

Discussions around climate change often focus on dramatic disasters and tipping points, yet the ongoing, chronic effects of climate change are less visible and tend to be underappreciated. Economists widely agree that these long-term damages—such as persistent productivity losses and gradual harm to health and ecosystems—will likely surpass the costs of acute events, though estimates vary greatly due to differences in modeling approaches and assumptions.

My recent research suggests that if climate damages reach 10% of GDP at 3°C warming, that should be considered a critical threshold, justifying efforts to keep global temperature rise below 2°C. This level of risk points to a high Social Cost of Carbon, around \$85 per tonne of CO₂e, while the current global average remains below \$10 per tonne. Acute losses, like those from hurricanes or wildfires, are largely reflected in insurance premiums, but the slower, cumulative risks rarely factor into broader investment decisions or asset prices.

For years, major reports like those from the IPCC and Stern Review have urged us to consider not just financial losses, but also non-monetized effects such as biodiversity decline or cultural loss, and to account for rare but catastrophic possibilities. It remains a challenge for markets to price in these uncertainties, and for financial and corporate risk assessments to address all the complex consequences of long-term climate change. Therefore, it's crucial for academics, actuaries, and policymakers to highlight the broader social and ecological risks, ensuring they are not overlooked as we confront long-term climate uncertainty.