



AT A GLANCE

TURNING DOWN THE HEAT

PATHWAYS TO ADAPT PEOPLE, SYSTEMS
AND ECONOMIES FROM EXTREME HEAT RISK

Extreme heat — What is it, and why is it an issue?

Extreme heat, driven by climate change, presents serious health, economic and social challenges, particularly for vulnerable communities. It increases healthcare costs, reduces productivity and threatens food security through diminished agricultural yields.

marginalized groups face greater risks. To effectively manage heat risks, a collaborative and proactive approach is essential, integrating resilience strategies across sectors and addressing the root causes of vulnerability to ensure community well-being and sustainability.

Extreme heat refers to sustained periods of unusually high temperatures, which are becoming more common due to global climate change. This phenomenon presents a broad range of risks, affecting health, the economy, agriculture, transportation and water resources. It's an economic and a social issue,

processes. And although the impact of extreme heat on

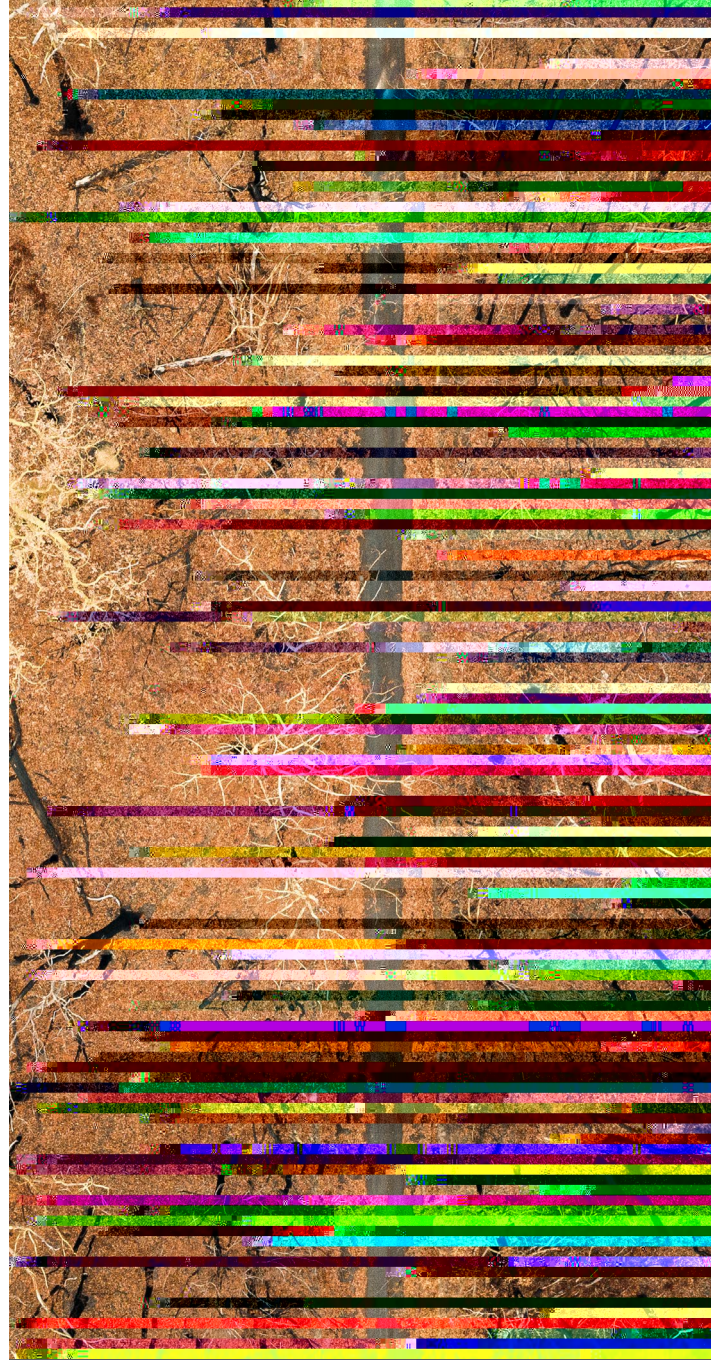
lead to more unexpected impacts, such as [accelerating the growth of foodborne pathogens](#), causing higher rates of foodborne illnesses and placing further stress on already strained healthcare systems.

Extreme heat is a growing concern for people and communities across the world

Extreme heat poses serious **health risks**, including heat stress, heatstroke, respiratory issues and exacerbated cardiovascular conditions. Climate change is expected to cause US\$2 billion–US\$4 billion per year in [direct health damage costs by 2030](#). Heatwaves, particularly in urban areas, can increase mortality rates and [place](#)

Heat stress diminishes labor productivity, especially in outdoor sectors such as construction and agriculture. In India, extreme heat resulted in the loss of [490 billion labor hours in 2022](#) alone. The cost of these losses affects not only the workers but also national economies, particularly in regions highly dependent on manual labor.

Extreme heat severely affects agriculture, reducing



chains, use of technology and innovative building

Some simple, common-sense solutions can go a long way; for example, shifting work patterns to cooler periods or ensuring that people stay hydrated. But there is also the need for more strategic and forward-looking planning. Importantly, businesses and governments need to include heat risk management in urban planning, business continuity, employee well-being, economic resilience. Strategic and forward-looking planning. Importantly, businesses and governments need to include heat risk management in urban planning, business continuity, employee well-being, economic resilience.

Figure 1. How to adapt to extreme heat

Three ways to transform extreme heat risk management	Examples of innovative strategies and solutions
 <p>Learning to live with extreme heat Build resilience for people, communities, and own assets to extreme heat events.</p>	<ul style="list-style-type: none"> • Raise awareness, and address employee and community health-related risks through education programs, improved early warning systems, cooling centers and adjusted working patterns. • to ensure business sustainability. • Promote asset-level adaptation, such as engineered and natural-cooling measures and smart building materials. • extreme heat-related disruptions, including in low- and middle-income communities. • Develop heat-resistant crops, medication and food supplies.
 <p>Building system-level protections Implement large-scale interventions to protect</p>	<ul style="list-style-type: none"> • Build wider contingency into business operations by managing the impact of supplier disruptions due to extreme heat and associated crisis. • greater temperatures. Implement integrated national health management approaches. • Enhance resilience by considering adaptation measures to ecosystem services exposed to extreme heat and associated risks.
 <p>Preparing for adaptation limits Consider wholesale changes to entire regions and systems to address breach of temperature thresholds that exceed human and ecosystem health.</p>	<ul style="list-style-type: none"> • Leverage state-of-the-art climate risk models to consider transformation adaptation options beyond threshold scenarios, including: <ul style="list-style-type: none"> – Redesigning cities and buildings – Establishing incentive programs for community relocation – Planning sectoral transitions away from heat or water-scarce areas – transition • conditions and societal needs to prevent or delay reaching adaptation limits.

What steps to take? Examples of heat risk management strategies for corporates,

To transform the way society responds to extreme

What corporates can do

Examples of current initiatives

1. Protect the workforce

In North America, The National Commission on Climate and Workforce Health, in partnership with Mercer, promotes more leaders creating heat-stress-management plans that include training, prevention strategies and emergency response. Some key initiatives include providing easy access to cool drinking water, encouraging regular hydration breaks, encouraging lightweight clothing and scheduling strenuous activities for cooler parts of the day. For more information, [download](#)

Public sector/governments: Use policy

cross-sectoral initiatives to increase heat resilience

Governments can take several key actions to address extreme heat risk and protect their populations, including:

Formulate detailed heat-response strategies, which encompass systems for forecasting and monitoring to anticipate and track heatwaves, early alert systems to notify the public of upcoming heat events ([similar to _____](#)), educational initiatives to raise awareness about heat-related risks and safety measures, and [_____ responding to heatwaves when they occur](#).

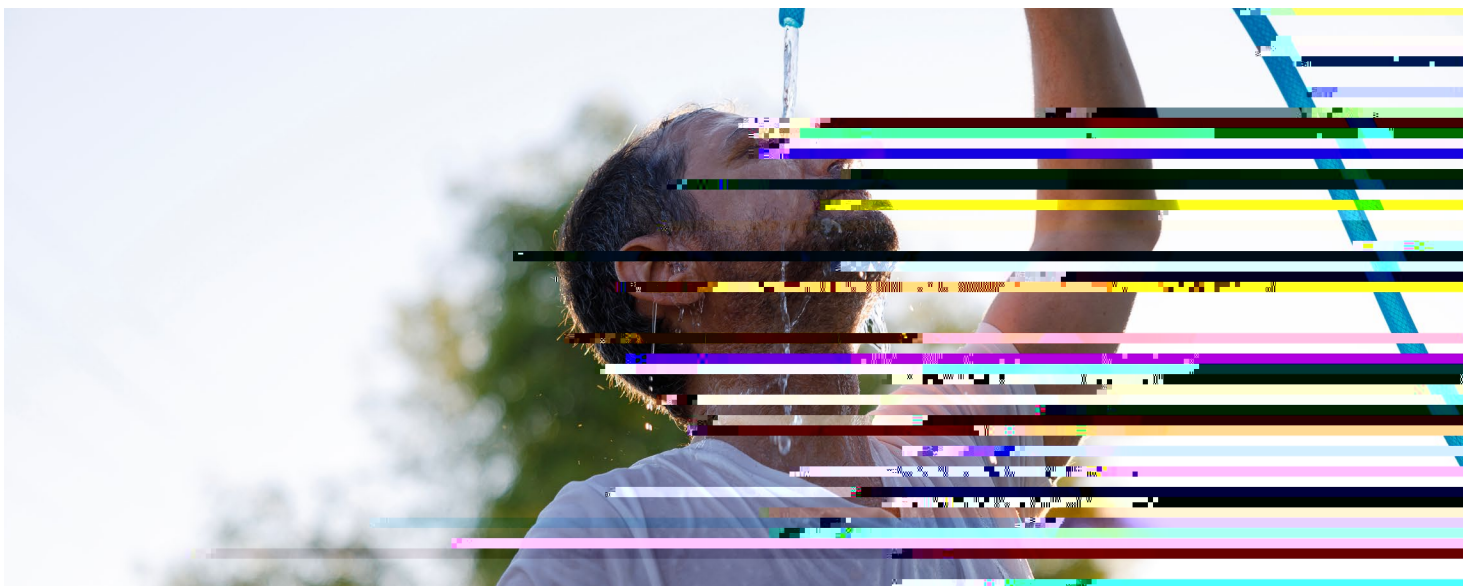
Execute immediate protective actions, such as

prioritize assistance for the most at-risk populations, set up cooling centers in neighborhoods (particularly for low-income, elderly and young individuals) and ensure the reliable operation of energy and water

systems by enhancing infrastructure resilience to heat; adopting energy-saving practices to alleviate pressure on power grids during heat events; and [promoting _____](#), such as green roofs, cool pavements, and increased greenery in public spaces.

Strengthen long-term planning and policies by regularly assessing the effectiveness of heat response initiatives, adopting innovative approaches to enforce

for integrating green and gray infrastructure, and updating plans as necessary, while [incorporating heat considerations into planning and policy development](#), such as establishing safety guidelines for outdoor workers during extreme heat conditions.



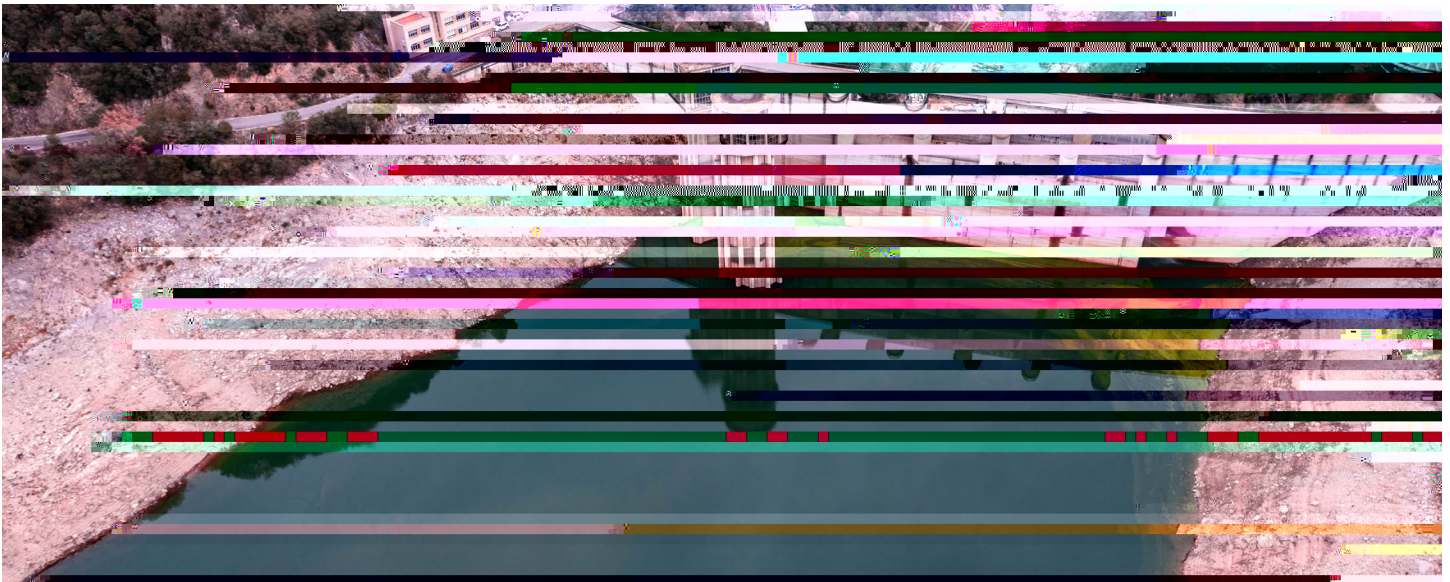
Increasing heat resilience is an important building block in achieving decarbonization

By implementing these measures, businesses, improve their ability to protect people and assets from the growing risks of extreme heat in a changing climate. However, although adaptation is crucial, we all must be aware of its limits: once heat levels pass certain thresholds, existing strategies may become ineffective or infeasible. This underlines the importance of achieving decarbonization goals to limit future temperature increases and ever-escalating extreme heat events.

Achieving decarbonization is hard enough. Doing this while the climate is changing is even more complex. Some sources of renewable energy are already at risk from a changing climate; for example, [hydropower](#). Similarly, extreme heat can present a major challenge to decarbonization efforts due to its effects on energy consumption and the performance of energy, transport and IT infrastructure.

As temperatures increase, the demand for cooling in buildings rises, resulting in higher electricity usage and a possible increased dependence on fossil-fuel-based energy sources during the net-zero transition phase. This spike in energy demand can put pressure on power grids and negate progress made in lowering carbon emissions. Furthermore, lack of heat resilience

technologies, including solar panels and wind turbines, complicating the shift to clean energy solutions. This underlines the importance of pursuing adaptation and decarbonization efforts in parallel. Without decarbonization, extreme heat risk will become unmanageable for parts of society in some regions of the world. And without adaptation, the impacts of extreme heat on communities, businesses and infrastructure will continue to escalate.



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