
NOTE

**THE SOCIAL COST OF CARBON IN THE
COURTS: 2013-2019**

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INTRODUCTION

Climate change is one of the most pressing and politicized issues of the twenty-first century. Both courts and administrative agencies struggle with how to incorporate the threat of climate change and the inherent uncertainties it poses into the existing framework of environmental law. One of the most important developing areas of environmental law and policy concerns how to understand the significance of greenhouse gas emissions (GHGs) from federal actions under current federal laws, and, further, how to

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integrate a meaningful analysis of these emissions into an agency's decision-making process. The most promising recent development in this area is the Social Cost of Carbon (SCC). The SCC, a metric that captures the monetary damages associated with one ton of carbon emissions,¹ was developed to provide a tool for agencies to monetize a project's greenhouse gas emissions in order to account for its climate externalities.

The SCC was designed by a federal interagency working group for agency use in regulatory cost benefit analyses under Executive Order 12,866 (E.O. 12,866). However, public interest organizations brought a series of suits that extended the role of the SCC to agency decisions that typically would not require a full-scale cost-benefit analysis. This was done under the National Environmental Policy Act (NEPA), which governs the environmental review process for federal agency actions. However, while advocates of robust climate change review have argued persuasively for the inclusion of the SCC in a broad range of federal environmental analyses, opponents of the methodology have argued that it is unfit for use outside of E.O. 12,866 analyses and that it produces results too uncertain for use where it is not absolutely required.

Since its development, the use of the SCC has been the subject of numerous court decisions and executive actions. In particular, the recent withdrawal of SCC guidance documents and several unfavorable court decisions have significantly complicated the future of the SCC as a tool in environmental litigation and regulation. Though it is not without limitations, when properly applied, the SCC presents a valuable tool for agencies to frame and analyze the true environmental impacts of their actions and for interested parties to understand and engage with agencies on climate change issues. The ability to conceptualize the monetary impact of greenhouse gas emissions transforms an abstract, nebulous concept into a concrete metric that can be easily compared to other quantitative values that are often incorporated in agency analyses, like costs to industry, jobs created, and the like. Moreover, merely disclosing a project's greenhouse gas emissions as part of a NEPA analysis does not actually capture the climate change externalities associated with these emissions and their costs, which will impact millions of Americans in

¹ See INTERAGENCY WORKING GRP. ON SOC. COST OF CARBON, TECHNICAL SUPPORT DOCUMENT: SOCIAL COST OF CARBON FOR REGULATORY IMPACT ANALYSIS UNDER EXECUTIVE ORDER 12866 2 (2010) [hereinafter TSD 2010].

addition to countless communities globally. Simply put, it is much easier to recognize the externalities that accompany greenhouse gas emissions when there is a price tag attached rather than a list of emissions quantities.² The SCC makes this possible and relatively easy. Therefore, it is very important to develop a clear framework for when the SCC should apply and how agencies should consider and communicate climate change impacts to the public.

This Note will begin with a brief summary of the history of the SCC and review several foundational cases that are important to understanding the development of climate change analysis and greenhouse gas quantification in agency practice. The bulk of this Note will then discuss recent cases involving the SCC to clarify the current legal status of this methodology. Lastly, this Note will conclude with policy recommendations for the meaningful consideration of greenhouse gas emissions from federal actions in light of the recent treatment of the SCC in the federal courts and the Trump Administration's 2019 proposed guidance on the Consideration of Greenhouse Gas Emissions. An examination of the treatment of the SCC in the federal courts makes clear that the monetization of GHG emissions in agency decision-making is unlikely to arise through litigation. Instead of the limited approach taken in the 2019 proposal, it is imperative that the Council on Environmental Quality (CEQ) promulgate guidance that clarifies the role of cost-benefit analysis under NEPA and establishes a robust framework for the consideration of climate externalities.

I. THE DEVELOPMENT OF THE SOCIAL COST OF CARBON

The SCC was developed by an Interagency Working Group (IWG), convened in 2009 by President Obama.³ The group was

² See, e.g., *Env'tl. Def. Fund et al., Joint Comment Letter on Notice of Inquiry on Certification of New Interstate Natural Gas Facilities at 3*, Docket No. PL18-1-000 (July 25, 2018), https://policyintegrity.org/documents/Joint_Comments_FERC_Pipeline_NOI_Comments_072518.pdf (explaining that “by only quantifying the volume of greenhouse gas emissions, agencies fail to assess and disclose the actual climate consequences of an action and misleadingly present information in ways that will cause decisionmakers and the public to overlook important climate consequences. Using the social cost of greenhouse gas metrics to monetize climate damages fulfills NEPA’s legal obligations in ways that quantification alone cannot.”),

³ See INST. FOR POLICY INTEGRITY, *SOCIAL COSTS OF GREENHOUSE GASES 2* (2017), https://policyintegrity.org/files/publications/Social_Cost_of_Greenhouse_Gases_Factsheet.pdf.

assembled in response to a Ninth Circuit ruling requiring the National Highway Traffic Safety Administration (NHTSA) to account for the economic effects of the reduction in CO₂ emissions in its analysis of national fuel economy standards.⁴ As noted in the 2008 Ninth Circuit opinion, there was a range of values in use at the time for monetizing CO₂ emissions.⁵ Previous regulatory actions had included separate “domestic” and “global” SCC values, and, where agencies did consider CO₂ emissions, they often used different CO₂ valuations.⁶ In essence, the IWG was tasked with bringing consistency and transparency to the regulatory consideration of CO₂ emissions.⁷

In developing the SCC, the IWG relied on existing technical literature and public comments, rather than original analyses, to produce a range of SCC values for use in regulatory analysis.⁸ The SCC is designed to capture and monetize the global damages associated with a one metric ton increase in carbon emissions for a given year.⁹ As defined by the IWG in their 2010 report, the values are “intended to include (but [are] not limited to) changes in net agricultural productivity, human health, property damages from increased flood risk, and the value of ecosystem services.”¹⁰ To accomplish this, the IWG utilized three integrated assessment models, the PAGE, FUND, and DICE models, which each take different approaches to modeling economic damages from changes in carbon emissions.¹¹

⁴ See *id.*; see also *Ctr. for Biological Diversity v. Nat’l Highway Traffic Safety Admin.*, 538 F.3d 1172 (9th Cir. 2008). The import of this case will be discussed fully in the following section.

⁵ See *Ctr. for Biological Diversity*, 538 F.3d at 1200.

⁶ See TSD 2010, *supra* note 1, at 3.

⁷ See *id.* at 4.

⁸ See *id.* at 2–3.

⁹ See *id.* at 2.

¹⁰ *Id.*

¹¹ See *id.* at 5. The iterations of these models changed between the 2010 and 2016 IWG reports. See INTERAGENCY WORKING GRP. ON SOC. COST OF GREENHOUSE GASES, TECHNICAL SUPPORT DOCUMENT: TECHNICAL UPDATE OF THE SOCIAL COST OF CARBON FOR REGULATORY IMPACT ANALYSIS UNDER EXECUTIVE ORDER 12866, 6 (2016) [hereinafter TSD 2016]. The DICE (Dynamic Integrated Climate-Economy) Model was developed by William Nordhaus. See William D. Nordhaus, *Scientific and Economic Background on DICE Models* (Feb. 3, 2020), <https://sites.google.com/site/williamdnordhaus/dice-rice> (giving information on current DICE modeling). The PAGE (Policy Analysis of the Greenhouse Effect) Model was developed by Chris Hope. See Chris Hope, *The*

The results from these models are equally weighted to produce an SCC value for three separate discount rates (2.5 percent, 3 percent, and 5 percent) and a fourth value that captures higher than anticipated economic impacts of climate change.¹² In 2010, the set SCC estimates were five dollars, twenty-one dollars, thirty-five dollars, and sixty-five dollars, as measured in 2007 dollars.¹³

In its first report, the IWG committed to continually updating the SCC estimates to reflect scientific and economic developments in the understanding of climate change impacts.¹⁴ The SCC values were subsequently revised in 2013 and 2016.¹⁵ The 2016 update placed the 2020 SCC values at \$12, \$42, \$62, and \$105, as measured in 2007 dollars.¹⁶ Recently, the Trump Administration revised the SCC significantly downward. In mid-2017, President Trump issued an Executive Order disbanding the IWG and withdrawing all SCC documentation as no longer representative of government policy.¹⁷ In October 2017, EPA issued interim SCC values of six dollars and one dollar for 2020 (in 2011 dollars).¹⁸ This decrease was achieved by switching to higher discount rates (using only three percent and seven percent discount rates instead of the previous range of 2.5 percent, three percent, and five percent) and incorporating only the domestic impacts associated with carbon emissions rather than the global impacts.¹⁹ Both of these moves were widely criticized by economists, policymakers, and legal scholars, and a full discussion of the controversy surrounding the SCC's revised values can be

PAGE09 Integrated Assessment Model: A Technical Description (Cambridge Judge Bus. Sch., Working Paper No. 4, 2011), https://www.jbs.cam.ac.uk/fileadmin/user_upload/research/workingpapers/wp1104.pdf (giving background on the PAGE09 Model, and comparing to the PAGE2002). Richard Tol developed the FUND (Framework for Uncertainty, Negotiation, and Distribution) model. See Richard Tol, *The Climate Framework for Uncertainty, Negotiation and Distribution*, in AN INSTITUTE ON THE ECONOMICS OF THE CLIMATE RESOURCE 471 (Miller, K.A. & Parkin, R.K., eds., 1996). See also, FUND MODEL, <https://www.fund-model.org/> (last visited Apr. 21, 2020).

¹² See TSD 2010, *supra* note 1, at 24–25. The fourth SCC value reflects the economic damages in the 95th percentile value at a 3% discount rate. See *id.* at 25.

¹³ See *id.* at 3.

¹⁴ See *id.*

¹⁵ See TSD 2016, *supra* note 11, at 3.

¹⁶ See *id.* at 4.

¹⁷ See Exec. Order No. 13,783, 82 Fed. Reg. 16,093, 16,095 (Mar. 31, 2017).

¹⁸ See EPA, REGULATORY IMPACT ANALYSIS FOR THE REVIEW OF THE CLEAN POWER PLAN: PROPOSAL 44 (2017).

¹⁹ See *id.* at 43–44.

found in the sources cited in the footnotes.²⁰ Despite many arguing that the IWG's SCC values should be retained, these lower, interim SCC values will be employed in regulatory analyses going forward until final values are developed.²¹ However, whether an agency is required to include *any* GHG monetization as part of their regulatory analyses remains a fraught legal issue, one that will be the focus of the rest of this Note.

II. THE SOCIAL COST OF CARBON UNDER THE NATIONAL ENVIRONMENTAL POLICY ACT

NEPA provides the governing framework for the consideration of environmental impacts of agency actions and, in doing so, plays a foundational informational role for federal decisionmakers and the public.²² As described by the Supreme Court in *Robertson v. Methow Valley Citizen's Council*, NEPA ensures that both agencies and the public have detailed environmental information about proposed actions and provides a "springboard for public comment" and engagement in the review.²³

Generally, NEPA requires that agencies produce an Environmental Impact Statement (EIS) for proposed federal actions "significantly affecting the quality of the human environment."²⁴ An EIS

²⁰ For an in depth discussion of these interim values and related issues, see INST. FOR POLICY INTEGRITY, HOW THE TRUMP ADMINISTRATION IS OBSCURING THE COSTS OF CLIMATE CHANGE 2 (2018), https://policyintegrity.org/files/publications/Obscuring_Costs_of_Climage_Change_Issue_Brief.pdf; Revesz et al., *Best Cost Estimate of Greenhouse Gases*, 357 SCIENCE 655 (2017); Richard Newell, *Unpacking the Administration's Revised Social Cost of Carbon*, RESOURCES FOR THE FUTURE: COMMON RESOURCES (October 10, 2017), <https://www.resourcesmag.org/common-resources/unpacking-the-administrations-revised-social-cost-of-carbon/>. Even before the controversy associated with EPA's interim values, economists have debated whether even a 3% discount rate is too high. For an example, see the discussion of revising the 3% rate in COUNCIL OF ECON. ADVISORS, DISCOUNTING FOR PUBLIC POLICY: THEORY AND RECENT EVIDENCE ON THE MERITS OF UPDATING THE DISCOUNT RATE 4-9 (2017), https://obamawhitehouse.archives.gov/sites/default/files/page/files/201701_cea_discounting_issue_brief.pdf.

²¹ See EPA, REGULATORY IMPACT ANALYSIS FOR THE REVIEW OF THE CLEAN POWER PLAN: PROPOSAL at 43. See, e.g., Revesz et al., *supra* note 20, at 655.

²² See National Environmental Policy Act (NEPA) of 1970, 42 U.S.C. § 4331 (2012).

²³ See *Robertson v. Methow Valley Citizen's Council*, 490 U.S. 332, 349 (1989).

²⁴ 42 U.S.C. § 4332(2)(C) (2012).

must address the direct, indirect, and cumulative environmental impacts of the action, and must also consider alternatives to the proposed action, including a no-action alternative.²⁵ If an agency is unsure whether an action requires a full EIS, the agency can prepare a shorter Environmental Assessment (EA).²⁶ An EA still contains information on the project's environmental impacts and alternatives, but only short discussions are required.²⁷ NEPA's implementing regulations specifically provide that monetary cost-benefit analysis of the alternatives considered is not required.²⁸ When reviewing NEPA challenges, courts will instead examine whether the agencies involved took a "hard look" at the environmental consequences of the action.²⁹ With respect to areas of technical or scientific expertise, courts will be especially deferential to the agency's decision-making.³⁰

Both the courts and CEQ, the agency in charge of promulgating NEPA's implementing regulations, have required agencies to acknowledge and discuss climate impacts pursuant to NEPA procedures.³¹ Although a full discussion of the specific requirements for climate change analyses under NEPA is outside the scope of this Note,³² this section will address whether agencies must utilize the

²⁵ See 40 C.F.R. §§ 1508.7, 1508.8, 1508.25 (2019).

²⁶ See *id.* § 1508.9.

²⁷ See *id.*

²⁸ See *id.* § 1502.23.

²⁹ See *Robertson v. Methow Valley Citizen Council*, 490 U.S. 332, 350 (1989).

³⁰ See *Marsh v. Or. Nat. Res. Council*, 490 U.S. 360, 377 (1989) (citing *Kleppe v. Sierra Club*, 427 U.S. 390, 412 (1976)).

³¹ See Jamison E. Colburn, *A Climate-Constrained NEPA*, 2017 U. ILL. L. REV. 1091, 1095–1104 (2017). Note that the Trump Administration has repealed the most recent CEQ guidance on considering greenhouse gases under NEPA and the Council has not yet replaced it. See *Withdrawal of Final Guidance for Federal Departments and Agencies on Consideration of Greenhouse Gas Emissions and the Effects of Climate Change in National Environmental Policy Act Reviews*, 82 Fed. Reg. 16,576 (Apr. 5, 2017). Currently, the CEQ website provides a list of GHG accounting tools for agency use, but the SCC is not listed among them. See *Greenhouse Gas (GHG) Accounting Tools*, COUNCIL ON ENVTL. QUALITY, <https://ceq.doe.gov/guidance/ghg-accounting-tools.html> (last visited Apr. 21, 2020).

³² The inclusion of the GHG emissions from a project or a broader discussion of a project's climate change impacts in the EIS/EA is a has been the subject of extensive scholarship and political debate. See, e.g., Michael Burger & Jessica Wentz, *Downstream and Upstream Greenhouse Gas Emissions: The Proper Scope of NEPA Review*, 41 HARV. ENVTL. L. REV. 109 (2017); Colburn, *supra* note

SCC specifically as part of their consideration of climate impacts under NEPA.

III. FOUNDATIONAL CASES IN GREENHOUSE GAS CONSIDERATION

CEQ first issued guidance mentioning the consideration of climate change under NEPA in 1997, but did not issue final guidance on the consideration of climate change until 2016 (now rescinded).³³ In the intervening period, the courts grappled with exactly what was required of agencies when taking actions that involve climate impacts. The following cases illustrate the development of agency consideration of greenhouse gas emissions, particularly when courts have required agencies to consider GHGs and when agencies are additionally required to quantify or monetize these emissions in their analyses.

One of the earliest and oft-cited cases laying the groundwork for agency analysis of GHG emissions under NEPA is *Mid States Coalition for Progress v. Surface Transport Board (Mid States)*, an Eighth Circuit decision from 2003.³⁴ At issue was the Surface Transportation Board's decision to issue final approval for 280 miles of new rail line, servicing the coal mines in Wyoming's Powder River Basin, as well as upgrades to existing rail lines in Minnesota and South Dakota.³⁵ The environmental review process for the project involved approximately 8,600 public comments and lasted almost four years.³⁶ In a lawsuit challenging the decision, one of the many issues raised by petitioners concerned the Board's failure to consider the air quality impacts of the project.³⁷ Specifically, these new rail lines would make more low-sulfur coal available for combustion at a reduced rate, which would, in turn, increase the concentration of noxious air pollutants (these included N₂O, CO₂, Hg, and

31; Amy L. Stein, *Climate Change Under NEPA: Avoiding Cursory Consideration of Greenhouse Gases*, 81 U. COLO. L. REV. 473 (2010).

³³ See Stein, *supra* note 32, at 484–85. See generally, COUNCIL ON ENVTL. QUALITY, FINAL GUIDANCE FOR FEDERAL DEPARTMENTS AND AGENCIES ON CONSIDERATION OF GREENHOUSE GAS EMISSIONS AND THE EFFECTS OF CLIMATE CHANGE IN NATIONAL ENVIRONMENTAL POLICY ACT REVIEWS (2016).

³⁴ See *Mid States Coal. for Progress v. Surface Transp. Bd.*, 345 F.3d 520 (8th Cir. 2003).

³⁵ See *id.* at 532.

³⁶ See *id.* at 533.

³⁷ See *id.* at 548.

particulates).³⁸ The Eighth Circuit found that the degradation of air quality fell squarely within the “indirect effects” as defined by binding CEQ regulations, and thus it needed to be addressed in the project’s EIS.³⁹

In opposing this outcome, the Board raised several arguments that are echoed in recent opinions. Primarily, it argued that the action’s effects were too speculative; without information on where new plants would be built and how much coal they would use, it would be impossible to analyze the impacts of the emissions from these sources.⁴⁰ But, the court rejected this argument, finding that where the *nature* of the effect is reasonably foreseeable, the fact that the *extent* is uncertain does not exempt the agency from including an analysis in the EIS.⁴¹ This finding set an important precedent for future land-use and resource development actions reviewed under NEPA: agencies cannot rely solely on the speculative extent of future resource use to avoid addressing project emissions, in some way, as part of the EIS.

Following *Mid States*, the Ninth Circuit took up the issue of GHG analysis under the Energy Policy and Conservation Act (EPCA) in *Center for Biological Diversity v. NHTSA (CBD v. NHTSA)*. In 2008, several states and public interest groups challenged NHTSA’s corporate average fuel economy (CAFE) standards which are promulgated pursuant to the EPCA.⁴² One of the challenges raised was that the agency assigned zero value to reductions in CO₂ emissions in calculating the costs and benefits of alternative standards.⁴³

The EPCA requires NHTSA to set the CAFE standards at the “maximum feasible” level that manufacturers can achieve for a given model year.⁴⁴ In determining the maximum feasible level, NHTSA employed a marginal cost-benefit analysis—an approach

³⁸ *See id.*

³⁹ *See id.* at 549.

⁴⁰ *See id.*

⁴¹ *See id.* at 549–50.

⁴² *See* *Ctr. for Biological Diversity v. Nat’l Highway Traffic Safety Admin.*, 538 F.3d 1172, 1180–81 (9th Cir. 2008).

⁴³ *See id.* at 1181. Note that petitioners raised additional EPCA issues and further challenged the Agency’s procedures as inadequate under NEPA, *see id.*, but, while significant, these issues are outside the scope of this Note.

⁴⁴ *See id.* at 1194.

blessed by the court, in this case⁴⁵—but the agency did not include the benefits of CO₂ emissions reductions, either quantitatively or qualitatively, as part of the analysis.⁴⁶ The court interpreted this omission as the agency putting a “thumb on the scale by undervaluing the benefits and overvaluing the costs of more stringent standards.”⁴⁷

In justifying its analysis, NHTSA argued that the value of reducing CO₂ emissions was too uncertain, citing the wide variation in valuation estimates.⁴⁸ However, this position was decisively rejected by the court as arbitrary and capricious.⁴⁹ The court noted that while the valuation may be uncertain, it is unequivocally not zero, and, further, that many commenters had offered the same estimate of fifty dollars per ton of carbon.⁵⁰ Further, NHTSA undermined its own argument by monetizing other “uncertain” benefits, including the value of the reduction in noise and congestion costs and “increased energy security.”⁵¹ The decision of the Ninth Circuit highlighted the need for a standardized methodology for analyzing CO₂ emissions in rulemakings, and subsequently, the Obama Administration convened an interagency working group to address the issue, which eventually produced the SCC, as discussed above.⁵²

The most relevant case to the use of the SCC today is *High Country Conservation Advocates v. United States Forest Service* (*High Country*). In this case, from 2014, the District of Colorado heard a challenge to the Bureau of Land Management (BLM) and the United States Forest Services’ (USFS or the Forest Service) approval of mining exploration activity in Colorado’s Sunset Roadless Area.⁵³ Plaintiffs alleged that the agencies failed to adequately disclose the “social, environmental and economic impacts” of the GHG emissions that will result from modifications to existing coal leases

⁴⁵ *See id.* at 1197.

⁴⁶ *See id.* at 1198.

⁴⁷ *Id.*

⁴⁸ *See id.* at 1200.

⁴⁹ *See id.* at 1200–02.

⁵⁰ *See id.* at 1201–02.

⁵¹ *Id.* at 1202.

⁵² *See* INST. FOR POLICY INTEGRITY, SOCIAL COSTS OF GREENHOUSE GASES 2 (2017), https://policyintegrity.org/files/publications/Social_Cost_of_Greenhouse_Gases_Factsheet.pdf.

⁵³ *High Country Conservation Advocates v. U.S. Forest Serv.*, 52 F. Supp. 3d 1174, 1181, 1184 (D. Colo. 2014).

in the final EIS.⁵⁴ This case is particularly significant because, unlike *CBD v. NHTSA*, it involves the consideration and quantification of GHG emissions for a smaller-scale agency action under NEPA where, unlike under the EPCA, the governing statute does not explicitly require the action to be economically feasible.⁵⁵ In this context, the agencies are not encouraged by the statute to conduct a cost-benefit analysis.

The agencies did not dispute that they were required to consider the GHG emissions as part of the EIS, but, they argued that their treatment of GHGs was sufficient.⁵⁶ Specifically, the agency quantified potential project emissions relative to state and national emission levels and provided a general discussion of the potential impact of climate change.⁵⁷ Anything further, the agency claimed, was impossible due to the lack of standardized protocols for qualifying climate impacts.⁵⁸ However, the court noted that precisely such a tool exists: the SCC.⁵⁹ Further, a quantification utilizing the SCC was included in the draft EIS for the project, but was removed prior to finalization, while the quantification of the project's benefits remained.⁶⁰ In finding a NEPA violation, the court took issue with the agency's failure to offer a non-arbitrary reason to exclude the SCC as part of the final draft and, more broadly, for the agency's one-sided cost-benefit analysis.⁶¹

High Country can be read in several ways. It does not require the use of the SCC where a project may have GHG impacts, as the court left open the possibility that the agency could deliver a compelling reason to exclude the analysis.⁶² But, in instances where agencies engage in a cost-benefit analysis—regardless of whether such an analysis is required—*High Country* suggests that agencies cannot rely upon purely qualitative descriptions of emissions or

⁵⁴ *Id.* at 1187.

⁵⁵ See 49 U.S.C. § 32902(f) (2012); *High Country*, 52 F. Supp. 3d at 1180 (writing that “NEPA does not require an explicit cost-benefit analysis to be included in an EIS”).

⁵⁶ See *High Country*, 52 F. Supp. 3d at 1189–90.

⁵⁷ See *id.* at 1190.

⁵⁸ See *id.*

⁵⁹ See *id.*

⁶⁰ See *id.* at 1190–91.

⁶¹ See *id.* at 1191.

⁶² See *id.* at 1193.

climate change impacts where the SCC is available and applicable.⁶³ However, the opinion gives significant weight to the fact that the agency initially included the SCC and then removed it with little explanation, which may serve as a limiting factor in *High Country's* application to future disputes where this did not occur.⁶⁴ Much of the following discussion detailing recent caselaw on the use of the SCC will turn on how various courts have interpreted *High Country*.

These foundational cases emphasize that agencies must address GHG emissions when considering and justifying an agency action. Further, *CBD v. NHTSA* underscores the principle that, while the science and economics behind specific methods of emissions valuation may be uncertain, agencies cannot use this to sidestep the issue altogether, particularly when engaging in a cost-benefit analysis.⁶⁵ *High Country* expanded on this rationale in holding that it was arbitrary and capricious to engage in a cost-benefit analysis while excluding the costs associated with GHG emissions, where a tool exists to monetize them.⁶⁶ However, these cases leave the future of specific GHG accounting methodologies, like the SCC, uncertain. Where agencies are required to consider GHG emissions, it is unclear *how* they are required to address them.

IV. AN ANALYSIS OF RECENT SOCIAL COST OF CARBON CASES: 2013-2019

The SCC was explicitly designed for agency use pursuant to E.O. 12,866, which requires that agencies undertake a cost-benefit analysis when a regulatory action will have significant impacts.⁶⁷ The threshold for significant impacts is defined, in part, as actions that are likely to have “an annual effect on the economy of \$100 million or more or adversely affect in a material way the economy, a sector of the economy, productivity, competition, jobs, the environment, public health or safety, or State, local, or tribal governments or communities.”⁶⁸ This does not apply to many routine

⁶³ See *id.* at 1191.

⁶⁴ See *id.*

⁶⁵ See *Ctr. for Biological Diversity v. Nat'l Highway Traffic Safety Admin.*, 538 F.3d 1172, 1200 (9th Cir. 2008).

⁶⁶ See *High Country*, 52 F. Supp. 3d at 1189–90.

⁶⁷ See TSD 2016, *supra* note 11, at 3. See also Exec. Order. No. 12,866, 58 Fed. Reg. 51,735 (Sept. 30, 1993).

⁶⁸ Exec. Order. No. 12,866, *supra* note 67, at 51,738.

agency actions that will produce GHG emissions. For example, actions involving individual leasing of federal lands for resource extraction are not covered by E.O. 12,866 since, typically, they are actions taken outside of the rulemaking context. Individually, these actions may not be economically or environmentally significant, but cumulatively they are enormously impactful. In 2014, the extraction and combustion of fossil fuels from federal lands produced 1,279 million metric tons of CO₂ equivalent, which amounted to 23 percent of the total CO₂ emissions in the United States.⁶⁹ Unsurprisingly, most of the litigation concerning the use of the SCC is aimed at applying it outside of the E.O. 12,866 context, to these individual resource decisions.

A. Recent Social Cost of Carbon Cases Involving NEPA

The 2014 *High Country* decision laid the groundwork for much of the recent consideration of the SCC under NEPA. However, where it appeared that *High Country* would provide a tool to require agencies to engage with the SCC, the opinion was almost immediately interpreted narrowly. In *League of Wilderness Defenders/Blue Mountains Diversity Project v. Connaughton (Wilderness Defenders)*, a 2014 case in the District of Oregon, plaintiffs challenged the EIS prepared for the Forest Service's approval of commercial logging within the Snow Basin Vegetation Management Project.⁷⁰ Citing *High Country* in support, plaintiffs alleged that the Forest Service violated NEPA when it disclosed the beneficial impacts of the project on climate change but did not address the short-term negative impact that "removing trees would have on the forest's ability to store carbon."⁷¹ However, the court found the comparison to *High Country* inapt, citing the fact that the Forest Service had not selectively removed data from the final EIS and that there was no tool available to quantify the impacts of forest thinning on carbon storage—the SCC does not apply to this type of analysis.⁷² The court credited the Service's brief explanation that "there are a number of

⁶⁹ See MATTHEW D. MERRILL ET AL., U.S. GEOLOGICAL SURVEY, U.S. DEP'T OF THE INTERIOR, FEDERAL LANDS GREENHOUSE GAS EMISSIONS AND SEQUESTRATION IN THE UNITED STATES: ESTIMATES FOR 2005-2014, SCIENTIFIC INVESTIGATIONS REPORT 2018-5131 8 (2018).

⁷⁰ See *League of Wilderness Defs./Blue Mountains Diversity Project v. Connaughton*, No. 3:12-cv-02271-HZ, 2014 WL 6977611, at *1 (D. Or. Dec. 9, 2014).

⁷¹ *Id.* at *25–26.

⁷² See *id.* at *26.

different views on the topic and still no clear science.”⁷³ Whereas in *High Country*, plaintiffs were able to rebut BLM’s claim that such an analysis was impossible by pointing to the SCC, there was no comparable methodology available to the Service.⁷⁴ *Wilderness Defenders* appeared to restrict *High Country* to its facts with respect to the egregious procedural issues present in the latter case, but it left the possibility open that, were this a situation where the SCC or a comparable quantification tool was available, the agency’s climate change discussion would be subject to a more exacting analysis.

Following these 2014 decisions, another leasing challenge raising the absence of the SCC did not appear until early 2017. In *WildEarth Guardians v. Jewell*, a District of New Mexico case, petitioners challenged the Office of Surface Mining Reclamation and Enforcement’s (OSMRE) consideration of the El Segundo mining plans for failing to take a hard look at the plan’s environmental impacts.⁷⁵ In the prepared EA, the agency discussed the potential impacts of the combustion of coal extracted pursuant to this plan, including the expected tons of CO₂ emissions from the lease as compared to global and national annual emission levels.⁷⁶ Petitioners argued that the agency should employ the SCC to monetize these estimated emissions.⁷⁷ However, the court rejected this approach, citing 2016 CEQ guidance⁷⁸ that recommended agencies rely on projected GHG emissions in assessing climate change effects under NEPA, but the SCC is only mentioned in a footnote to the brief discussion of cost-benefit analyses, which CEQ discourages where important qualitative considerations are involved in the agency decision.⁷⁹ Without reference to prior caselaw, the court upheld OSMRE’s consideration of GHGs as consistent with CEQ’s recommended approach.⁸⁰ It is important to note that the agency did not

⁷³ *Id.*

⁷⁴ See *High Country Conservation Advocates v. U.S. Forest Serv.*, 52 F. Supp. 3d 1174, 1190 (D. Colo. 2014); *League of Wilderness Defs.*, 2014 WL 6977611, at *27.

⁷⁵ See *WildEarth Guardians v. Jewell*, No. 1:16-CV-00605-RJ, 2017 WL 3442922, at *1 (D.N.M. Feb. 16, 2017).

⁷⁶ See *id.* at *12.

⁷⁷ See *id.*

⁷⁸ See *id.*

⁷⁹ See COUNCIL ON ENVTL. QUALITY, FINAL GUIDANCE, *supra* note 33, at 4, n.86.

⁸⁰ See *WildEarth Guardians*, 2017 WL 3442922, at *12.

offer a cost-benefit analysis in the EA or a comparable quantification of benefits that would raise the specter of *High Country*; rather, the projected GHG emissions were discussed as part of the agency's broader treatment of air quality and climate change impacts, which appears to have been largely qualitative.⁸¹

However, the 2016 CEQ guidance did not spell the end of SCC litigation. In 2017, plaintiffs in the District of Montana successfully challenged an EA prepared for a federal mining plan modification because it failed to take a hard look at the plan's GHG emissions.⁸² Like in *WildEarth Guardians v. Jewell*, the agency quantified the expected GHG emissions from the project and compared them to net U.S. emissions.⁸³ But, in the EA, the agency included a socioeconomic analysis that estimated the plan would generate a \$400,000 monthly payroll in Montana and contribute \$23.8 million per year in tax revenue to the states.⁸⁴ The court concluded that, where a tool like the SCC is available to monetize the costs of the action, quantifying the benefits and not the costs is arbitrary and capricious.⁸⁵ In doing so, the court rejected several of the agency's arguments, notably that the SCC was inapplicable outside of E.O. 12,866 rulemakings, that it was not required because NEPA does not require a cost-benefit analysis, and that it was unnecessary because the emissions estimate discussion was sufficient for NEPA compliance.⁸⁶ However, this holding is restricted by the weight that the court placed on the agency's quantification of benefits; it cannot be read to require agencies to use the SCC where it has not undertaken other quantification. As the court notes, the agency's contention that the EA contained a sufficient discussion of GHG emissions for NEPA purposes may be "sound as far as it goes. But it sidesteps Plaintiff's argument, that it was arbitrary and capricious . . . to quantify socioeconomic benefits while failing to quantify costs."⁸⁷ This rationale

⁸¹ *See id.*

⁸² *See* Mont. Envtl. Info. Ctr. v. U.S. Office of Surface Mining, 274 F. Supp. 3d 1074, 1081 (D. Mont. 2017).

⁸³ *See id.* at 1096.

⁸⁴ *See id.*

⁸⁵ *See id.* at 1094.

⁸⁶ *See id.* at 1094–96.

⁸⁷ *Id.* at 1098 (internal citations omitted). In its discussion of this point, the court cited to both *High Country* and *Wilderness Defenders*. *See id.* at 1097–98.

tracks neatly with the court's analysis in *High Country* and *Wilderness Defenders*.⁸⁸

Subsequently, the petitioner for the mining plan modification raised a unique issue of SCC application when they moved to amend the vacatur of the EA and the injunction on federal coal mining in the permit area.⁸⁹ Under the equitable analysis for permanent injunctions, the plaintiff must demonstrate that the public interest would not be disserved by a permanent injunction.⁹⁰ In weighing the public interests at stake, the court noted that, using the SCC to monetize 23.16 million metric tons of GHG emissions predicted in the EA, the costs of the Plan were between \$277 million and \$2.5 billion annually, which dwarfed the \$93 million in economic benefits cited by the agency.⁹¹ Based on this analysis, the court concluded that the public interest prong of the analysis was satisfied.⁹² This analysis further supports the conclusion that the SCC has utility outside of the E.O. 12,866 rulemaking context.

Following this case, courts have generally adhered to a narrow reading of *High Country*. In a 2018 District of Montana case, public interest groups sought to require BLM to address the cumulative climate impacts of fossil fuel development under eight resource management plans approved through a single record of decision, and, further, to address the cumulative impacts spanning all of BLM's

⁸⁸ See *High Country Conservation Advocates v. U.S. Forest Serv.*, 52 F. Supp. 3d 1174, 1191 (D. Colo. 2014) (stating that “it was nonetheless arbitrary and capricious to quantify the *benefits* of the lease modifications and then explain that a similar analysis of the *costs* was impossible when such an analysis was in fact possible”); *League of Wilderness Defs./Blue Mountains Diversity Project v. Connaughton*, No. 3:12-cv-02271-HZ, 2014 WL 6977611, at *26–27 (D. Or. Dec. 9, 2014) (finding that where there “was no way to quantify the benefits or costs, the Forest Service did not selectively omit which data to share in the final EIS, as the agency did in *High Country*”).

⁸⁹ *Mont. Env'tl. Info. Ctr. v. U.S. Office of Surface Mining*, No. CV 15-106-M-DWM, 2017 WL 5047901, at *3–4 (D. Mont. Nov. 3, 2017).

⁹⁰ See *id.* at *6 (citing *Monsanto Co. v. Geertson Seed Farms*, 561 U.S. 139, 156–57 (2010)) (“Plaintiff must demonstrate: (1) that it has suffered an irreparable injury; (2) that remedies available at law, such as monetary damages, are inadequate to compensate for that injury; (3) that, considering the balance of hardships between the plaintiff and defendant, a remedy in equity is warranted; and (4) that the public interest would not be disserved by a permanent injunction.”). While the court concluded that plaintiffs had satisfied their burden to demonstrate that the injunction was warranted, the court did limit the scope of the injunction to allow Signal Peak to displace a small amount of federal coal. See *id.* at *6.

⁹¹ See *id.* at *14.

⁹² See *id.* at *15.

federal mineral estate.⁹³ Within the relevant EISs, BLM had disclosed the project's GHG emission inventories at the statewide level,⁹⁴ but plaintiffs recommended using the SCC or a global carbon budget⁹⁵ approach. However, citing *WildEarth Guardians v. Jewell*, which upheld the GHG proxy-analysis, the District of Montana upheld the agency's analysis of cumulative climate impacts.⁹⁶ In its holding, the court stressed that an SCC analysis has benefits, but the agency is owed the "highest level of deference" on scientific judgements.⁹⁷

In late 2018, the District of Colorado, which issued *High Country*, seemed to limit the opinion further. In *Wilderness Workshop v. BLM*, environmental groups brought a challenge against a BLM resource management plan, in which the agency stated that tools to measure the incremental impact of GHG emissions did not exist even while citing monetized estimates of the benefits of the oil and gas production under the plan.⁹⁸ Despite the parallels to *High Country*, the court distinguished that case on the grounds that the economic analysis was not "necessarily the 'benefit' side of a cost-benefit analysis" and inferred that BLM did not explicitly rely on the cited economic benefits in the plan.⁹⁹ The court justified this inference based on the fact that BLM did not choose the alternative that maximized the cited economic benefits.¹⁰⁰ Additionally, the court emphasized that the plaintiffs in *Wilderness Workshop* did not allege the same type of procedural failings present in the original *High Country* case.¹⁰¹ In early 2019, the District of Colorado again affirmed this approach in *Citizens for a Healthy Community v. BLM*, upholding a BLM environmental assessment that quantified

⁹³ See *W. Org. of Res. Councils v. U.S. Bureau of Mgmt.*, No. CV 16-21-GF-BMM, 2018 WL 1475470, at *13 (D. Mont. Mar. 26, 2018).

⁹⁴ See *id.* at *14.

⁹⁵ This method entails capping global GHG emissions at a set level with respect to a warming threshold. See *id.*

⁹⁶ See *id.*

⁹⁷ *Id.* (citing *Native Ecosystems Council v. Weldon*, 697 F.3d 1043, 1053 (9th Cir. 2012)).

⁹⁸ *Wilderness Workshop v. U.S. Bureau of Land Mgmt.*, 342 F. Supp. 3d 1145, 1158 (D. Colo. 2018).

⁹⁹ *Id.* at 1159.

¹⁰⁰ *Id.* (noting BLM's claim that "the relative differences between the alternatives would not be large enough to have any measurable effect on economic diversity or dependency").

¹⁰¹ *Id.*

socioeconomic impacts (including a model of economic projections for the region) but failed to utilize the SCC or a comparable analysis to contextualize the impact of GHG emissions.¹⁰² In holding that agencies have the broad discretion to choose whether to analyze an effect quantitatively or qualitatively, this case represents a significant departure from *High Country*.¹⁰³

The limited *High Country* approach has been influential in other district courts. For example, in the 2019 case *WildEarth Guardians v. Zinke*, the District Court for the District of Columbia rejected an attempt to require BLM to include the SCC in an environmental assessment prepared for oil and gas leasing decisions.¹⁰⁴ The court noted that, in contrast to *High Country*, the EA at issue included only short, largely qualitative, discussions of economic benefits and that BLM had provided a reasoned explanation for its choice of methodology that was entitled to deference.¹⁰⁵

B. Pipeline Approvals; The SCC under NEPA and the Natural Gas Act

A small subset of NEPA cases has developed separately from the *High Country* line of cases discussed above. These cases involve pipeline approvals from the Federal Energy Regulatory Commission (FERC) and the Department of Energy (DOE). As with other federal resource decisions, pipeline approvals are governed by NEPA's procedural requirements.¹⁰⁶ Additionally, the Natural Gas Act requires that FERC make a determination of public interest before authorizing the construction or modification of natural gas facilities.¹⁰⁷ The primary authority for treatment of the SCC in this area is the 2016 D.C. Circuit case *EarthReports, Inc. v. FERC (EarthReports)*.¹⁰⁸

¹⁰² *Citizens for a Healthy Cmty. v. U.S. Bureau of Land Mgmt.*, 377 F.Supp.3d 1223, 1239–40 (D. Colo. 2019).

¹⁰³ *Id.* at *1241. Contrast this with the court's statement in *High Country* that it was arbitrary and capricious to quantify the benefits without the costs (when a methodology existed to do so). See *High Country Conservation Advocates v. U.S. Forest Serv.*, 52 F. Supp. 3d 1174, 1191 (D. Colo. 2014).

¹⁰⁴ See *WildEarth Guardians v. Zinke*, 368 F. Supp. 3d 41, 51, 78–79 (D.D.C. 2019).

¹⁰⁵ See *id.* at 78–79.

¹⁰⁶ See, e.g., *EarthReports, Inc. v. Fed. Energy Reg. Comm'n*, 828 F.3d 949, 953–54 (D.C. Cir. 2016).

¹⁰⁷ See *Natural Gas Act*, 15 U.S.C. § 717f(a), (c) (2012).

¹⁰⁸ See *EarthReports*, 828 F.3d at 949.

In *EarthReports*, the court considered whether FERC was obligated to utilize the SCC or a comparable tool when discussing the GHG emissions that would result from the construction and operation of a natural gas facility.¹⁰⁹ In response to petitioner's arguments, FERC raised three objections to the use of the SCC: (1) per EPA, there is no consensus on the proper discount rate for multi-generational analyses, so the tool produces significant variation in output; (2) the SCC does not measure the actual incremental impacts of a project on the environment; and (3) the SCC lacks an established criteria to identify what monetized values are significant under NEPA.¹¹⁰ Petitioners responded that FERC could provide a range of SCC values or disclose the limitations of the SCC methodology, but the court took the suggestions as evidence that the tool is insufficiently accurate.¹¹¹ The court therefore deferred to FERC's decision not to use the SCC, finding that the petitioners had offered no reason to doubt its reasonableness.¹¹² Subsequently, the D.C. Circuit has taken to citing *EarthReports* and summarily rejecting arguments for the use of the SCC to monetize GHG emissions in pipeline cases.¹¹³

However, in a 2019 decision, the D.C. Circuit may have opened the door to additional GHG monetization challenges under the Natural Gas Act's public interest determination requirement—rather than pursuant to NEPA's procedural requirements. In accordance with precedent, the court rejected petitioner's arguments for the inclusion of an SCC analysis for a proposed pipeline, deferring to FERC's belief that the SCC is not an appropriate tool.¹¹⁴ But, the court concluded its SCC discussion by stating that:

In the absence of any explanation as to how FERC should have considered adverse impacts from downstream greenhouse gas

¹⁰⁹ See *id.* at 956.

¹¹⁰ See *Dominion Cove Point LNG*, 151 FERC 61,095 (2015).

¹¹¹ See *EarthReports*, 828 F.3d at 956 (finding that “[p]etitioners’ response. . . belies their contention that the Commission acted unreasonably in finding the tool inadequately accurate”).

¹¹² See *id.* (citing *WildEarth Guardians v. Jewell*, 738 F.3d 298, 309–12 (D.C. Cir. 2013)).

¹¹³ See *Sierra Club v. Fed. Energy Regulatory Comm’n*, 867 F.3d 1357, 1375 (D.C. Cir. 2017) (remanding to FERC for a discussion of whether it still holds the *EarthReports* position); *Sierra Club v. Fed. Energy Regulatory Comm’n*, 672 Fed. App’x 38 (D.C. Cir. 2016).

¹¹⁴ *Appalachian Voices v. Fed. Energy Regulatory Comm’n*, No. 17-1271, 2019 WL 847199, at *19 (D.C. Cir. Feb 19, 2019).

emissions in its public interest determination under the Natural Gas Act using something other than the Social Cost of Carbon, we have no basis for saying that FERC's treatment of the issue in the Certificate Order was inadequate, unreasonable, or otherwise contrary to NEPA or the Natural Gas Act.¹¹⁵

This is not necessarily promising for advocates of the SCC, but it does leave open the possibility that plaintiffs could provide a compelling argument for considering the quantification and monetization of GHG emissions under the Natural Gas Act. This would require a separate methodology for monetization which, at this stage, appears unlikely. But advocates could attempt to argue for more meaningful consideration of quantified GHG emissions as part of the public interest determination. GHG emissions consideration challenges under the Natural Gas Act may, perhaps, provide an avenue for considering such emissions, as they will not be burdened with the weight of the court's unfavorable NEPA and SCC precedent.

C. The SCC under the Energy Policy and Conservation Act

In contrast to the NEPA-based precedent, the use of the SCC under the EPCA has yielded promising results, perhaps because the use of the SCC fits more neatly into the EPCA's statutory requirements. The EPCA is a broad energy policy act concerned, generally, with energy efficiency, conservation, and security.¹¹⁶ Pursuant to the EPCA, the Secretary of Transportation sets fuel economy standards¹¹⁷ and the Secretary of Energy sets energy conservation standards for certain covered products (e.g. refrigerators, air conditioners).¹¹⁸ Since *CBD v. NHTSA*,¹¹⁹ the landmark Ninth Circuit case under the EPCA that spurred the development of the SCC, only one case has addressed the treatment of the SCC under the EPCA.

In 2016, the Seventh Circuit issued a significant victory for the SCC. *Zero-Zone, Inc. v. U.S. Dept. of Energy (Zero-Zone, Inc.)* involved an industry-challenge to new energy efficiency standards for

¹¹⁵ *Id.* at *19–20.

¹¹⁶ See Energy Policy Conservation Act, 42 U.S.C. § 6201 (2012); *Zero-Zone, Inc. v. U.S. Dep't of Energy*, 832 F.3d 654, 662 (7th Cir. 2016) (discussing the legislative history of the EPCA).

¹¹⁷ See 49 U.S.C. § 32902 (2012).

¹¹⁸ See 42 U.S.C. § 6295 (2012).

¹¹⁹ See generally *Ctr. for Biological Diversity v. NHTSA*, 538 F.3d 1172 (9th Cir. 2008).

commercial refrigeration equipment.¹²⁰ The EPCA requires that these energy efficiency standards be designed to achieve the maximum improvement in energy efficiency that is technologically feasible and economically justified.¹²¹ In determining that the chosen standard was economically justified, the Secretary considered the environmental benefits of the standards using the SCC.¹²² Petitioners, a small business and two trade associations involved in the commercial refrigeration equipment industry, alleged first that it was an abuse of discretion to consider environmental factors at all and second, that the use of the SCC was arbitrary and capricious.¹²³ With respect to the SCC, petitioners flagged three issues that were raised by the Chamber of Commerce during the rule's notice and comment period: (1) the identity of the individuals who worked on the SCC had not been made public; (2) the inputs used in the underlying models were not peer-reviewed; and (3) the damages functions (how climate damages are translated into economic damages) used in the models were determined arbitrarily.¹²⁴ The petitioners also argued that DOE had no authority under the EPCA to consider environmental benefits, and that it was arbitrary to consider global benefits but only national costs.¹²⁵

In ruling, the court rejected all of the above arguments and upheld DOE's use of the SCC. The court relied heavily on the short response that DOE provided to the Chamber's concerns in the Final Rule explaining why it had relied on the SCC.¹²⁶ Additionally, the court cited to an amicus brief from the Institute for Policy Integrity supporting DOE's statutory authority to use the SCC under the EPCA and its application to this rulemaking.¹²⁷ In its Final Rule,

¹²⁰ *Zero-Zone, Inc.*, 832 F.3d at 660–61.

¹²¹ See 42 U.S.C. § 6295(o)(2)(A) (2012).

¹²² *Zero-Zone, Inc.*, 832 F.3d at 677.

¹²³ See *id.* The court quickly dispensed with the assertion that it was impermissible to consider environmental benefits under the EPCA, citing the Act's mandate to consider energy conservation. See *id.* at 677.

¹²⁴ See *id.* at 678.

¹²⁵ See *id.* at 678–79.

¹²⁶ See *id.* at 678. See also Energy Conservation Standards for Commercial Refrigeration Equipment, 79 Fed. Reg. 17,726, 17,778–79 (Mar. 28, 2014).

¹²⁷ See *Zero-Zone, Inc.*, 832 F.3d at 677. For the full brief, see Brief of The Institute for Policy Integrity at New York University School of Law as Amicus Curiae in Support of Respondents, *Zero Zone, Inc., v. Dep't of Energy*, 832 F.3d 654 (7th Cir. 2016), https://policyintegrity.org/documents/Policy_Integrity_Amicus_Brief_SCC_July2015.pdf.

DOE acknowledged the limitations and uncertainties inherent in the use of the SCC and cited to the 2010 IWG report for its discussion of why certain model inputs were chosen.¹²⁸ The agency also noted that several parties submitted comments in support of the use of the SCC and that the method's underlying models were drawn from peer-reviewed literature.¹²⁹ The court in *Zero-Zone, Inc.* accepted this response as sufficient to find that the use of the SCC was not arbitrary and capricious.¹³⁰

With respect to the broader arguments advanced by petitioners, the court made two important holdings. First, the court held that DOE's consideration of environmental benefits via the SCC was sound, writing that "[w]e have no doubt that Congress intended that DOE have the authority under the EPCA to consider the reduction in SCC."¹³¹ The court also held that DOE "acted reasonably" when it compared global benefits to national costs and cited to DOE's explanation of climate change as a "global externality."¹³² This is particularly important in the context of the controversy surrounding the interim SCC values that adopt a domestic-only approach.¹³³

Zero-Zone, Inc. represents an important case for the SCC because the court refused to accept the typical argument that the SCC was too uncertain to constitute a valid tool.¹³⁴ Therefore, where an agency voluntarily chooses to use the SCC, opponents will be hard-pressed to argue it is inappropriate. However, DOE's citation to the IWG documents may make reliance on *Zero-Zone, Inc.* more tenuous given that these documents have been revoked by the current administration.¹³⁵ Currently, it is unclear how the court would respond to an agency action that included the repealed 2016 IWG SCC estimates if challengers raised similar arguments about the SCC's validity, because they no longer have the endorsement of the Executive Branch. However, this has yet to be litigated.

¹²⁸ See Energy Conservation Standards for Commercial Refrigeration Equipment, 79 Fed. Reg. at 17,779.

¹²⁹ See *id.*

¹³⁰ See *Zero-Zone, Inc.*, 832 F.3d at 678.

¹³¹ *Id.* at 677.

¹³² *Id.* at 679.

¹³³ See *supra* text accompanying notes 17–21.

¹³⁴ *Zero-Zone, Inc.*, 832 F.3d at 678.

¹³⁵ See Promoting Energy Independence and Economic Growth, 82 Fed. Reg. 16,093, 16,095 (Mar. 31, 2017).

D. Applying Judicial Precedent to Future SCC Use

Though the state of the SCC is clearly in flux, it is possible to extrapolate general guiding principles for the role of the SCC in agency decision-making based on the above discussion of judicial precedent. The following section largely centers on the possibility for use of the SCC under NEPA, as this is where much of the caselaw focuses. But, as noted below, the EPCA case, *Zero-Zone*, is an important datapoint in this discussion.

First, outside of actions that qualify as significant under E.O. 12,866, courts do not appear likely to require agencies to employ the SCC as part of a NEPA review unless the agency has engaged in some form of a cost-benefit analysis. In *Montana Environmental Information Center*, however, the District of Montana was more lenient in defining what constituted a cost-benefit analysis.¹³⁶ There, where the agency had engaged in a “socioeconomic analysis” of the economic benefits associated with the proposal—added revenue and employment to the local economy, for example—the court found that the absence of the monetized environmental costs was problematic—the agency was “putting its thumb on the scale.”¹³⁷ However, the District Courts for Colorado and Washington, D.C., were more rigid in their analyses. For example, in *Wilderness Workshop* the court found that the inclusion of annual labor income and estimates of royalty distributions to counties did not constitute the “benefit” prong of a cost-benefit analysis.¹³⁸ Similarly, in *WildEarth Guardians v. Zinke*, the inclusion of profits from past lease sales and a statement that the state would receive a percentage of oil and gas receipts did not require a monetization of GHG emissions from the project.¹³⁹ Given these holdings, it appears that in order to successfully bring a challenge based on the omission of the SCC, plaintiffs must demonstrate that the agency quantified other aspects of the project’s

¹³⁶ See *Mont. Envtl. Info. Ctr. v. U.S. Office of Surface Mining*, 274 F. Supp. 3d 1074, 1096–98 (D. Mont. 2017).

¹³⁷ *Id.* at 1098 (noting defendant’s “illogical” conclusion that “that there would in fact be no effects from [GHG] emissions, because other coal would be burned in its stead”).

¹³⁸ *Wilderness Workshop v. U.S. Bureau of Land Mgmt.*, 342 F. Supp. 3d 1145, 1159 (D. Colo. 2018).

¹³⁹ *WildEarth Guardians v. Zinke*, 368 F. Supp. 3d 41, 51, 78 (D.D.C. 2019).

costs or benefits and that the agency substantially relied on this quantification in deciding among alternatives.¹⁴⁰

Additionally, the courts have been very deferential to the agency's explanation for excluding the SCC.¹⁴¹ There has not yet been a case in which these two situations, an explicit cost-benefit analysis and a reasoned, non-arbitrary explanation for SCC exclusion, completely intersect. It is unclear how the court would treat such a case in the absence of new CEQ guidance—the 2019 CEQ Guidance is still at the proposal stage. It is possible that the court would require the agency to utilize EPA's interim SCC numbers,¹⁴² as these are the only SCC values endorsed by the current administration, or the court could merely require the agencies to engage in GHG quantification through an emissions-proxy analysis.¹⁴³ It is likely that *Zero-Zone, Inc.*'s deference to the agency's choice of SCC methodology would do a lot of work in similar situations—where the agency has chosen to apply the SCC and petitioners are challenging its *inclusion*, but in the opposite situation, where the exclusion of the SCC is at issue, courts have been highly deferential. Additionally, the application of the SCC has not been litigated at the District Court level in the Seventh Circuit since *Zero-Zone, Inc.* was handed down in 2016, so its influence is untested.

It is important to note that, where many of the recent SCC-based challenges discussed above failed to persuade courts to depart from a very deferential NEPA analysis, these actions often succeeded on other grounds related to inadequate GHG considerations (see Appendix A).¹⁴⁴ While this Note is focused on the role of the

¹⁴⁰ See, e.g., *Wilderness Workshop*, 342 F. Supp. 3d at 1159 (in holding that the SCC was not required, the court noted that “(1) the economic impact analysis was not necessarily the ‘benefit’ side of a cost-benefit analysis; and (2) BLM did not expressly rely on anticipated economic benefits in its [Resource Management Plan]”).

¹⁴¹ See, e.g., *W. Org. of Res. Councils v. U.S. Bureau of Mgmt.*, No. CV 16-21-GF-BMM, 2018 WL 1475470, at *14 (D. Mont. Mar. 26, 2018).

¹⁴² See EPA, *supra* note 18, at 44.

¹⁴³ See, e.g., *WildEarth Guardians v. Jewell*, No. 1:16-CV-00605-RJ, 2017 WL 3442922, at *12 (D.N.M. Feb. 16, 2017).

¹⁴⁴ See, e.g., *Citizens for a Healthy Cmty. v. U.S. Bureau of Land Mgmt.*, 377 F. Supp. 3d 1223, 1237 (D. Colo. 2019) (finding that “[d]efendants must quantify and reanalyze the foreseeable indirect effects the emissions” to satisfy NEPA obligations); *WildEarth Guardians v. Zinke*, 368 F. Supp. 3d 41, 76 (D.D.C. 2019) (finding that while BLM was not required to use the SCC, its failure to quantify GHG emissions as part of its cumulative impact analysis violated NEPA). See

SCC, there remains significant debate about the extent to which GHG emissions must be analyzed pursuant to NEPA obligations, and, given these recent results, it seems that this may be the more promising route for attacking poor climate change analyses in agency decision-making.¹⁴⁵

Recently, the Trump Administration's repeal of IWG documents, CEQ guidance on GHG emissions analysis, and its substantial revision of the SCC values have placed the methodology in limbo.¹⁴⁶ New proposed guidance from CEQ threatens to further complicate the future of the SCC and undermines the meaningful consideration of GHGs in agency decision-making.

In June 2019, CEQ proposed new guidance on the Consideration of Greenhouse Gas Emissions under NEPA.¹⁴⁷ This new guidance endorsed a severely limited GHG emissions analysis. With respect to GHG analyses, the guidance states that "an agency may also reference local, regional, national, or sector-wide emission estimates to provide context for understanding the relative magnitude of a proposed action's GHG emissions."¹⁴⁸ This condones the agency practice of discussing project GHG emissions in the context of nationwide GHG emissions, thereby making the climate change impacts look inconsequential.¹⁴⁹ Further, the guidance allows that this analysis, if accompanied by a "qualitative summary discussion" of GHG emission impacts, can satisfy the requirement to consider cumulative impacts under NEPA.¹⁵⁰ This is in stark contrast to the 2016 CEQ Guidance, which noted that "a statement that emissions from a proposed Federal action represent only a small fraction of

infra Appendix A for the full list of cases discussed in this paper and their other NEPA holdings associated with GHG emissions.

¹⁴⁵ For a discussion of this debate, *see* Burger & Wentz, *supra* note 32.

¹⁴⁶ *See* Withdrawal of Final Guidance for Federal Departments and Agencies on Consideration of Greenhouse Gas Emissions and the Effects of Climate Change in National Environmental Policy Act Reviews, 82 Fed. Reg. 16,576 (April 5, 2017); Promoting Energy Independence and Economic Growth, *supra* note 135; EPA, *supra* note 18.

¹⁴⁷ *See* Draft National Environmental Policy Act Guidance on Consideration of Greenhouse Gas Emissions, 84 Fed. Reg. 30,097 (June 26, 2019). Note that, as of January 10, 2020, the Trump Administration has additionally proposed a significant overhaul of the NEPA regulations. *See generally* Update to the Regulations Implementing the Procedural Provisions of the National Environmental Policy Act, 85 Fed. Reg. 1684 (Jan. 10, 2020).

¹⁴⁸ CEQ Draft Guidance, *supra* note 147 at 30,098.

¹⁴⁹ *See infra* notes 151–152 and accompanying text.

¹⁵⁰ CEQ Draft Guidance, *supra* note 147, at 30,098.

global emissions . . . is not an appropriate basis for deciding whether or to what extent to consider climate change impacts under NEPA.”¹⁵¹

The 2019 Proposed Guidance also engaged directly with the SCC and the issue of cost-benefit analysis in NEPA reviews. The guidance states that, as NEPA does not require a cost-benefit analysis, agencies “need not weigh the effects of various alternatives . . . using any monetized Social Cost of Carbon (SCC) estimates and related documents.”¹⁵² By way of explanation, the guidance notes that the SCC was developed for the rulemaking context and not for NEPA analyses or project-level decisions.¹⁵³ The agency goes further to propose an approach that aligns only with the most limited readings of *High Country*, writing that “[m]onetization . . . of some aspects of an agency’s analysis does not require that all effects, including potential GHG emissions, be monetized.”¹⁵⁴ Instead of triggering an obligation to monetize other impacts, when the agency monetizes some aspects of a project but not others, the guidance simply requires the agency to explain its choice.¹⁵⁵ This effectively provides an escape hatch for agencies to avoid monetizing climate change externalities.

V. POLICY RECOMMENDATIONS

The 2019 CEQ Proposal represents a substantial departure from a robust treatment of climate change impacts under NEPA. By allowing agencies to frame climate change analyses in the context of national emissions and avoid monetizing GHG emissions impacts, it may result in NEPA documents with little to no meaningful treatment of climate change. As such, this is an abdication of NEPA’s commitment to rigorous environmental review and public engagement,¹⁵⁶ and is detrimental to both federal decisionmakers and public stakeholders. The SCC was developed specifically to address informational issues associated with climate change considerations, something that should be of paramount concern given NEPA’s substantial informational role, but it was explicitly rebuked

¹⁵¹ COUNCIL ON ENVTL. QUALITY, *supra* note 32, at 11.

¹⁵² CEQ Draft Guidance, *supra* note 147, at 30,098.

¹⁵³ *See id.* at 30,099.

¹⁵⁴ *Id.*

¹⁵⁵ *See id.*

¹⁵⁶ 42 U.S.C. § 4331.

in the 2019 Guidance. This, combined with the recent limiting decisions in several district courts, presents a difficult path forward for the incorporation of the SCC in the NEPA context. However, just as the IWG documents and previous CEQ Guidance were revoked, future administrations may choose to revisit the issue and reinstate prior documents or develop new guidance.

From the cases analyzed in Section III, it appears that the SCC will not find broad support in the courts so long as they continue to give administrative agencies significant deference under NEPA to decline to incorporate GHG monetization. Based on the Seventh Circuit's treatment of the SCC in *Zero-Zone, Inc.*, this can go both ways; meaning that if an agency chooses to include the SCC, they will also receive substantial deference on this decision. Currently, agencies often attempt to satisfy their NEPA obligation to consider GHG emissions by utilizing the comparison of the project's GHG emissions with statewide or national emissions in addition to a qualitative discussion of climate change impacts, now part of the proposed 2019 Guidance.¹⁵⁷ The Mining Plan EA analysis from *Montana Environmental Information Center* (*supra* Section IV) emphasizes why this approach is insufficient. There, the agency noted that GHG emissions from the project would result in 0.35 percent of U.S. GHG emissions annually, writing that "it is reasonable to assume that the impact of CO₂-equivalent emissions from annual operation of the [Mine] on climate change would be approximately 0.35 percent of the total U.S. emissions."¹⁵⁸ Using the SCC, petitioners responded that these emissions would create externalized costs of \$270 million to \$2.5 billion and constitute a threat to the public interest.¹⁵⁹ The court agreed with the petitioners, emphasizing that public interest analysis "involves weighing the importance of preserving the environment, following the rule of law, and avoiding environmental damage to the public against the economic interests of Musselshell County and the State of Montana."¹⁶⁰ Regardless of the length or depth of an accompanying qualitative climate change discussion, there is immense value in having a quantitative

¹⁵⁷ See, e.g., *Citizens for a Healthy Cmty v. U.S. Bureau of Land Mgmt.*, 377 F. Supp. 3d 1223, 1239–40 (D. Colo. 2019); *Mont. Env'tl. Info. Ctr. v. U.S. Office of Surface Mining*, 274 F. Supp. 3d 1074, 1094–95 (D. Mont. 2017).

¹⁵⁸ *Mont. Env'tl. Info. Ctr.*, at 1094–95 (quoting the Environmental Assessment).

¹⁵⁹ See *Mont. Env'tl. Info. Ctr.*, 2017 WL 5047901 at *14 (D. Mont. 2017).

¹⁶⁰ See *id.* at *13.

metric for comparison, where emissions can otherwise so easily be justified as only comprising a small fraction of national emissions.

Further, current judicial precedents on the use of the SCC incentivize opaque and misleading environmental analyses, which contravenes NEPA's commitment to informed agency decision-making. For example, to avoid considering the costs of the GHG emissions of a project—which, utilizing the 2016 SCC values, could be significant—the agency must avoid quantifying and disclosing economic benefits on which it relies for justification to avoid straying into “cost-benefit analysis” territory. In skirting the GHG-issue, agencies are thus likely to obscure their analyses by using only qualitative discussions or giving only very brief treatment to other, potentially important, quantifiable metrics. From this practice, interested-party participation in the rulemaking process will become more difficult because of the dearth of relevant information that is typically disclosed by the agencies. In effect, the quality of the decision-making process may be lessened throughout as agencies become less transparent about their rationale.

The 2019 Proposed Guidance would tackle this issue, in a way, by allowing agencies to quantify and monetize certain portions of an action and leaving others as qualitative discussions without triggering any additional analyses.¹⁶¹ However, this creates a different set of problematic incentives. Agencies could then pick and choose which aspects to monetize or not in order to support a chosen alternative. This will lead to misleading EISs and EAs and will impede meaningful public participation by limiting the amount of data with which the public can interact.

NEPA contains a strong environmental mandate that is expressed through a commitment to ensure that agencies consider the full scope of the environmental impacts of their actions and to share this information with the public.¹⁶² As such, to avoid violating NEPA, CEQ must develop guidance that does not incentivize the publication of misleading documents or allow agencies to avoid considering the full scope of the action. To fully address the concerns at stake, CEQ should promulgate revised guidance on the consideration of GHG emissions for the agencies. As noted previously, a robust consideration of GHG emissions through monetization is

¹⁶¹ See CEQ Draft Guidance, *supra* note 147, at 30,099.

¹⁶² See 42 U.S.C. § 4332 (2012). See also *Robertson v. Methow Valley Citizen's Council*, 490 U.S. 332, 350 (1989).

unlikely to arise through the courts due to past precedent. CEQ guidance is entitled to some deference from the courts¹⁶³ and past efforts to clarify the consideration of GHG emissions have come from CEQ.¹⁶⁴

In the future, CEQ must go further than the 2016 CEQ guidance to bring clarity to the consideration of GHG emissions under NEPA. In the 2016 guidance, CEQ recommended that agencies quantify GHG emissions as a proxy for climate change effects.¹⁶⁵ This entailed the disclosure of projected project GHG emissions with a qualitative discussion of the impacts of GHG emissions.¹⁶⁶ Though, unlike the 2019 Proposed Guidance, the 2016 Guidance noted that a simple comparison of project emissions with national emissions is not sufficient, it did not require, or encourage, the monetization of emissions.¹⁶⁷ If CEQ recommended the use of the SCC or a similar tool to monetize emissions while noting that it is simply for consideration and disclosure rather than as part of a formalized cost-benefit analysis, this could alleviate the misguided incentives created by the courts' treatment of the SCC. Since NEPA does not mandate a specific result,¹⁶⁸ agencies disclosing the monetized GHGs as part of the EIS are not mandated to pick the alternative with the lowest climate change damages; they would simply be required to consider it.

Additionally, CEQ should also take the opportunity to clarify what constitutes a cost-benefit analysis pursuant to NEPA. Clarity on this point would further allow the disclosure of quantified metrics over imprecise qualitative discussions. It is important to retain the characteristics of NEPA and not transform the process into a cost-benefit analysis, but some guidance from CEQ could allow for more meaningful consideration of GHG emissions while retaining the consideration of other qualitative factors. This will likely have to wait for the future, in light of the Trump Administration's concerted effort to diminish the consideration of climate change in agency decision-making. However, a future administration could choose to

¹⁶³ See, e.g., *WildEarth Guardians v. Jewell*, 2017 WL 3442922 at *12 (D.N.M. 2017)

¹⁶⁴ See *Greenhouse Gas (GHG) Accounting Tools*, COUNCIL ON ENVTL. QUALITY, *supra* note 31.

¹⁶⁵ COUNCIL ON ENVTL. QUALITY, FINAL GUIDANCE, *supra* note 33, at 10.

¹⁶⁶ See *id.*

¹⁶⁷ See *id.* at 11, 32.

¹⁶⁸ See *Robertson v. Methow Valley Citizen's Council*, 490 U.S. 332, 350 (1989).

repeal the 2019 Guidance (if it is finalized) and reinstate the IWG SCC documents with relative ease. Then, the responsibility lies with the future administration and its CEQ to promulgate new guidance that pushes agencies to fully consider GHG emissions.

CONCLUSION

Given the urgency of the threat of climate change, there is immense value in accurately considering the environmental impact of governmental actions. The SCC is not the perfect tool; it relies on numerous assumptions and must work within significant uncertainty. But it is unequivocally better than simply ignoring the effects of an agency action on climate change.

Since its development, the role of the SCC has been narrowed by the courts outside of significant federal actions that must produce a cost-benefit analysis. While the Seventh Circuit affirmed the use of the SCC as part of a DOE rulemaking under the EPCA, courts have continually deferred to various agency's rationales for excluding an SCC analysis under NEPA. Allowing agencies to satisfy their obligations under NEPA by simply quantifying and disclosing emissions is not sufficient to truly capture the externalities accompanying these actions.

Given the cases discussed in this Note, it appears unlikely that the use of the SCC will be significantly expanded through litigation challenging the failure to consider GHG emissions under NEPA, or, in some cases, the Natural Gas Act. Therefore, CEQ should step in and affirm agency use of the SCC as a valid tool and recommended agency practice under NEPA. It is an affront to the broad environmental commitments contained in NEPA to continue to ignore or inadequately consider climate change effects when a tool is readily available to do so.

APPENDIX A: SCC CASE CHART

Cases are listed in reverse chronological order. The list includes all cases involving the Social Cost of Carbon from 2013 to 2019, with supplemental cases that were mentioned in this Note.

NEPA CASES		
Case	SCC Treatment	Overtaken on Other GHG/Climate Issues?
Citizens for a Healthy Cmty v. U.S. Bureau of Land Mgmt., 377 F. Supp. 3d 1223 (D. Colo. 2019)	Did not require the use of the SCC where the agency had quantified certain project benefits in the EIS; held that agencies have the discretion to decide when to analyze an effect quantitatively or qualitatively.	The agency failed to consider the foreseeable indirect effects of the combustion of oil and gas resulting from the action.
WildEarth Guardians v. Zinke, 368 F. Supp. 3d 41 (D.D.C. 2019).	Deferred to BLM's reasoned decision not to use the SCC; the EA at issue did cite to economic benefits but not extensively.	(1) BLM failed to take the required "hard look" at the environmental impacts of the action when it did not quantify and forecast GHG emissions; (2) BLM's discussion of GHG emissions was insufficient; and (3) BLM failed to consider the cumulative impact of the action's GHG emissions.
Wilderness Workshop v. U.S. Bureau of Land Mgmt., 342 F. Supp. 3d 1145 (D. Colo. 2018).	Did not require the use of the SCC where the agency had quantified certain project benefits in the EIS.	BLM failed to take a hard look at the indirect effects of the emissions that would result from the combustion of oil and gas—the agency must reanalyze this, specifically in the context of the plan area's GHG emissions.

<p>High Country Conservation Advocates v. U.S. Forest Serv., 333 F.Supp.3d 1107 (D. Colo. 2018).</p>	<p>Court will not require a project-specific SCC analysis where a broader SCC analysis was provided at an earlier stage. The repeal of the Clean Power Plan in the intervening period did not invalidate the initial SCC calculations.</p>	<p>None.</p>
<p>W. Org. of Res. Councils v. U.S. Bureau of Land Mgmt., No. CV 16-21-GF-BMM, 2018 WL 1475470 (D. Mont. Mar. 26, 2018).</p>	<p>Amended order from the March 23, 2018 case. The Court will not require the agency to include an SCC analysis; using GHGs as a proxy for climate change effects is sufficient.</p>	<p>(1) BLM violated NEPA when it failed to consider the environmental impacts of the downstream combustion of coal, oil, and gas; (2) the agency's discussion of Global Warming Potential was arbitrary and capricious; and (3) the agency's consideration of alternatives was inadequate, in part due to its treatment of climate change concerns.</p>
<p>W. Org. of Res. Councils v. U.S. Bureau of Land Mgmt., CV 16-21-GF-BMM, 2018 WL 1456624 (D. Mont. Mar. 23, 2018).</p>	<p>See above.</p>	<p>See above.</p>
<p>Mont. Env'tl. Info. Ctr. v. U.S. Office of Surface Mining, No. CV 15-106-M-DWM, 2017 WL 5047901 (D. Mont. Nov. 3, 2017).</p>	<p>Utilizes the SCC in considering the public-interest prong of the equitable analysis for a permanent injunction.</p>	<p>N/A</p>

<p>Mont. Env'tl. Info. Ctr. v. U.S. Office of Surface Mining, 274 F. Supp. 3d 1074 (D. Mont. 2017).</p>	<p>Finds that the quantification of the project's benefits while ignoring its costs was arbitrary and capricious, since a tool is available to quantify those costs (the SCC).</p>	<p>(1) OSMRE failed to take a hard look at the indirect or cumulative effects of coal transport by rail; (2) the analysis of combustion-related impacts was arbitrary and capricious; (3) the agency's failure to analyze reasonably foreseeable non-local non-GHG emissions was arbitrary and capricious; (4) the EA failed to address the indirect and cumulative impact of GHG emissions; and (5) the decision not to issue an EIS was arbitrary and capricious, related to the issues above.</p>
<p>WildEarth Guardians v. Jewell, No. 1:16-CV-00605-RJ, 2017 WL 3442922 (D.N.M. Feb. 16, 2017).</p>	<p>Approved of agency consideration of quantified GHG emissions with respect to national and global emissions; did not require the agency to take the next step and <i>monetize</i> these emissions via the SCC.</p>	<p>None.</p>
<p>League of Wilderness Defs./Blue Mountains Diversity Project v. Connaughton, No. 3:12-cv-02271-HZ, 2014 WL 6977611 (D. Or. Dec. 9, 2014).</p>	<p>The court mentions the SCC within its discussion of <i>High Country</i>, but this case does not concern a situation to which the SCC is directly applicable (carbon storage in forests).</p>	<p>None.</p>

High Country Conservation Advocates v. U.S. Forest Serv., 52 F. Supp. 3d 1174 (D. Colo. 2014).	Agencies must provide a non-arbitrary reason for excluding the SCC, particularly when conducting a cost-benefit analysis in which the agency monetizes and considers other aspects of an action.	(1) USFS' treatment of the costs associated with GHG emissions was arbitrary and capricious; (2) the failure to calculate reasonably foreseeable GHG emissions was arbitrary and capricious; and (3) the failure to estimate GHG emissions associated with coal combustion was not supported in the record.
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NEPA & NATURAL GAS ACT CASES	
Case	SCC Treatment
Appalachian Voices v. Fed. Energy Regulatory Comm'n, No. 17-1271, 2019 WL 847199 (D.C. Cir. Feb 19, 2019).	Refuses to require the SCC in either NEPA or NGA significance determinations.
Sierra Club v. Fed. Energy Regulatory Comm'n (Sabal Trail), 867 F.3d 1357 (D.C. Cir. 2017).	Remands to agency for a discussion of its position on the SCC re: <i>EarthReports</i> .
Sierra Club v. Fed. Energy Regulatory Comm'n, 672 Fed. App'x 38 (D.C. Cir. 2016).	Rejects arguments for SCC inclusion citing <i>EarthReports</i> .
EarthReports, Inc. v. Fed. Energy Regulatory Comm'n, 828 F.3d 949 (D.C. Cir. 2016).	Accepts FERC's argument that the SCC is inadequately accurate for inclusion under NEPA.

EPCA CASES	
Case	SCC Treatment
Zero-Zone, Inc. v. U.S. Dep't Energy, 832 F.3d 654, 662 (7th Cir. 2016).	Upheld the validity of the SCC over opponents' arguments that its use under the EPCA was arbitrary and capricious.
Ctr. For Biological Diversity v. NHTSA, 538 F.3d 1172 (9th Cir. 2008).	Pre-SCC development. The court held that, while uncertain, the value of climate change damages was "certainly not zero."

ADDITIONAL CASES	
Case	SCC Treatment
Clean Air Council v. U.S., 362 F. Supp. 3d 237 (E.D. Pa. 2019).	SCC is mentioned but the complaint is dismissed for lack of standing and failure to state a claim.
Coal. for Competitive Elec. v. Zibelman, 906 F.3d 41 (2d Cir. 2018).	Affirming the S.D.N.Y. decision (below).
Coal. for Competitive Elec. v. Zibelman, 272 F. Supp. 3d 554 (S.D.N.Y. 2017).	New York State's Zero-Emissions Credit program uses the SCC; this case concerns the ZEC program, but the validity of the SCC is not at issue.
Village of Old Mill Creek v. Star, No. 17 CV 1163, 2017 WL 3008289 (N.D. Ill. July 14, 2017).	Illinois' Zero-Emission Credit program uses the SCC to set prices; this challenge involves the validity of the ZEC program but does not speak directly to the SCC.
W. Org. of Res. Councils v. Bureau of Land Mgmt., CV 16-21-GF-BMM, 2017 WL 374705 (D. Mont. Jan. 25, 2017).	SCC is mentioned, but this opinion is considering venue.
WildEarth Guardians v. Jewell, No. 1:15-cv-2026-WJM, 2016 WL 8577508 (D. Colo. June 17, 2016).	SCC is mentioned, but this opinion is considering the severability and transfer of the case, the SCC itself is not at issue here.