

Global Heat Resilience Roadmap for a Warming World: A country-led advisory for heat resilience and sustainable cooling

Invitation to co-develop Country Heat Resilience Pathways Ministerial invitation | COP31, Türkiye | From Antalya to Addis

At the Third Annual Ministerial on Heat Resilience and Sustainable Cooling at COP31, governments are invited to join the Global Heat Resilience Roadmap development process.

The Roadmap is an advisory framework to help countries connect existing plans, priorities and investments into integrated, measurable and financeable pathways for heat resilience and sustainable cooling. It will not create a new national plan or prescribe a uniform set of measures. All interested governments, supported by UNEP and partners, are invited to help co-design the Roadmap, with opportunities for countries to engage in its practical application and testing in 2027,

1. The gap: connecting heat, cooling and climate action

Heat risk and cooling demand are accelerating together - but we are still addressing them through separate agendas. Heat resilience and sustainable cooling are two sides of the same challenge one focuses on protecting people and systems from rising temperatures; the other on meeting growing cooling needs without driving up energy costs and emissions.

The missing piece is an advisory framework that connects both agendas around outcomes countries need to achieve, i.e., thermal safety and systems resilience. As temperatures rise countries need urgently to figure out how to respond. They have developed climate plans, heat-health plans, cooling strategies, adaptation policies, energy and development programmes. These need to be connected: to identify priorities, manage trade-offs, and direct investment towards measurable outcomes for rising heat risks.

The consequences of this gap are increasingly costly. Without a joint approach, more people will face dangerous heat, essential services and economic activity will be disrupted, and poorly planned cooling measures could deepen the climate challenge. Countries risk investing in responses that solve one problem while making another worse.

The question is: how do we keep people, economies and essential services functioning, without worsening climate change? The Global Heat Resilience Roadmap connects heat resilience and sustainable cooling, adaptation and mitigation, and helps countries translate existing climate commitments and national priorities into coordinated decisions, investment and action.

2. The opportunity: build on what already exists nationally and globally

The opportunity is to connect the existing efforts and help countries move further, faster. Countries have developed climate plans, heat-risk assessments, heat-health action plans, early warning systems, cooling action plans, building standards, energy-efficiency and refrigerant phasedown programmes, urban cooling initiatives, adaptation and resilience strategies. UNEP and its partners have advanced the evidence and policy agenda through

initiatives including the Global Cooling Watch, the Cool Coalition and the Global Cooling Pledge. Other UN agencies, development institutions, research bodies and city networks bring essential expertise, tools, and practical experience.

The Roadmap is a response to an expressed challenge that countries are facing as temperatures rise. Governments and partners, including discussions at the [Global Cooling Pledge Assembly in Singapore](#), point to a need for a comprehensive but flexible way to bring the pieces together. Countries need support not only to understand heat risk, but to determine what matters most in their own context, choose appropriate responses, connect priorities to financing, and measure whether those responses are working.

The Roadmap will organize national action around three connected outcomes:

Thermal Safety Access (TSA): *Can people remain safe and participate in daily life during extreme heat? Are they safe at home, at work, in schools and care facilities, walking in public spaces or commuting - including access to emergency cooling centres when needed?*

Heat Resilience Capacity (HRC): *Can critical systems continue to function under heat stress?* This means strengthening the resilience of health, energy, water, food, transport, communications, supply chains and critical economic sectors.

Climate Compatible Delivery (CCD): *Can safety and resilience be achieved while minimizing lifecycle emissions and environmental pressures?* This means considering the system-wide impacts of the solutions chosen, including energy demand, refrigerants, cooling-related emissions, water and other environmental impacts.

Together, these three outcomes link adaptation and mitigation commitments and efforts: countries can not only reduce heat risks, but do so sustainably.

3. What the Roadmap will do - and what it will deliver

The Roadmap will be developed as adaptable advisory framework. Countries can draw on any of the four linked elements of the advisory:

- **Governance:** Establish political ownership, institutional responsibility and coordination across relevant ministries and existing national plans.
- **Strategic Action Areas:** Identify the greatest risks and organize responses across health and human wellbeing; cities, buildings and public space; critical infrastructure and systems; critical economic systems; and preparedness, response and recovery.
- **Solutions Taxonomy:** Help countries select and sequence the right combination of social and behavioural measures, nature-based solutions, passive design and planning, active cooling, and policy, governance and finance.
- **Outcomes:** Optimize decision-making for Thermal Safety Access (TSA), Heat Resilience Capacity (HRC) and Climate Compatible Delivery (CDD).

The guiding principle is to reduce heat exposure and cooling demand wherever possible, use low-energy and hybrid approaches where appropriate, and deliver remaining cooling needs through efficient technologies, low-global-warming-potential refrigerants, and clean energy.

Participating countries and regions will develop:

- **A Country Heat and Cooling Risk Profile** will identify who and what is most exposed; where vulnerabilities and institutional gaps are greatest; how heat affects people, infrastructure, essential services and the economy - including access to affordable cooling and the implications of future cooling demand.
- **A prioritized Country Heat Resilience Pathway** that sets out what needs to change, prioritises interventions, and organizes actions across sectors and levels of government.
- **An Implementation and Investment Opportunities** guide that identifies “low hanging fruits,” indicative costs, financing options, and institutional responsibilities.

4. How we get started

Governments are invited to help shape the advisory framework, review its methodology and desired outcomes, and consider lessons from their experience.

UNEP will use existing country-led platforms, including the Intergovernmental Committee on Cooling where appropriate, alongside regional consultations and written input. This will enable broad country participation without creating a parallel governance structure. Governments will be invited to nominate focal points and contribute at key stages of development and review.

In 2027, during the initial phase, UNEP and partners will provide focused support to develop country “archetypes” through co-design and testing of the advisory framework with lead countries, preparing it for wider uptake by COP32. By COP32, the advisory framework will be ready for other countries to apply.

Three interconnected levels of work:

Global - develop the shared framework. Design the methodology, the three outcomes and indicators, risk-assessment approaches, solutions taxonomy and approaches to investment and measurement. Build on existing evidence and modelling, including the Global Cooling Watch, and connect with relevant international frameworks and initiatives.

Regional – adapt and accelerate learning. Explore shared heat-risk challenges, peer learning and opportunities to adapt the methodology to regional contexts. Design regional pathways potentially starting with ASEAN and European geographies - develop “archetypes.”

Country - test the approach in practice. Engage an initial group of 3–5 anchor countries representing different climatic, institutional and development contexts. UNEP and partners will work with national counterparts to develop and apply the advisory and design Country Heat Resilience Pathways, using existing plans and assessments as the starting point.

Three enabling workstreams will help make the Advisory be technically credible, financially relevant and adaptable to different national circumstances: **Science, Data and Measurement; Pilots and Regional Learning; and Investment and Finance.** Consultations with Governments will guide the process, drawing on expertise across public health, energy, urban planning, labour, infrastructure, disaster preparedness, finance and sustainable cooling. The precise scope of country participation will be refined through consultation.

5. An invitation to governments

At COP31, governments are invited to help shape the Global Heat Resilience Roadmap and begin the process of developing country pathways for wider update by COP32.

Governments can participate in two ways: all interested countries can contribute to the advisory's governance and design; a smaller group will receive support to test it in practice.

Governments in this initial phase are invited to:

- **Endorse** the development of the Global Heat Resilience Roadmap for a Warming World.
- **Express interest in participating** in the co-design and help shape the methodology, including the three outcomes, national priorities, indicators and approaches to implementation through a series of consultations.
- **Indicate interest in participating in the** initial country demonstration phase.
- **Contribute expertise, evidence and experience**, building on existing national work and relevant international initiatives.
- **Support the Roadmap with investment** to help turn heat-risks into resilient action.

COP31 will mark the beginning of a country driven development process: expressions of interest will help shape the Advisory, identify anchor countries, and build opportunities for wider regional collaboration, building towards wider deployment by COP32.

Heat resilience cannot be delivered by one ministry, one sector or one solution. It requires a connected approach to protect people, keep systems running and meet growing cooling needs without deepening the climate challenge. The Roadmap offers governments the opportunity to shape that approach together - with a shared goal: **thermal safety for people, resilience for society, and climate-compatible cooling for a warming world.**