

Higher Social Cost Of Carbon Will Support Biden Enviro Push

By **Rachel Jacobson, Shannon Morrissey and Chaz Kelsh** (March 17, 2021)

Upon taking office, President Joe Biden convened a task force to assess the social cost of greenhouse gases, as part of his comprehensive climate change agenda. At the end of February, the task force published an interim report estimating the cost of carbon at approximately \$52 per ton.

This figure is aligned with the Obama administration's estimates, but is a significant increase from the negligible cost of carbon tagged by the Trump administration.[1]

The task force report is significant, because it suggests that the Biden administration will use that social cost of carbon, or SCC, figure in the cost-benefit analysis supporting what is expected to be a robust regulatory regime.

Federal agencies often have significant latitude in issuing regulations under the statutes they administer. To guide the exercise of their discretion, for four decades, the White House has required agencies to analyze proposed regulations to ensure their projected benefits exceed their estimated costs.

But doing so requires making assumptions, not only about monetary costs and benefits, but also about the many nonmonetary benefits — such as improved public health — that, while sometimes difficult to quantify, are meant to accrue from federal regulation.

Cost-benefit analysis is particularly difficult in environmental policy, where complex science meets a changing world, and where risk assessments play a central role in policy decisions. For climate change, the task of cost-benefit analysis becomes even more difficult.

How can a policymaker quantify the social benefits of one fewer gallon of gas burned, given the ubiquitous effects of climate change? Equally challenging is the task of estimating the cost of impacts from greenhouse gas emissions on a per-ton basis.

To support cost-benefit analysis in the realm of climate change policy, the SCC represents a holistic calculation of the costs of carbon dioxide and other greenhouse gas emissions on a rate per-ton basis.

Both the Obama and Trump administrations used an SCC analysis to support their regulatory goals, though they reached very different values for the SCC. The Biden administration is poised to give the SCC an even more prominent role in its regulatory agenda.

The Basics of Cost-Benefit Analysis in Federal Regulations

Federal agencies have long been required to perform cost-benefit analyses of any significant regulatory actions they take. In 1981, President Ronald Reagan issued Executive Order No.



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12291, directing agencies that "regulatory action shall not be undertaken unless the potential benefits to society from the regulation outweigh the potential costs to society."

To support that mandate, the order required every agency to submit its proposed regulations, along with a draft cost-benefit analysis, to the Office of Information and Regulatory Affairs, an office within the White House's Office of Management and Budget. President Bill Clinton replaced the Reagan-era order with Executive Order No. 12866 in 1993, which — although tweaked by each new president since then — still provides the basic framework for federal regulatory cost-benefit analyses today.

The process quantifies both benefits and costs of a regulatory action in dollars, even though many benefits — and some costs — are not inherently financial, such as avoided deaths or improved water quality for recreation.

To capture these kinds of benefits, regulators have developed concepts such as "quality-adjusted life years saved," which they then convert into dollars using estimates of their equivalent monetary value. These methods allow easy comparison among alternatives, but require some degree of judgment in setting a monetary value for nonmonetary benefits.

Cost-benefit analysis also uses a discount rate for costs and benefits experienced in the future, which are less valuable than costs and benefits today: The further in the future, the less valuable they are. Using a higher or lower discount rate can significantly affect the analysis of a regulations whose main benefits or costs are felt far in the future.

Cost-Benefit Analysis in the Environmental Context

Cost-benefit analysis poses particular challenges for environmental policymaking for a number of reasons:

- First, the benefits and costs of a regulation intended to protect the environment are almost never experienced by the same person. The public health benefits of reducing pollution might accrue to everyone living in a certain area, but the cost of reducing the pollution might be borne only by a handful of companies.
- Second, because the science involved in projecting regulatory benefits is complex and involves some uncertainty, it can be hard to know with certainty what a certain environmental regulation will cause or prevent. This is particularly difficult because the public health and other research undergirding these analyses is not static.
- Finally, many of the benefits of environmental regulation, such as lives saved or health improvements, are hard to reduce to a dollar figure, while the costs, such as factory equipment to comply with a regulation, are typically much more concrete. The tension between monetary cost and nonmonetary benefits is reflected in environmental statutes such as the Clean Water Act, which is built around concepts such as the "best available technology economically achievable" that require the U.S. Environmental Protection Agency to balance a technology's societal benefits with its monetary cost when prescribing certain standards.

Climate change presents a greater challenge still. Although the effects of climate change itself are ubiquitous, any individual rulemaking will target one sector under specific statutory authority.

To factor in the effects of climate change, agencies must compare concrete short-term costs with less certain long-term costs. Nevertheless, courts have held that an agency must include the economic cost of climate change in its analysis of an environmental regulation's costs and benefits.[2]

As a result, agencies developing a regulation that reduces greenhouse gas emissions can claim the benefits of doing so, while a regulation that will increase them must factor in the resulting economic costs.

Because courts review administrative actions for whether they are arbitrary or capricious, an agency's unexplained failure to fully account for an action's costs or benefits can result in the action being struck down. Challengers can argue that an agency overcounted the benefits or minimized the costs to justify its rulemaking — or that an agency counted benefits or costs too distant from the rulemaking to be quantified with certainty.

Due to the difficulty of cost-benefit analysis in environmental policy, the EPA's attempts to use, or avoid, cost-benefit analysis in its environmental rulemakings have led to a long line of cases. For example, in 2001, in *Whitman v. American Trucking Associations*, the U.S. Supreme Court unanimously rejected the EPA's attempt to consider costs when setting national air quality standards for ozone and particulate matter.[3]

But in 2009, in *Entergy Corp. v. Riverkeeper Inc.*, the court upheld the EPA's consideration of cost in issuing its rule implementing the Clean Water Act's requirement of the "best technology available for minimizing adverse environmental impact" for certain discharges into water sources, holding that the phrase "'best technology' may also describe the technology that most efficiently produces some good." [4]

Most recently, in its 2015 decision in *Michigan v. EPA*, the Supreme Court vacated the EPA's decision, which it reached without considering cost, that regulating power plants' emissions of hazardous air pollutants was "appropriate and necessary," holding that the terms "appropriate and necessary" inherently required the consideration of cost.[5]

As regulatory agencies continue to balance the costs and benefits of regulation addressing climate change, the challenges highlighted by these cases are likely to recur. One way to avoid prolonged and complicated litigation with respect to regulating climate change is by developing a uniform, transparent, government-wide methodology for estimating the costs of climate change — an approach first widely used by the Obama administration.

The SCC in Regulatory Decision Making

That approach — the SCC — quantifies the dollar value of a policy's effect on climate change due to changes in greenhouse gas emissions. It is often calculated in four steps:

- Predicting future emissions based on population, economic growth and other factors;

- Modeling the future climate, including any temperature increase or sea level rise;
- Calculating the economic impact that changes in the climate are likely to have on health, agriculture, energy and the overall economy; and
- Converting future damages into their present-day value to determine the total costs of emissions to society.[6]

Because of the complexity of calculating an SCC, the result depends in significant part on the assumptions used in making the calculations.

Two threshold decisions are particularly important: whether the geographic scope of impacts analyzed includes global consequences or only domestic ones, and, given that the most disastrous effects of climate change could occur in the distant future, the value used as a future discount rate.

In 2008, the Bush administration first began to incorporate the SCC into rulemakings, using estimates from academic literature to support U.S. Department of Energy, U.S. Department of Transportation and EPA regulations.[7]

After these first attempts, the Obama administration took more significant steps to build the SCC into the regulatory regime. In 2009, the Office of Management and Budget convened its Interagency Working Group on the Social Cost of Carbon, or IWG, to develop a single set of estimates to be applied consistently across the federal government.

The Clean Power Plan — the Obama-era EPA's ambitious rule intended to reduce greenhouse gas emissions from the power sector — used an SCC of about \$45 per ton in the cost-benefit analysis supporting the rule.[8] That approach changed with the Trump administration.

In March 2017, the Trump administration disbanded the IWG and revoked the governmentwide SCC, instead directing agencies to determine an SCC through their normal regulatory analysis, "including with respect to the consideration of domestic versus international impacts and the consideration of appropriate discount rates." [9]

When the Trump administration issued the Affordable Clean Energy rule — its replacement for the Clean Power Plan — that rule put the SCC at between \$1 and \$6 per ton. The Affordable Clean Energy rule considered only domestic impacts from climate change, excluding effects on other countries, and used a much higher discount rate, reducing the assumed present cost of future effects.[10]

Changes to the SCC value can produce vastly disparate results. For example, the Trump administration claimed that its proposed fuel economy standards resulted in \$17 billion of net benefits, but the same analysis using the Obama administration SCC would have found \$15 billion of net costs.[11]

The Trump administration's lower SCC helped it justify regulatory rollbacks that, if applying

the administration's new SCC value, were much more costly than beneficial.

Social Cost of Carbon Under the Biden Administration

The Biden administration wasted no time in returning the Obama administration's approach to the SCC. It reestablished the IWG on Biden's first day in office, requiring it to publish interim SCC estimates within 30 days and final SCC estimates by January 2022.

The IWG released the interim estimates on Feb. 26, pricing carbon at \$51 per ton.[12] Given Biden's efforts to prioritize environmental and climate issues throughout his administration, the SCC will have an important role in the cost-benefit analyses supporting agencies' environmental regulations.

For example, the value of avoided climate consequences will play a key role in making the case for stricter fuel economy standards, which the Biden administration has already announced it will pursue.[13] The administration is also likely to use the SCC to justify tightened restrictions on fossil fuel extraction on public lands, on power plant emissions and in other areas.

The interim report has already attracted scrutiny from Republicans. Sen. Cynthia Lummis, R-Wyo., asked during the confirmation hearing for Brenda Mallory, Biden's nominee to lead the White House Council on Environmental Quality, about Mallory's role in Obama's SCC efforts. Lummis said the Obama IWG "met behind closed doors with no public engagement to revise" the SCC, which agencies then "used to rationalize costly job-killing new regulations." [14]

Twelve Republican attorneys general have also sued Biden over the SCC, arguing that it is "high enough to justify massive increases in regulatory restrictions on agricultural practices, energy production, energy use, or any other economic activity that results in the emission of such gases." The lawsuit argues that the White House lacks the legal authority to require agencies to use a governmentwide SCC in their regulatory analyses.[15]

Conclusion and Implications

The Biden administration will use its SCC estimates to shape climate change policy. It will be used as part of regulatory cost-benefit analysis, giving a boost to regulations that will reduce greenhouse gas emissions, while forcing a more fulsome cost benefit analysis in federal action that could increase emissions.

The federal SCC could also inform a carbon tax — if one were ever seriously considered. Members of Congress have already used the Obama SCC estimates as a basis for their own carbon tax proposals,[16] and the idea of a carbon tax shows signs of gaining support, including recently from the American Petroleum Institute.[17]

The SCC estimate could also be used to support policy and permitting decisions with an environmental justice lens, by demonstrating the significant negative impacts — i.e., the costs — of industrial operations on human health. The IWG's interim report is a significant first step in laying the foundation for cost-benefit analysis in setting environmental policy, which will not be able to ignore the economic impacts of our changing climate.

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[1] Interagency Working Group on the Social Cost of Greenhouse Gases, Technical Support Document: Social Cost of Carbon, Methane, and Nitrous Oxide Interim Estimates under Executive Order 13990 (February 2021) ("Interim Report"), https://www.whitehouse.gov/wp-content/uploads/2021/02/TechnicalSupportDocument_SocialCostofCarbonMethaneNitrousOxide.pdf.

[2] See, e.g., *Ctr. for Biological Diversity v. Nat'l Highway Traffic Safety Admin.*, 538 F.3d 1172, 1198 (9th Cir. 2008).

[3] *Whitman v. Am. Trucking Ass'ns*, 531 U.S. 457, 465 (2001).

[4] *Entergy Corp. v. Riverkeeper Inc.*, 556 U.S. 208, 218 (2009).

[5] *Michigan v. EPA*, 576 U.S. 743, 752 (2015).

[6] Resources for the Future, *Social Cost of Carbon 101* (Aug. 1, 2019), <https://www.rff.org/publications/explainers/social-cost-carbon-101/>.

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[8] Environmental Protection Agency, *Technical Support Document: Technical Update of the Social Cost of Carbon for Regulatory Impact Analysis Under Executive Order 12866* (August 2016), https://www.epa.gov/sites/production/files/2016-12/documents/sc_co2_tsd_august_2016.pdf.

[9] Donald J. Trump, *Promoting Energy Independence and Economic Growth*, 82 Fed. Reg. 16,093 (March 31, 2017).

[10] Washington Post, *New EPA document reveals sharply lower estimate of the cost of climate change* (Oct. 11, 2017), <https://www.washingtonpost.com/news/energy-environment/wp/2017/10/11/new-epa-document-reveals-sharply-lower-estimate-of-the-cost-of-climate-change/>.

[11] Tamma Carleton and Michael Greenstone, *Updating the United States Government's Social Cost of Carbon* (January 2021), https://bfi.uchicago.edu/wp-content/uploads/2021/01/BFI_WP_202104.pdf.

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[13] Reuters, *Biden to order agencies to revisit vehicle tailpipe emissions standards* (Jan. 20, 2021), <https://www.reuters.com/article/us-usa-biden-executive-actions-transport/biden-to-order-agencies-to-revisit-vehicle-tailpipe-emissions-standards-idUSKBN29P12Z>.

[14] Senate Environment and Public Works Committee, "Hearing on the Nominations of Brenda Mallory to serve as chair of the White House Council on Environmental Quality and Janet McCabe to be Deputy Administrator of the Environmental Protection Agency" (March 3, 2021), https://www.epw.senate.gov/public/_cache/files/7/4/7441defc-3ae5-493b-b80d-70866c4c5d4b/3A8CEBD74BFAAA045FB8CD8F8608EE42.spw-03032021-nomination-hearing.pdf.

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[16] Tax Foundation, Three Carbon Tax Bills Introduced in Congress (Aug. 1, 2019), <https://taxfoundation.org/carbon-tax-bills-introduced-congress/>.

[17] Wall Street Journal, Oil Trade Group Is Poised to Endorse Carbon Pricing (March 1, 2021), <https://www.wsj.com/articles/oil-trade-group-considers-endorsing-carbon-pricing-11614640681>.