

# How to calculate the social cost of carbon? Researchers offer roadmap in new analysis

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The Biden administration is revising the social cost of carbon (SCC), a decade-old cost-benefit metric used to inform climate policy by placing a monetary value on the impact of climate change. In a newly published

analysis in the journal *Nature*, a team of researchers lists a series of measures the administration should consider in recalculating the SCC.

"President Biden signed a Day One executive order to create an interim SCC within a month and setting up a process to produce a final, updated SCC within a year," explains Gernot Wagner, a climate economist at New York University's Department of Environmental Studies and NYU's Robert F. Wagner Graduate School of Public Service and the paper's lead author. "Our work outlines how the administration can use the latest research in ways that take into account storms, wildfires, and other phenomena that are more devastating today than they were when the SCC was first created."

"Economic analysis is at the heart of the regulatory process in the U.S. and will therefore play a major role in shaping and informing the ambitious climate goals from the new administration," adds David Anthoff, co-author and assistant professor of Energy and Resources at UC Berkeley. "Our recommendations offer a roadmap for how this can be done in a way that is both scientifically rigorous and transparent."

"The damage and loss of life caused by the [severe weather](#) in Texas is only the latest example of how climate change can upend our well-being in ways not imagined only 10 years ago," observes Wagner.

The revised SCC will be created by the federal government's Interagency Working Group (IWG), which includes the Council of Economic Advisors, the Office of Management and Budget, and the Office of Science and Technology Policy.

In the *Nature* "Comment," the authors, who also include researchers from the University of Maryland, the London School of Economics and Political Science, Yale University, the University of Exeter, the University of Wisconsin-Madison, and Harvard University, list several

recommendations for the IWG to consider in devising the new SCC. Among them are the following:

- Reinstating the estimated economic cost of CO<sub>2</sub> emitted to \$50 a ton, which the Trump administration lowered to \$1-7 a ton
- Updating the damage functions that tally how climate change affects human welfare, from crop losses to heat impacting student learning and worker productivity
- Incorporating the inequitable effects of climate change within and across countries
- Reviewing discount rates—the ways in which the cost of future [climate](#)-related damages are priced in today's dollars—in order to better inform today's budgetary processes
- Updating forecasts for both economic and population growth—both of which affect predictions of emissions and related environmental impact

"Climate science and economics have advanced since 2010," write the authors. "Devastating storms and wildfires are now more common, and costs are mounting. Advances in science mean that researchers can now link many more extreme weather events directly to [climate change](#), and new econometric techniques help to quantify dollar impacts."

Provided by New York University

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