

Institute for  
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# How the Trump Administration Is Obscuring the Costs of Climate Change

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**W**hen federal and state policymakers account for the impacts of climate change, they regularly use an indispensable tool called the Social Cost of Carbon (SCC). **The SCC puts a dollar value on the most significant, quantifiable damages caused by each additional ton of carbon dioxide emitted.** Related estimates, such as the Social Cost of Methane (SCM), quantify damages from other greenhouse gases.

In 2016, the federal government released the most recent estimate of the SCC, finding that each ton of carbon dioxide causes at least \$51 in quantifiable damages to the economy, with this number rising over time.<sup>1</sup> For methane, it found a staggering \$1470 in quantifiable damages for each ton emitted.<sup>2</sup> **Those damages include lost agricultural productivity, lost property value, extreme weather damages, some increases in disease, and decreased fresh water availability, among others.**<sup>3</sup> But these estimates are conservative because they do not include many other significant damages from climate change that are currently difficult to quantify, such as spikes in food prices, impacts from increased wildfires, and national security effects.<sup>4</sup>

The SCC was developed in 2009 and last updated in 2016 by an Interagency Working Group made up of experts from 12 federal agencies. The Interagency Working Group used the best available economic models, and inputs and assumptions drawn from peer-reviewed scientific and economic literature, to produce highly rigorous estimates of climate damages.<sup>5</sup>

*Photo © U.S. Air Force photo/Staff Sgt. James L. Harper Jr.*

Because the SCC provides a dollar estimate of the cost of carbon emissions, it allows decisionmakers to transparently and efficiently weigh the costs and benefits of policies under consideration.<sup>6</sup> But now, turning its back on years of work, **the Trump administration has disbanded the Interagency Working Group,<sup>7</sup> and the Environmental Protection Agency has produced a new “interim” estimate claiming that each ton of carbon dioxide causes as little as \$1 in climate damages.<sup>8</sup>** Similarly, for the Social Cost of Methane, federal agencies have issued an estimate of only \$58 per ton, down from the previous estimate of \$1,470.<sup>9</sup> **This “interim” estimate relies on faulty economics. It is unreliable and should not be used.**

**The “interim” estimate ignores the interconnected, global nature of our climate-vulnerable economy, and it obscures the devastating effects that climate change will have on younger and future generations.** Through these two major manipulations of the SCC—a spurious “domestic-only” calculation and an overblown 7% discount rate—the administration obscures roughly 98% of expected climate damages. These manipulations are inconsistent with sound economic principles and the consensus views of scientific and economic experts.<sup>10</sup>

**Federal law requires government agencies to monetize the costs of climate change when they calculate the benefits of a regulation or project,<sup>11</sup> and the administration has been proposing rollbacks of environmental rules and related actions using this problematic SCC estimate as justification.** Many state policymakers also use the SCC, and this flawed “interim” estimate has created confusion about the proper value. The Interagency Working Group’s value remains the best available estimate.

## What’s wrong with considering only the domestic effects of climate change?

The Interagency Working Group appropriately took a global perspective on climate damages. But the “interim” estimate instead relies on so-called “domestic-only” effects of climate change. **The Trump administration’s calculation completely disregards how climate damages in foreign countries will spill back into the U.S. economy through globally interconnected trade, health, and national security.** This estimate also ignores that the United States cannot solve climate change on its own. Because greenhouse gases emitted anywhere affect the global climate, no one state’s or country’s reductions can address the harms of carbon emissions unless they also spur reciprocal actions by other governments.

Taking more ambitious action on climate change in the United States will cause other countries to do the same, which directly benefits the United States—as each ton of greenhouse gases emitted abroad affects the global climate and so affects Americans. The Trump administration’s approach also ignores the extraterritorial interests of U.S. citizens: investing in foreign businesses, owning foreign property, enjoying the environment abroad, and altruistically caring about the welfare of foreign citizens.<sup>12</sup>

**Limiting the SCC estimate to so-called “domestic-only” effects is as irrational as a homeowner dumping trash in her neighbor’s yard without considering whether that might attract pests and generate odors on her own property, affect her property value, or provoke her neighbor to retaliate in kind.** The Interagency Working Group’s global estimate reasonably took these spillover and reciprocity effects into account, and the use of this estimate was upheld in a major federal court decision in 2016.<sup>13</sup> The “interim” estimate, by contrast, ignores these effects.

**Even if a “domestic-only” approach were appropriate, existing economic models cannot accurately calculate a domestic-only estimate.** The National Academies of Sciences,<sup>14</sup> the Office of Management and Budget,<sup>15</sup> and the economists<sup>16</sup> who built the models underlying the SCC all agree that existing methodologies cannot accurately calculate a domestic-only estimate, because existing methods are unable to estimate spillover effects of foreign climate damages into the United States without drawing on the global estimate.

## What’s wrong with using a 7% discount rate to determine how we value avoiding future climate damages?

The Trump administration has also manipulated the SCC by using a higher discount rate than is reasonable, devaluing the importance of damages that will affect children and future generations. Most people value having a dollar tomorrow less than a dollar today, and discount rates reflect how people trade off present and future costs and benefits. A higher discount rate, for example, reflects a sense that an individual person is willing to pay relatively less today to prevent future harms to herself.

**In the context of climate damages stretching out over many decades, the discount rate determines how much value is given to the welfare of future generations.** Higher discount rates falsely imply that people today are willing to pay little to nothing to prevent potentially catastrophic climate damages that will occur in the future. The Interagency Working Group rejected the 7% discount rate as inappropriately high for climate damages spanning several generations and instead used a 3% discount rate to calculate its central SCC estimates.<sup>17</sup> A growing consensus of economists now thinks that the discount rate for intergenerational impacts should be even lower (around 2%) or decline over time and eventually approach 0%.<sup>18</sup> Ignoring that growing consensus, the Trump administration has instead done the opposite and trumpeted the \$1 “interim” estimate, which is based on a 7% discount rate.<sup>19</sup>

**Including a 7% discount rate in the analysis has no purpose aside from obscuring the full costs of climate change.** Though White House guidance on cost-benefit analysis does recommend that generic regulatory analyses should use 7% and 3% rates as default values to assess costs and benefits stretching two or three decades into the future, that guidance also explains that different regulatory contexts call for different methodological choices and that all assumptions must be sound and defensible.<sup>20</sup> **In the context of intergenerational climate damages occurring over three centuries or more, the National Academies of Sciences,<sup>21</sup> the Office of Management and Budget,<sup>22</sup> and many prominent economists,<sup>23</sup> including the independent economists who built the models underlying the SCC,<sup>24</sup> all agree that a discount rate based on the rate of return on private investment (such as the 7% rate) is not sound or defensible.** And the Interagency Working Group reasonably refused to include it in its estimates of future climate damages.

## Want to know more about the Social Cost of Carbon?

Manipulating the Social Cost of Carbon is a key strategy used to downplay the impacts of climate change. Policymakers should avoid such manipulations and use accurate, scientifically justified estimates of climate impacts to shape their decisionmaking. The Interagency Working Group’s 2016 estimates for the SCC remain the best available values for climate damages.

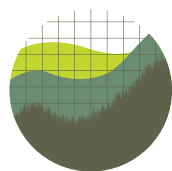
For more background and technical information on the Social Cost of Carbon and its use in federal and state policy, read our primers on the topic:

[Social Costs of Greenhouse Gases – Issue Brief](#)  
[The Social Cost of Greenhouse Gases and State Policy](#)

## Endnotes

- <sup>1</sup> See INTERAGENCY WORKING GROUP, TECHNICAL UPDATE OF THE SOCIAL COST OF CARBON 4 (2016), [https://obamawhitehouse.archives.gov/sites/default/files/omb/inforeg/scc\\_tsd\\_final\\_clean\\_8\\_26\\_16.pdf](https://obamawhitehouse.archives.gov/sites/default/files/omb/inforeg/scc_tsd_final_clean_8_26_16.pdf) (the central estimate for year 2020 emissions, adjusted for inflation using the CPI calculator, is \$51 per ton of carbon in current 2018\$).
- <sup>2</sup> The current central estimate of the social cost of methane for year 2020 emissions is around \$1470 per ton in 2018\$. See IWG, ADDENDUM: APPLICATION OF THE METHODOLOGY TO ESTIMATE THE SOCIAL COST OF METHANE AND THE SOCIAL COST OF NITROUS OXIDE 7 (2016), [https://obamawhitehouse.archives.gov/sites/default/files/omb/inforeg/august\\_2016\\_sc\\_ch4\\_sc\\_n2o\\_addendum\\_final\\_8\\_26\\_16.pdf](https://obamawhitehouse.archives.gov/sites/default/files/omb/inforeg/august_2016_sc_ch4_sc_n2o_addendum_final_8_26_16.pdf) (the central estimate for year 2020 emissions, adjusted for inflation using the CPI calculator, is \$1470 per ton of methane in current 2018\$).
- <sup>3</sup> ILIANA PAUL, PETER HOWARD & JASON A. SCHWARTZ, THE SOCIAL COST OF GREENHOUSE GASES AND STATE POLICY: A FREQUENTLY ASKED QUESTIONS GUIDE 3, available at [http://policyintegrity.org/files/publications/SCC\\_State\\_Guidance.pdf](http://policyintegrity.org/files/publications/SCC_State_Guidance.pdf) [hereinafter “SOCIAL COST OF GHG FAQ”].
- <sup>4</sup> See EPA FACTSHEET, SOCIAL COST OF CARBON (2016), <https://perma.cc/K42M-UTHN>. See also PETER HOWARD, OMITTED DAMAGES: WHAT’S MISSING FROM THE SOCIAL COST OF CARBON (2014), available at [http://policyintegrity.org/files/publications/Omitted\\_Damages\\_Whats\\_Missing\\_From\\_the\\_Social\\_Cost\\_of\\_Carbon.pdf](http://policyintegrity.org/files/publications/Omitted_Damages_Whats_Missing_From_the_Social_Cost_of_Carbon.pdf).
- <sup>5</sup> See Richard L. Revesz, Michael Greenstone et al., *Best Cost Estimate of Greenhouse Gases*, 357 SCIENCE 655 (2017); Richard L. Revesz et al., *Global Warming: Improve Economic Models of Climate Change*, 508 NATURE 173 (2014) (co-authored with Nobel Laureate Kenneth Arrow, among others).
- <sup>6</sup> See generally INSTITUTE FOR POLICY INTEGRITY, SOCIAL COSTS OF GREENHOUSE GASES (2017), available at [http://policyintegrity.org/files/publications/Social\\_Cost\\_of\\_Greenhouse\\_Gases\\_Factsheet.pdf](http://policyintegrity.org/files/publications/Social_Cost_of_Greenhouse_Gases_Factsheet.pdf).
- <sup>7</sup> Exec. Order. No. 13,783 § 5(b), 82 Fed. Reg. 16,093 (Mar. 31, 2017).
- <sup>8</sup> An SCC estimate of \$1 per ton is the lower of two estimates provided by the Environmental Protection Agency in its proposed repeal of the Clean Power Plan, for year 2020 emissions. See EPA, REGULATORY IMPACT ANALYSIS FOR THE REVIEW OF THE CLEAN POWER PLAN: PROPOSAL 44 (2017), available at [https://www.epa.gov/sites/production/files/2017-10/documents/ria\\_proposed-cpp-repeal\\_2017-10.pdf](https://www.epa.gov/sites/production/files/2017-10/documents/ria_proposed-cpp-repeal_2017-10.pdf).
- <sup>9</sup> See BUREAU OF LAND MGMT., REGULATORY IMPACT ANALYSIS FOR THE PROPOSED RULE TO SUSPEND OR DELAY CERTAIN REQUIREMENTS OF THE 2016 WASTE PREVENTION RULE 26 (2017), available at <https://www.regulations.gov/document?D=BLM-2017-0002-0002> (estimating the social cost of methane in 2020 at as little as \$58 per ton in 2018\$, down from \$1470); and EPA, MEMORANDUM ON ESTIMATED COST SAVINGS AND FORGONE BENEFITS ASSOCIATED WITH THE PROPOSED RULE, “OIL AND NATURAL GAS: EMISSION STANDARDS FOR NEW, RECONSTRUCTED, AND MODIFIED SOURCES: STAY OF CERTAIN REQUIREMENT” 9 (Oct. 17, 2017), available at [https://www.epa.gov/sites/production/files/2017-11/documents/oilgas\\_memo\\_proposed-stay\\_2017-10.pdf](https://www.epa.gov/sites/production/files/2017-11/documents/oilgas_memo_proposed-stay_2017-10.pdf) (similar social cost of methane estimates).
- <sup>10</sup> See PETER HOWARD & DEREK SYLVAN, EXPERT CONSENSUS ON THE ECONOMICS OF CLIMATE CHANGE (2015), available at <http://policyintegrity.org/files/publications/ExpertConsensusReport.pdf>.
- <sup>11</sup> *E.g.*, *Ctr. for Biological Diversity v. Nat’l Highway Traffic Safety Admin.*, 538 F.3d 1172, 1202 (9th Cir. 2008); *Mont. Env’tl. Info. Ctr. v. Office of Surface Mining*, 274 F. Supp. 3d 1074, 1094–98 (D. Mont. 2017) (holding it was arbitrary for the agency to quantify benefits of a mining permit while failing to use the Social Cost of Carbon to quantify costs). Note that, despite these legal requirements, more often than not, the Trump administration has refused to use the Social Cost of Greenhouse Gas metrics in its environmental impact analyses.
- <sup>12</sup> See generally Peter Howard & Jason Schwartz, *Think Global: International Reciprocity as Justification for a Global Social Cost of Carbon*, 42 COLUMBIA J. ENVTL. L. 203 (2017).
- <sup>13</sup> *Zero Zone v. Dept. of Energy*, 832 F.3d 654, 679 (7th Cir. 2016) (finding that the agency “acted reasonably” in using global estimates of the Social Cost of Carbon).
- <sup>14</sup> NATIONAL ACADEMIES OF SCIENCES, ENGINEERING AND MEDICINE, VALUING CLIMATE DAMAGES: UPDATING ESTIMATES OF THE SOCIAL COST OF CARBON DIOXIDE 9 (2017).
- <sup>15</sup> INTERAGENCY WORKING GROUP ON SOCIAL COST OF CARBON, RESPONSE TO COMMENTS: SOCIAL COST OF CARBON FOR REGULATORY IMPACT ANALYSIS UNDER EXECUTIVE ORDER 12,866 at 36 (2015), available at <https://obamawhitehouse.archives.gov/sites/default/files/omb/inforeg/scc-response-to-comments-final-july-2015.pdf> [hereinafter “IWG RESPONSE TO COMMENTS”].
- <sup>16</sup> William Nordhaus, the developer of the DICE model, cautioned that “regional damage estimates are both incomplete and poorly understood.” William D. Nordhaus, *Revisiting the Social Cost of Carbon*, 114 PNAS 1518, 1522 (2017).

- <sup>17</sup> See IWG RESPONSE TO COMMENTS, *supra* note 15, at 36. As the Interagency Working Group’s central estimate, a 3-percent discount rate was consistently used by federal government agencies between 2010 and 2016. State governments also use the 3-percent discount rate, with some using even lower discount rates. See SOCIAL COST OF GHG FAQ, *supra* note 3, at 9–12 for examples.
- <sup>18</sup> SOCIAL COST OF GHG FAQ, *supra* note 3, at 19.
- <sup>19</sup> See citations accompanying notes 8-9, *supra*.
- <sup>20</sup> See Office of Management & Budget, *Circular A-4* at 33–34, 35–36 (Sept. 17, 2003), available at <https://www.whitehouse.gov/sites/whitehouse.gov/files/omb/circulars/A4/a-4.pdf>.
- <sup>21</sup> See NATIONAL ACADEMIES OF SCIENCES, *supra* note 14, at 19 and 180-181.
- <sup>22</sup> See IWG RESPONSE TO COMMENTS, *supra* note 15, at 36 (“[T]he use of 7 percent is not considered appropriate for intergenerational discounting. There is wide support for this view in the academic literature . . .”).
- <sup>23</sup> See Revesz & Greenstone et al., *supra* note 5; COUNCIL OF ECON. ADVISERS, DISCOUNTING FOR PUBLIC POLICY: THEORY AND RECENT EVIDENCE ON THE MERITS OF UPDATING THE DISCOUNT Rate 1–3 (CEA Issue Brief, 2017), available at [https://obamawhitehouse.archives.gov/sites/default/files/page/files/201701\\_cea\\_discounting\\_issue\\_brief.pdf](https://obamawhitehouse.archives.gov/sites/default/files/page/files/201701_cea_discounting_issue_brief.pdf); Howard & Sylvan, *supra* note 10, at 20–21; Kenneth J. Arrow et al., *Is There a Role for Benefit-Cost Analysis in Environmental, Health, and Safety Regulation?*, 272 *SCIENCE* 221 (1996) (explaining that a consumption-based discount rate is appropriate in intergenerational contexts, such as climate change); Richard G. Newell, *Unpacking the Administration’s Revised Social Cost of Carbon*, RESOURCES FOR THE FUTURE BLOG (Oct. 10, 2017), available at <http://www.rff.org/blog/2017/unpacking-administration-s-revised-social-cost-carbon> (explaining that a consumption-based discount rate is appropriate for climate change).
- <sup>24</sup> The three integrated assessment models used by the Interagency Working Group—DICE, FUND, and PAGE—all use consumption discount rates; a capital discount rate (like 7%) is thus inconsistent with the underlying models.



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