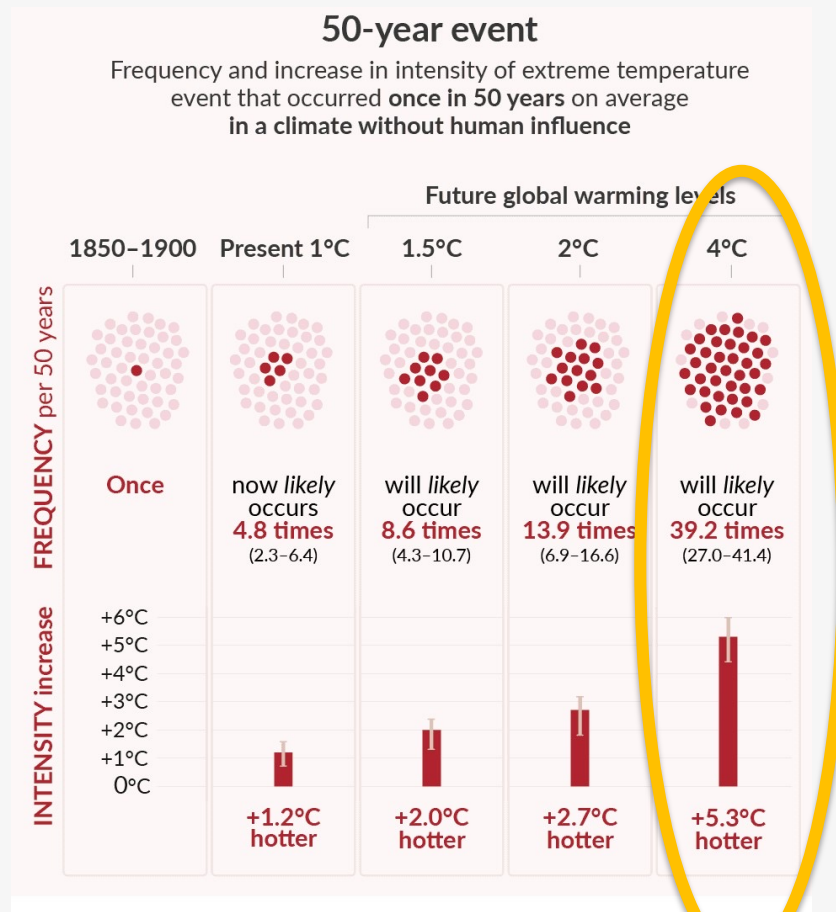
Average mortality per hazard event is indicated by size of pie charts.

The slice of pie chart shows absolute number of deaths from a particular hazard

Temperature extremes are among the most intensifying climate extremes

- (IPCC AR6 WGI)

Source: IPCC, 2022. AR6, WGI, Figure SPM.5B (a)





Why Cities are key to mitigation

- ❑ **70%-80% of global GHG emissions**, creating a direct feedback loop between local consumption and global hazards.
- ❑ 70-80% of global GDP is generated in cities, most innovation originates in cities – allowing for cities being the fastest change agents in both mitigation and resilience
- ❑ Cities have a large share of mitigation opportunities where mitigation goes hand-in-hand with urban objectives such as livable/healthy/accessible/green cities
- ❑ Many further co-benefits are substantial with urban climate action (e.g. net zero building retrofits, walkable cities, accessible public transport, etc),
 - e.g. improved energy security, lower dependence on natural gas and oil imports, reduced energy poverty, affordability, productivity, improved air quality, carbon sequestration, local employment opportunities, social inclusion
- ❑ With **USD 90 trillion projected in urban development by 2030**, decisions made today determine whether low-carbon resilience is built in or carbon-intensive vulnerability is locked in for decades.

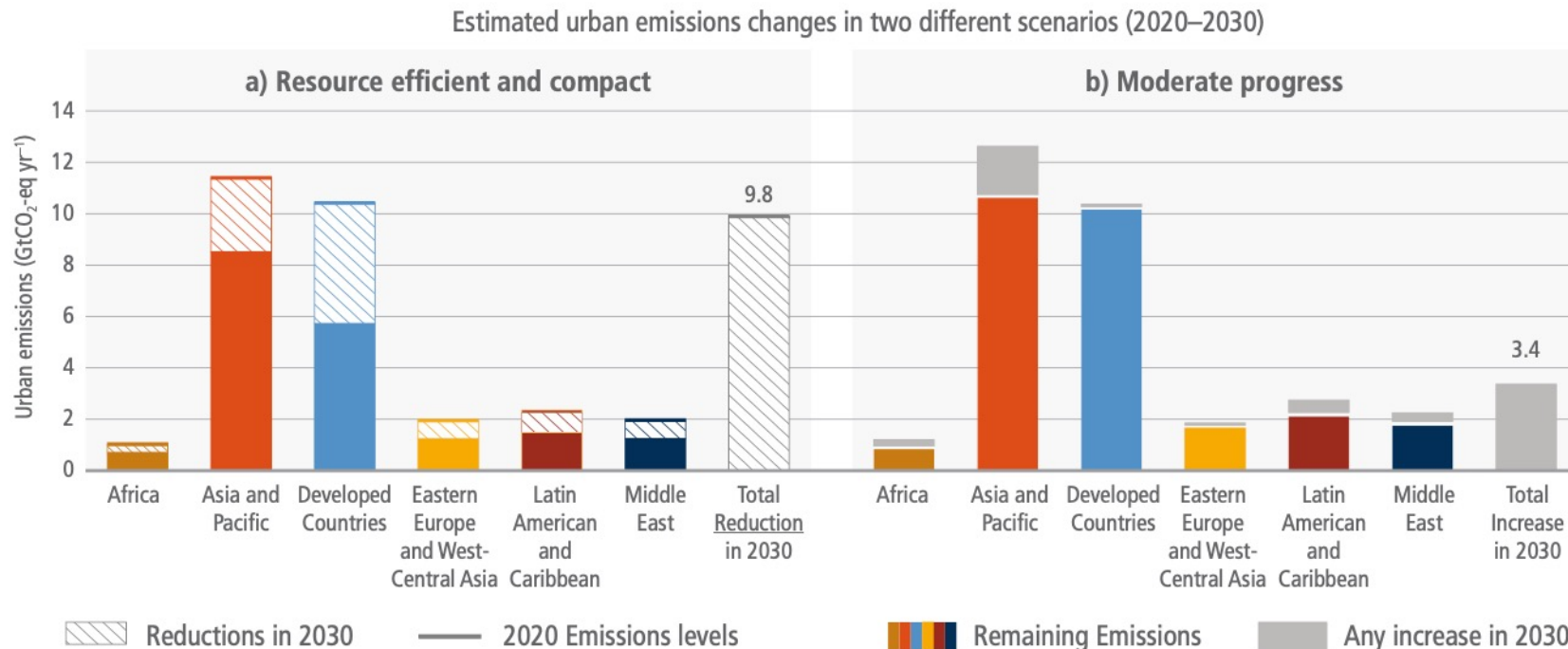


Figure 8.14: Comparison of urban emissions under different urbanisation scenarios (GtCO₂-eq yr⁻¹) for the AR6 WGI 6-region aggregation. The panels represent the estimated urban emissions change in two different scenarios for the time period 2020–2030.



Why Cities matter: risks and opportunities

- ❑ Cities are often more **agile** than national governments in **climate action**
 - Research demonstrated that individual leadership and carisma is key to front-runner cities, while this is harder to make a difference at the national level
- ❑ *Delaying* action to strengthen the resilience of urban infrastructure from 2020 to 2030 carries a median **cost of at least USD 1 trillion** while missing the window to limit warming to 1.5°C.
- ❑ Current global urban climate finance stands at roughly **USD 384 billion annually**, meeting **only about 10%** of the capital needed to achieve low-carbon and resilient urban development
- ❑ The importance of cities in climate action is in major **mismatch** with their **share in climate finance** and **climate related budgets**
- ❑ Beyond financing, cities benefit from **strong, predictable regulatory frameworks** and **legislative/operational reinforcement of their key role** in climate action



Why the European urban experience is key for global climate action

- ❑ European cities lead in net zero commitments
 - ❖ With many cities demonstrating exemplary progress, **showing the world feasible net zero pathways**
- ❑ Europe has global responsibility to lead the way in emission reductions due to historic responsibility, with high co-benefit options in cities
- ❑ Climate change threatens the very European lifestyle that underpins much of the disruptive mitigation and resilience opportunities
 - ❖ E.g. walking, taking public transport may be health threatening in heatwaves, reversing declining car ownership trends
 - ❖ Traditional European adaptation approaches to heat without air conditioning are threatened by dangerous heat levels, putting major strain on European power systems...
 - ❖ ...and exacerbating divides in climate vulnerability among the poor and rich



The Special Report on Climate Change and Cities

Why Does AR7 Include a Special Report On Cities?

Cities were under-assessed, also major gaps in the scientific literature

- **2016 decision (IPCC-43, Nairobi):** The Panel decided "*the AR7 cycle will include a Special Report on climate change and cities.*"
- **Urban network co-driven:** e.g. C40, ICLEI, UN-Habitat, UNEP, Cities Alliance, Future Earth, SDSN, UCLG and WCRP all strongly advocated for it, and co-organised the run-up.
- **Evidence base built first:** The 2018 Edmonton IPCC co-sponsored conference on Cities and Climate Change Science was designed to identify research gaps for the AR7 SR to assess.
- **Policy timing:** Member states noted at P60 that the SR could feed the 2028 Global Stocktake. It was reconfirmed at P60, outline adopted at P61 (Sofia), approval due March 2027.

Outline of the Special Report on Climate Change and Cities

SEVENTH ASSESSMENT CYCLE

ipcc

INTERGOVERNMENTAL PANEL ON climate change



UN
environment
programme

CHAPTER 1

Cities in the context of climate change: framing of the report



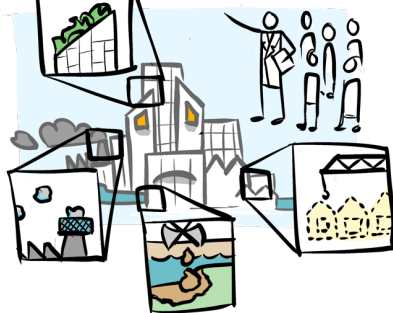
CHAPTER 2

Cities in a changing climate: trends, challenges and opportunities



CHAPTER 3

Actions and solutions to reduce urban risks and emissions



CHAPTER 4

How to facilitate and accelerate change



CHAPTER 5

Solutions by city types and regions



We have a diverse author team

The Special Report has about 100 authors and review editors from over 56 countries.

They volunteer their time, expertise, and their diverse backgrounds, cultural contexts and perspectives will be crucial to shape the report.





Thank you for your attention!

To reach out to me for comments,
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