

Less Frost, and More Cost: Biden Revives Interagency Working Group to Publish Updated Social Costs of Carbon and Other Greenhouse Gases

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Key Points

- President Biden's Day One Executive Order on climate action reconvenes an interagency working group to establish interim and final social costs of three GHGs: carbon dioxide, nitrous oxide and methane.
- The social costs of these GHGs seek to quantify the negative externalities on an annual basis of a ton of these emissions.
- The Biden administration will use the updated social cost figures to inform federal regulations and major agency actions and to justify aggressive climate action as the United States evolves toward a "100% clean energy" economy with net-zero GHG emissions.

President Biden's resurrection of a relatively recondite cross-agency group charged with quantifying the nation's contribution to climate change—the Interagency Working Group on the Social Cost of Greenhouse Gases (GHG) (Working Group)—ultimately may have the greatest impact across the federal government as the Biden administration pursues its climate goals. The Working Group's updated cost figures will inform the way the government considers the economic impacts of climate change and, more importantly, how the government uses that data as a basis for action.

Background

In 2009, the Obama administration convened the Working Group to develop a social cost of carbon—a dollar estimate of the long-term societal damages caused by one ton of carbon emissions in a given year—for measuring the potential climate-related costs and benefits of federal agency rulemakings.¹ White House officials led the Working Group, which included the heads of most major federal agencies, including the U.S. Environmental Protection Agency (EPA), Council on Environmental Quality, and Departments of the Interior (DOI), Agriculture, Commerce, Transportation, and Energy among others.

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The Obama-era Working Group issued its initial social cost of carbon estimates and a detailed methodological framework in 2010 following a highly technical process and public comment period, with subsequent updates in 2013, 2015, and 2016 to reflect the best available climate science and economic literature.² Ultimately, the Working Group recommended four social cost of carbon values—reflecting global, as opposed to domestic, damages—in five-year increments through 2050: three values based on the average social cost derived from three popular integrated assessment models (using “discount rates” of 2.5 percent, 3 percent and 5 percent),³ and a fourth value intended to represent “higher-than-expected impacts.”⁴ Adjusted for inflation, the Working Group’s social cost of carbon values (per ton) for 2025 were \$81 (2.5 percent), \$55 (3 percent), \$17 (5 percent), and \$165 (High Impact).⁵ The Working Group added to this work in 2016 when it estimated social costs for two other potent GHGs, nitrous oxide and methane.⁶

While courts have upheld the use of the Working Group’s social cost estimates in agency rulemakings,⁷ President Trump nonetheless disbanded the Working Group and withdrew its social cost estimates in a 2017 executive order.⁸ As a result, agencies used drastically lower social cost estimates—sometimes as low as \$1⁹—to justify the repeal and replacement of Obama-era environmental regulations with more lenient alternatives.¹⁰

These efforts failed to diminish the far-reaching influence of the Obama-era Working Group’s social cost estimates outside of the federal government. The U.S. Government Accountability Office, for example, recently identified nine U.S. states “using the prior [Working Group] federal estimates in state decision-making,” while further noting that the Canadian federal government has adopted the Working Group’s social cost estimates.¹¹ Although the Obama-era Working Group’s estimates faced criticism based on the “highly unknowable” value of future climate damages or the manner in which some governmental bodies use them, they remain a highly persuasive resource for policymakers.¹²

President Biden’s Executive Order

President Biden’s [Executive Order on Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis](#) seeks to embed climate considerations throughout the federal bureaucracy by pushing agencies to “capture the full costs of greenhouse gas emissions as accurately as possible, including by taking global damages into account.” To do this, Biden’s executive order re-establishes the Working Group. The Working Group’s primary charge is to establish updated interim and final social costs of carbon, nitrous oxide and methane. Ultimately, we expect the Working Group to revisit, and potentially expand upon, the assumptions used to inform the Obama-era social cost estimates.¹³ Following those assumptions would produce social cost values that far exceed those in place today—potentially hovering around seven to nine times today’s values.¹⁴ The upper limit of this range could result in a monumental shift in how the federal government evaluates the costs and benefits of various proposals by portraying decisions that result in net increases of GHG emissions as significantly more costly than would be the case with the current values.

Implications

The social costs of GHGs are important metrics, as longstanding executive orders generally require federal agencies to consider the costs and benefits of most significant federal actions.¹⁵ More importantly, agencies often rely on the results of cost-benefit analyses to evaluate alternatives, make major decisions, and justify a chosen course of action. EPA, for instance, used the social costs of GHGs to inform a number of its most prominent Obama-era rulemakings, including those setting emissions standards for motor vehicles, power plants, cement production, boilers and process heaters, alkali plants and solid waste incineration.¹⁶ Similarly, the Bureau of Land Management relied on the Trump administration's discounted social costs of GHGs to justify significant revisions to the Waste Prevention Rule. These revisions relaxed many requirements related to waste minimization planning, gas capture and storage, well drilling, and leak detection and repair.¹⁷

Beyond the rulemaking process, the resurgence of the Working Group and its forthcoming updated, science-based social cost values represent a major step in achieving President Biden's goal of inserting climate change considerations into project reviews under the National Environmental Policy Act (NEPA). Specifically, the estimates will inform NEPA reviews for large government projects and skew the resulting decisions toward more climate-friendly outcomes. For example, a DOI led by Biden nominee Rep. Deb Haaland may be inclined to use robust social cost figures to inform both offshore and onshore leasing and permitting decisions, likely resulting in the issuance of fewer leases and the imposition of more stringent permit conditions on any oil, gas and coal activities that DOI chooses to authorize.¹⁸

Even independent agencies that tend to operate more distantly from the President are likely to look to the new social cost estimates to inform their decision making. For instance, the question of whether (and, if so, how) the Federal Energy Regulatory Commission (FERC) should consider indirect GHG emissions in its certification of interstate natural gas pipelines was a contentious question during the previous administration.¹⁹ Newly appointed Chairman Richard Glick, however, has expressed a strong desire for using the social costs of GHGs as a tool for assessing the climate impacts of proposed pipeline projects.²⁰ Whether FERC's use of the social costs leads to the issuance of fewer pipeline permits remains unclear, though it may raise caution flags for developers during their due diligence on potential projects.

Conclusion

The Working Group's interim and final social costs of GHGs will face close public scrutiny and likely judicial challenge once agencies begin to rely on them in regulatory decisions as the Biden administration seeks to implement a plan to achieve its GHG mitigation objectives.

¹ See U.S. Environ. Protection Agency, *Fact Sheet: Social Cost of Carbon*, EPA.gov 1-2 (2016) ("EPA Social Cost of Carbon Fact Sheet"), https://www.epa.gov/sites/production/files/2016-12/documents/social_cost_of_carbon_fact_sheet.pdf (The social cost of carbon "also represents the value of damages avoided" by a reduction in carbon emissions, thereby "allow[ing] the benefits of emissions reductions to be compared to the costs of mitigation policies within benefit-cost analysis."); Interagency Working Grp. on Social Cost of Carbon, Technical Support Document: Social Cost of Carbon for Regulatory Impact Analysis Under Executive Order 12866, at 1 (2010) ("2010 Technical Support Document"), https://www.epa.gov/sites/production/files/2016-12/documents/scc_tsd_2010.pdf. As EPA explains, the social cost of carbon "is meant to be a comprehensive estimate of climate change damages," including, among others, "changes in net agricultural productivity, human health, property damages from increased flood risk and changes in energy system costs." EPA Social Cost of Carbon Fact Sheet at 1.

² Interagency Working Grp. on Social Cost of Greenhouse Gases, Technical Support Document: Technical Update of the Social Cost of Carbon for Regulatory Impact Analysis Under Executive Order 12866 (2016)

("2016 Technical Support Document"), https://www.epa.gov/sites/production/files/2016-12/documents/sc_co2_tsd_august_2016.pdf.

³ The discount rate is a variable used to assign proper costs to climate change now and in the future. When calculating the social cost of carbon, the use of a higher discount rate will result in lower social cost of carbon estimates, and vice versa.

⁴ 2010 Technical Support Document at 1.

⁵ U.S. Gov't Accountability Off., GAO-20-254, Social Cost of Carbon: Identifying a Federal Entity to Address the National Academies' Recommendations Could Strengthen Regulatory Analysis 16 (2020) ("GAO Social Cost of Carbon Report"), <https://www.gao.gov/assets/710/707776.pdf>.

⁶ See Interagency Working Grp. on Social Cost of Greenhouse Gases, Addendum to Technical Support Document on Social Cost of Carbon for Regulatory Impact Analysis Under Executive Order 12866: Application of the Methodology to Estimate the Social Cost of Methane and the Social Cost of Nitrous Oxide (2016), https://www.epa.gov/sites/production/files/2016-12/documents/addendum_to_sc_ghg_tsd_august_2016.pdf.

⁷ See, e.g., *Zero Zone, Inc. v. DOE*, 832 F.3d 654, 678 (7th Cir. 2016) (holding that use of the Working Group's social cost of carbon estimates in the Department of Energy's cost-benefit analysis of energy efficiency regulations "was neither arbitrary nor capricious").

⁸ Exec. Order 13728, Promoting Energy Independence and Economic Growth, 82 Fed. Reg. 16,093, 16,096 (Mar. 31, 2017).

⁹ See, e.g., Repeal of the Clean Power Plan; Emission Guidelines for Greenhouse Gas Emissions From Existing Electric Utility Generating Units; Revisions to Emission Guidelines Implementing Regulations, 84 Fed. Reg. 32,520, 32,562 (July 8, 2019) (applying a measure of the domestic-only social cost of carbon to justify the Clean Power Plan's rescission).

¹⁰ As the U.S. Government Accountability Office explains, while the Working Group and Trump-era social cost estimates "were calculated using the same economic models," the disparity results from the Trump administration's consideration of domestic rather than global impacts, and the use of higher discount rates (3 percent and 7 percent as opposed to 2.5 percent, 3 percent, and 5 percent). GAO Social Cost of Carbon Report, *supra* note 5, at 1.

¹¹ *Id.*, Appendix I, at 53, 61.

¹² See John C.V. Pezzey, *Why the social cost of carbon will always be disputed*, Wiley Online Library (Nov. 12, 2018), <https://onlinelibrary.wiley.com/doi/full/10.1002/wcc.558> (criticizing a "key model input" of traditional social cost of carbon calculations and advocating for an approach based on marginal abatement costs of climate damages); Noah Kaufman, *The Use of Current Social Cost of Carbon Estimates in Taxes and Subsidies*, Columbia Sipa Ctr. on Global Energy Policy (Mar. 27, 2018), <https://www.energypolicy.columbia.edu/research/commentary/use-current-social-cost-carbon-estimates-taxes-and-subsidies> (identifying improper uses of the Working Group's social cost estimates to inform a range of policies).

¹³ As described above, the Obama-era Working Group used discount rates as low as 2.5 percent to produce its social cost of carbon. Recent economic literature suggests that the Biden administration's Working Group reasonably could base its social costs of GHGs on a 2 percent discount rate, which would result in higher social costs, all else equal. See Tamma Carleton & Michael Greenstone, *Updating the United States Government's Social Cost of Carbon* 23 (Energy Policy Inst. U. Chicago, Working Paper No. 2021-04, 22-25, 2021), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3764255 (outlining case for "discount rate of no higher than 2 percent"); Resources for the Future & NYSERDA, *Estimating the Value of Carbon: Two Approaches* 8-9 (2020), https://www.dec.ny.gov/docs/administration_pdf/vocmemo.pdf (listing evidence for discount rate between 2 percent and 3 percent); New York State Dept. of Env'tl. Conservation, *Establishing a Value of Carbon: Guidelines for Use By State Agencies* 18 (2020), https://www.dec.ny.gov/docs/administration_pdf/vocfguid.pdf (basing decision to adopt social cost values at 2 percent discount in part due to conclusions from "multiple lines of research . . . that the discount rates used by the [Obama-era Working Group] underestimate the value of avoided damages from greenhouse gas emissions").

¹⁴ This figure compares the current social cost estimates to those in place in New York State (only the latter of which takes global damages into account) and assumes the GHG, discount rate, and time horizon remain constant. Compare GAO Social Cost of Carbon Report, *supra* note 5, with New York State Dept. of Env'tl. Conservation, Appendix: Value of Carbon (2020), https://www.dec.ny.gov/docs/administration_pdf/vocfapp.pdf.

¹⁵ E.g., Exec. Order No. 12866, 58 Fed. Reg. 51,735 (Oct. 4, 1993).

¹⁶ EPA Social Cost of Carbon Fact Sheet, *supra* note 1, at 4.

¹⁷ Waste Prevention, Production Subject to Royalties, and Resource Conservation; Rescission or Revision of Certain Requirements, 83 Fed. Reg. 49,184 (Sept. 28, 2018).

¹⁸ See, e.g., U.S. Dept. of the Interior, Bur. of Ocean Energy Mgmt, OCS Oil And Natural Gas: Potential Lifecycle Greenhouse Gas Emissions and Social Cost of Carbon (2016), <https://www.boem.gov/sites/default/files/oil-and-gas-energy-program/Leasing/Five-Year-Program/2017-2022/OCS-Report-BOEM-2016-065---OCS-Oil-and-Natural-Gas---Potential-Lifecycle-GHG-Emissions-and-Social-Cost-of-Carbon.pdf>.

¹⁹ See, e.g., *Sierra Club v. FERC*, 867 F.3d 1357, 1376 (D.C. Cir. 2017) (directing “FERC [to] either quantify and consider the [pipeline] project’s downstream carbon emissions or explain in more detail why it cannot do so”).

²⁰ Richard Glick & Matthew Christiansen, *FERC and Climate Change*, 40 Energy Law J. 1, 43 (2019), https://www.eba-net.org/assets/1/6/%5BGlick_and_Christiansen%5D%5BFinal%5D.pdf.

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