

Economists urge regular updates and reviews of cost of climate impacts estimate

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Credit: Alfred Palmer/Wikipedia

The Social Cost of Carbon puts a dollar value on the climate damages per ton of CO₂ released, and is used by - among others - policymakers to help determine the costs and benefits of climate policies. In the latest issue of the journal *Science*, a group of economists and lawyers urge

several improvements to the government's Social Cost of Carbon figure that would impose a regular, transparent and peer-reviewed process to ensure the figure is reliable and well-supported by the latest facts.

"By providing an estimate of the damages from an extra ton of CO₂ emissions, the Social Cost of Carbon tells us how much money we should devote to mitigating emissions. It separates the efficient policies from the wasteful ones and for this reason is an incredibly useful tool in devising climate policy," says Michael Greenstone, one of the authors of the analysis and the director of the Energy Policy Institute at the University of Chicago. "Having said that, every day we are learning more about the science behind [climate change](#) and the economic impacts it imposes. It's vital that policy keeps up as our knowledge evolves."

The researchers suggest that the value be updated routinely, specifically they recommend every five years to balance the need for incorporating the latest research with a thorough review process. Part of that process should entail a review by the National Academy of Science's National Research Council, they say, to allow outside experts to be part of the process and suggest changes. They also argue that a single Social Cost of Carbon estimate should be maintained and shared by all government agencies.

"Greenhouse gas emissions cause the same damage regardless of whether they are emitted through car tailpipes or factory smokestacks, and no matter where in the world they come from," Greenstone says. "For this reason, one, consistently used and rigorously maintained estimate of climate damages is imperative to ensure our [climate policies](#) are providing the maximum benefits for the least costs."

William Pizer, the lead author of the study and a professor at Duke University, further emphasized this need.

"To ensure that value exists, it's important that we draw on the expertise of all [government agencies](#), as well as independent experts in the field," Pizer says. "This level of high-quality collaboration and peer review would decrease the likelihood of political factors interfering with the process, and ensure we have the most robust Social Cost of Carbon."

The authors give an example of why such a consistent, collaborative and well-supported value is important. When the Social Cost of Carbon value used today - which was developed with a vigorous approach - is applied to the EPA's recent Clean Power Plan that limits emissions from existing power plants, the benefits of the rule vastly outweigh the damages. However, when applying a past value used by a single agency, the Plan's benefits do not exceed the costs.

Additionally, Greenstone notes that the figure is not just a tool for policymakers. The courts, businesses and others use this figure to make important decisions on the impacts associated with climate change.

"The U.S. Social Cost of Carbon is becoming a focal estimate of the likely climate damages globally," Greenstone says. "It's critical that that we get this number right, because it will influence policy around the world."

Greenstone and some of his colleagues have initiated a larger project to determine an even more rigorously-maintained cost of climate change at a global scale. He says, "Our hope is that this ongoing research project will inform the periodic revisions of the Social Cost of Carbon that we advocate for in this *Science* article."

More information: "Using and improving the social cost of carbon," by W. Pizer, *Science*, www.sciencemag.org/lookup/doi/10.1126/science.1259774

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