

**EPN Comments on U.S. Department of Energy's report
"A Critical Review of Impacts of Greenhouse Gas Emissions on the U.S. Climate"**

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The [Environmental Protection Network](https://www.epn.org/) (EPN) harnesses the expertise of more than 700 former Environmental Protection Agency (EPA) career staff and confirmation-level appointees from Democratic and Republican administrations to provide the unique perspective of former regulators and scientists with decades of historical knowledge and subject matter expertise.

EPN's major comments follow on the July 23, 2025, report published by the Department of Energy (DOE), entitled "A Critical Review of Impacts of Greenhouse Gas Emissions on the U.S. Climate." The report was authored by a five-person Climate Working Group (CWG) within DOE and will be referred to here as the CWG Report. After first summarizing the overall conclusions of our review (comment 1), we then discuss the Report's failure to meet Information Quality Standards (comment 2) followed by discussion of various technical and other issues (comments 3-14).

- 1. EPN's overall conclusions: The Report provides a biased, incomplete, misleading and inaccurate characterization of climate science. It fails to meet various OMB, DOE and EPA Information Quality Standards, including the need for independent peer review. The report is fatally flawed, poisoning public debate on climate change while providing an unacceptable scientific basis for regulatory policies. EPN urges that it be retracted immediately.**

The Report claims to review "scientific certainties and uncertainties in how anthropogenic carbon dioxide (CO₂) and other greenhouse gas emissions have affected, or will affect, the nation's climate, extreme weather events, and selected metrics of societal well-being."

The Report's apparent true purpose, however, is to abuse the concept of scientific uncertainty (i.e., we don't know exactly) to cast climate change as scientifically uncertain (i.e., we don't know at all). In casting climate science as uncertain, the CWG Report thereby seeks to overturn decades of scientific understanding regarding the causes and consequences of climate change. It is troubling that DOE, a long-standing leader in advancing that scientific understanding, is now publishing this Report. It is even more disconcerting that it is publishing the CWG Report with the explicit aim of affecting a major regulatory action. As the Department's own press release stated, "The report was published today *as part of* the U.S. Environmental Protection Agency's (EPA) proposed rule repealing the 2009 Endangerment Finding" (emphasis added).¹

The 2009 Endangerment Finding was based upon a strong scientific foundation. It relied on four multi-volume Assessment Reports published by the Intergovernmental Panel on Climate Change (IPCC), Synthesis and Assessment Products published by the U.S. Global Change Research Program (USGCRP), and consensus reports published by the National Research Council (NRC, at that time part of the National Academies of Science). Each of these organizations followed practices to ensure the development of high quality scientific information, including broad authorship, independent and rigorous peer review to facilitate

¹ <https://www.energy.gov/articles/departments-energy-issues-report-evaluating-impact-greenhouse-gasses-us-climate-invites>

objectivity of conclusions, and (in the case of IPCC and USGCRP) public input and transparent processes. The CWG Report exhibits none of these attributes. The Report fails to meet the standards of scientific information quality demanded for use in highly impactful EPA actions and further fails even to meet the standards of good scientific practice expected of a typical university graduate science program.

More fundamentally, the CWG Report is simply bad science. It neglects to incorporate the findings of major assessments. It ignores broad bodies of literature. It refers to studies that have been shown to be wrong. It omits information from other references that would contradict the Report's conclusions. And it makes statements that are entirely unscientific. In our comments, we present examples of these egregious shortcomings to draw the conclusion that the CWG Report deserves to be retracted and DOE should request that it not be used by EPA in any official EPA action.

2. The CWG Report fails to meet OMB, DOE, and EPA Information Quality Guidelines.

This comment is in the “other” category and refers to the full CWG Report.

The CWG Report is subject to EPA's information quality guidelines

The CWG Report is subject to the Information Quality Guidelines (IQGs) issued by EPA. As stated in EPA's IQGs, EPA guidelines apply when it “distributes information prepared or submitted by an outside party in a manner that reasonably suggests that EPA endorses or agrees with it.”² There is no question that EPA endorses and agrees with the information contained within the CWG Report. As stated in the proposed rule's preamble, “the Administrator received and evaluated the draft report submitted by the U.S. Department of Energy (DOE) Climate Working Group (CWG) to Secretary of Energy Christopher Wright on May 27, 2025, titled “Impacts of Carbon Dioxide Emissions on the U.S. Climate” (2025 CWG Draft Report).”³ The DOE announcement stated that the CWG Report “was published today as part of the U.S. Environmental Protection Agency's (EPA) proposed rule repealing the 2009 Endangerment Finding.”⁴ Because the CWG's stated purpose is to support the proposed EPA rule and EPA has relied upon the findings of the CWG as the primary source of scientific information, EPA's IQGs are applicable per EPA's IQGs and must take precedence over the DOE IQGs if there are differences between the two.

EPA's IQGs state that “major scientifically and technically based work products (including scientific, engineering, economic, or statistical documents) related to Agency decisions should be peer-reviewed.”⁵ Peer review of such work products, including those from sources outside EPA, is guided by the EPA Peer Review Handbook.⁶ The EPA Peer Review Handbook provides guidance for review of influential scientific information (ISI) and highly influential scientific assessments (HISAs).

The CWG Report meets EPA's criteria as a highly influential scientific assessment and must be subjected to rigorous external peer review

² USEPA (2002). Guidelines for Ensuring and Maximizing the Quality, Objectivity, Utility, and Integrity of Information Disseminated by the Environmental Protection Agency, EPA/260R-02-008, Washington, DC October 2002, p. 24.

³ USEPA (2025). Reconsideration of 2009 Endangerment Finding and Greenhouse Gas Vehicle Standards, Federal Register 90, 36292.

⁴ <https://www.energy.gov/articles/departments-energy-issues-report-evaluating-impact-greenhouse-gasses-us-climate-invites>

⁵ USEPA (2002). Guidelines, Section 4.2.

⁶ USEPA (2015). Peer Review Handbook, 4th Edition. U.S. Environmental Protection Agency, EPA/100/B-15/001, Washington, DC, October 2015.

The CWG Report must be treated as a highly influential scientific assessment, based on EPA's criteria that a HISA: "(i) could have a potential impact of more than \$500 million in any year, or (ii) is novel, controversial, or precedent-setting or has significant interagency interest."⁷ The proposed rule meets both these criteria. Products deemed to be HISAs "are expected to undergo rigorous external peer review with opportunities for public participation." The criteria further state that, "For ISI and HISAs intended to support the most important decisions, or for work products that have special importance in their own right, the recommended approach is an internal review followed by an external peer review."⁸

A critical characteristic of external peer reviewers is independence, that is, reviewers "are generally not employed by the agency or office producing the document."⁹ The CWG Report was reviewed only by DOE employees. The review of the CWG Report did not follow good practices to ensure transparency, including publication of reviewers' names, charge questions to the reviewers, reviewers' comments, or DOE's response to review comments. The lack of a transparent review makes it impossible to evaluate the rigor of the review, but a panel of less than ten reviewers, all DOE employees, casts serious doubt on the breadth of expertise among the reviewers. In contrast, the review of the Fifth National Climate Assessment relied upon a panel of 18 experts across a diverse range of fields including public health, engineering, atmospheric science, public policy, and oceanography. Contrary to the EPA peer review guidelines, the review did not provide opportunities for public participation.

EPA's Peer Review Handbook states that the "Administrator may waive or defer the peer review provisions of the OMB Peer Review Bulletin for ISI (including HISAs) if there is a compelling rationale for the waiver or deferral."¹⁰ The Handbook also notes that "The use of waivers is expected to be limited to unusual and compelling situations not otherwise covered by the exemptions, such as situations in which unavoidable legal deadlines prevent full implementation of the OMB Peer Review Bulletin's peer review provisions." However, there is no indication that such waiver or deferral has been granted and there are no "unavoidable legal deadlines" or similar situations that would meet the criteria of "unusual and compelling situations."

In summary, the CWG Report is subject to EPA information quality guidelines as a highly influential scientific assessment. It is therefore subject to the peer review requirements under EPA policy and has not met those requirements.

The CWG Report demonstrates a lack of objectivity, making its conclusions unsuitable for use in rulemaking

The Information Quality Act directs OMB to issue government-wide guidelines that "provide policy and procedural guidance to Federal agencies for ensuring and maximizing the quality, objectivity, utility, and integrity of information (including statistical information) disseminated by Federal agencies."¹¹ Per OMB, objectivity "includes whether disseminated information is being presented in an accurate, clear, complete, and unbiased manner."¹² The CWG Report not only fails to demonstrate processes to maximize objectivity, its development and content makes plain its intent to present a biased and predetermined view of climate science. As one climate scientist explained, "Their goal is not to weigh the evidence fairly but to build the

⁷ USEPA (2015). Peer Review, Section 3.2.3.

⁸ USEPA (2015). Peer Review, Section 4.2.1.

⁹ OMB (2001). Guidelines for Ensuring and Maximizing the Quality, Objectivity, Utility, and Integrity of Information Disseminated by Federal Agencies, Federal Register 70, p. 2669.

¹⁰ USEPA (2015). Peer Review, Section 3.3.3.

¹¹ Public Law No. 106-554 (2001). Treasury and General Government Appropriations Act for Fiscal Year 2001, § 515(a).

¹² OMB (2001). Guidelines.

strongest possible case for [carbon dioxide's] innocence. This is a fundamental departure from the norms of science.”¹³

The foundation upon which this biased Report is built begins with the intentional selection of five authors, each of whom has an extensive public record expressing views contrary to the consensus on the causes and consequences of climate change. Although there is value in including contrarian perspectives in an assessment of the science, excluding other perspectives leads to biased conclusions that fail to meet the standards of objectivity. DOE's failure to conduct a meaningful, independent peer review of the draft document adds to the biased conclusions. That such biased conclusions were the aim is demonstrated by the complete lack of transparency in the review process.

It is clear from its failure to meaningfully consider the current consensus science that DOE sought an evaluation of climate science that presented only contrarian views. The CWG Report and EPA's proposed rule seek to overturn decades of scientific inquiry and debate by innumerable scientists around the world, published in national and international assessments that have been transparently reviewed by hundreds of independent experts and by governments around the world. The CWG Report, conversely, is the work of just five authors, prepared over a few months with no independent review. A shift in the science of such magnitude would reasonably take months of evaluation from EPA and independent experts, additional analysis of the consequences of such a major shift, and appropriately, engagement with the National Academies of Science, Engineering, and Medicine (NASEM). The Secretary's apparent unquestioning acceptance of the CWG Report and its preeminent role in EPA's proposed rule is further evidence that the Report was written for the express purpose of supporting the EPA Administrator's predetermined policy.

Not only does this bias violate the norms of high quality, objective science to inform policy decisions, it undermines the institutional scientific integrity of both DOE and EPA. Looking beyond DOE and EPA, the disbanding of the USGCRP and shutting down the USGCRP website along with access to previous National Climate Assessments, combined with deep reductions in funding and staff to conduct climate research across all agencies signal a government-wide effort to eradicate objective climate information and elevate whatever “alternative facts” are needed to justify desired policies.

The clear bias inherent in the CWG Report and in EPA's blind acceptance of its conclusions make any claims the proposed rule makes regarding its scientific validity worthless.

To remedy this problem DOE must:

- I. Withdraw the CWG Report from use in EPA's rulemaking until the Report has been revised to address the comments from the review by NASEM;
- II. Publish a revised report responding to comments from the NASEM review panel and the public review; and
- III. Publish the comments received from the public and NASEM and the authors' responses to those comments.

¹³ Voosen, P. (2025). “Contrarian climate assessment from U.S. government draws swift pushback,” *Science*, July 30, 2025, doi: 10.1126/science.zknz5jm.

3. The CWG Report fails to cite direct scientific support for the Endangerment Finding.

This comment is in the “other” category and refers to the full CWG Report.

On page x, the CWG Report states, “This document originated in late March 2025 when Secretary Wright assembled an independent group to write a report on issues in climate science relevant for energy policymaking, including evidence and perspectives that challenge the mainstream consensus.”

Given the clear connection to the Endangerment Finding evident from the remarks of EPA Administrator Lee Zeldin less than two weeks before the CWG was established and the goal of completing a report draft by the end of May, the authors should have been aware of the role the CWG Report was likely to play in EPA’s rulemaking. Because of the connection to the Endangerment Finding, it is remarkable for the authors to have failed to note the explicit evaluation of the scientific support for the Endangerment Finding published by Duffy *et al.* in *Science* in 2019.¹⁴ This is especially remarkable given that the authors admit that they are not addressing the full range of relevant scientific issues. A meaningful review of the science supporting the Endangerment Finding would, presumably, feature this prominent paper as a starting point. The failure of the CWG Report to even mention it is a compelling indication of the Report’s lack of objectivity, or at best, a sign of a lackadaisical attitude toward reviewing the science.

Furthermore, this statement shows direct bias in the creation and direction of the report. The Secretary did not ask for a neutral review of climate science, he specifically asked for “evidence and perspectives that challenge the mainstream consensus.” The use of the word “perspectives” is particularly telling in that it shows that the Secretary would be happy with any arguments even those not supported by evidence that went against the mainstream consensus. It is also interesting that the Secretary acknowledges that the scientific consensus is that humans are responsible for increasing temperatures on earth.

To remedy this issue, the CWG Report must incorporate and review the conclusions of the Duffy *et al.* paper and discuss why those conclusions are correct or incorrect.

4. The CWG Report ignores major aspects of the impacts of climate change.

This is a technical comment and refers to the full CWG Report.

The CWG Report claims to be a critical review of the impacts of greenhouse gas emissions on the U.S. climate. However, the Report neither restricts itself to changes in climate (e.g., long-term temperature and precipitation patterns) nor adequately reviews the broader scope of the impacts of climate change on public health, the environment, and society. As an example, the CWG Report fails to adequately consider the impacts of climate change on human health or the environment, a critical gap given that the core purpose of the Endangerment Finding is to protect human health and the environment. Regarding human health, numerous assessments have shown that climate change does have observed human health impacts, including significant increases in adverse health impacts from infectious diseases, heat, wildfire, and forced displacement due to climate extremes.¹⁵ The CWG Report fails to present a complete picture of the impacts

¹⁴ Duffy, P.B. et al. “Strengthened scientific support for the Endangerment Finding for atmospheric greenhouse gases,” *Science* 363, 5982 (2019). DOI:10.1126/science.aat5982

¹⁵ IPCC, 2023: Summary for Policymakers. In: *Climate Change 2023: Synthesis Report. Contribution of Working Groups I, II and III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change* [Core Writing Team, H. Lee and J. Romero (eds.)]. IPCC, Geneva, Switzerland, pp. 1-34, doi: 10.59327/IPCC/AR6-9789291691647.001.

of climate change on human health and therefore presents a biased view of the consequences of climate change.

Instead, the report misleadingly tries to deflect temperature increases by saying, for example, that they are due at least in part to an increasing Urban Heat Island effect (Section 3.3). The simplistic analysis ignores directly observable impacts of increased temperatures on earth that could not be caused by the Urban Heat Island Effect.^{16,17,18}

To remedy these issues, the CWG Report title must accurately reflect the Report's scope and either substantially expand its review of health and other impacts of climate change, or remove discussions of the impacts of climate (as opposed to the impacts on climate).

5. The CWG Report's discussion of emissions scenarios ignores projections used to support the Endangerment Finding.

This is a technical comment. It refers to Report pages 14-17, section 3.2.1.

Given the immediate implications of the CWG Report to EPA's proposed rule to rescind its 2009 Endangerment Finding, and the authors' awareness regarding the Report's likely use as support for that action, the CWG Report's emphasis on RCP8.5 is misplaced and largely irrelevant. The Technical Support Document (TSD) for the Endangerment Finding presented the emission scenarios used in its analysis in Figure 6.2 of the TSD.¹⁹ Observed global emissions in 2024 of CO₂ from fossil fuel combustion and industrial processes were within 1% of the emissions projected by EPA's central scenario in the 2009 TSD, based on 2024 emission estimates by the International Energy Agency.²⁰ Likewise, the increase in US mean surface temperature in 2023 relative to a 1900-1950 baseline fell almost exactly in the center of the temperature range projected in the 2009 TSD.²¹ The CWG Report is remiss in its failure to consider the emission scenarios actually used in policy formulation and how projected emissions and associated projected temperatures anticipated observed conditions. The focus on RCP8.5 in the CWG Report is an example of the "bias towards alarm" criticized in the Report, drawing attention from the fact that actual policy formulation relied on reasonable and remarkably accurate projections.

To remedy this issue, the CWG Report must review the information presented in the TSD and note how it affects the Report's apparent concern that the Endangerment Finding relied on extreme scenarios to justify EPA's policy decisions in 2009.

6. The CWG Report's critiques of climate model performance present flawed research and ignore the most directly relevant measure of model performance.

This is a technical comment that refers to CWG Report pages 31-33 and Figure 5.2 on page 33.

¹⁶ <https://www.climate.gov/news-features/understanding-climate/climate-change-mountain-glaciers> (Report published May 2025)

¹⁷ <https://www.sciencenewstoday.org/glaciers-are-melting-twice-as-fast-as-predicted-and-were-not-ready> (published June 2025)

¹⁸ <https://nsidc.org/sea-ice-today> <https://www.nasa.gov/earth/arctic-sea-ice-near-historic-low-antarctic-ice-continues-decline/>

¹⁹ <https://www.epa.gov/climate-change/technical-support-document-endangerment-and-cause-or-contribute-findings-greenhouse>

²⁰ <https://www.iea.org/reports/global-energy-review-2025/co2-emissions>

²¹ Temperatures in the Contiguous 48 States, 1901-2023, EPA's Climate Change Indicators in the United States: www.epa.gov/climate-indicators

On page 31, the CWG Report states, “Problems with climate models are not just in their disagreement over the future, but also in their ability to replicate the recent past.” However, the evidence presented to support this critique has been shown to be flawed with “numerous conceptual and statistical errors that undermine all of the conclusions.”²² The CWG Report further omits evidence showing the ability of climate models to replicate the change in global mean surface temperature (GMST) with remarkable skill. Figure 3.4 of the IPCC’s Sixth Assessment Report Working Group 1 (AR6 WG1) shows that the multi-model mean for each of the last two generations of global climate models are in fact quite skilled at replicating measured changes in GMST.²³

To remedy this issue, the CWG Report must remove Figure 5.2 presenting the flawed results of Scafetta (2023), present Figure 3.4 of AR6 WG1, and critique that figure and underlying data as appropriate.

7. The CWG Report misrepresents observed stratospheric cooling.

This is a technical comment and refers to text on pages 38 and 39.

On page 38, the CWG Report states, “An important element of the expected general ‘fingerprint’ of anthropogenic climate change is simultaneous warming of the troposphere and cooling of the stratosphere. The latter feature is also influenced by ozone depletion and recovery. AR6 acknowledged that cooling had been observed but only until the year 2000. The stratosphere has shown some warming since, contrary to model projections.”

The CWG Report further states on page 39 that “Santer *et al.* (2023) use updated data to show that a cooling trend has not re-emerged in the lower stratosphere.”

However, this conclusion ignores the Santer *et al.* paper’s conclusions, which present stratospheric temperature data in the mid and upper stratosphere and which show continuing stratospheric cooling.²⁴ As the paper states, “Extending the reach of “vertical fingerprinting” from the lower troposphere to the upper stratosphere provides incontrovertible evidence of anthropogenic impact on Earth’s climate.” The CWG Report claims on page 39 that this pattern is “not found in climate model simulations and is not apparently consistent with the anthropogenic fingerprint.” However, Santer *et al.* also present data showing that climate models do in fact capture the stratospheric cooling effect.

The CWG Report draws conclusions that are in direct contrast to the Santer paper’s conclusions and fails to note any of the information presented in the paper that would contradict the CWG Report’s conclusion. To remedy this issue, the CWG Report must correct the relevant text to accurately reflect the conclusions of Santer *et al.* (2023).

8. The CWG Report relies on simplistic analyses and incomplete data to draw conclusions regarding sea level rise.

This is a technical comment referring to CWG Report section 7.2, pp. 75-79

²² Schmidt, G. A., Jones, G. S., & Kennedy, J. J. (2023). Comment on “advanced testing of low, medium, and high ECS CMIP6 GCM simulations versus ERA5-T2m” by N. Scafetta (2022). *Geophysical Research Letters*, 50(18), e2022GL102530.

²³ <https://www.ipcc.ch/report/ar6/wg1/chapter/chapter-3/>

²⁴ B.D. Santer, et al. (2023). “Exceptional stratospheric contribution to human fingerprints on atmospheric temperature,” *Proc. Natl. Acad. Sci. U.S.A.* 120 (20) e2300758120.

The CWG Report discusses sea level rise but presents only an exceptionally small number of examples of tide gauge data to draw what are especially vague but broad conclusions. The Report does not conduct any analysis of sea level rise (SLR) beyond simple linear regressions of the few examples presented in the Report. The linear regression approach assumes that the physical drivers of SLR are the same now as they were before signals of global warming began to exceed natural variability. More sophisticated analysis, including relatively simple piece-wise linear regressions over different time periods, can be used to identify whether SLR is accelerating or not. The CWG Report authors fail to attempt this. As the 2022 National Oceanic and Atmospheric Administration (NOAA) SLR report shows, the rate of SLR has accelerated in recent years compared to a 1993-2006 baseline.²⁵ Likewise, the IPCC Sixth Assessment Report found that SLR has accelerated globally, with a doubling of the rate of increase since 2006.²⁶

The authors also fail to look beyond the paltry set of presented tidal gauge data to evaluate SLR trends for the U.S. more broadly, which can be done using satellite-based observations. These data are independent of tide gauge data and are not affected by changes in relative sea level caused by land subsidence and other highly local conditions.

To remedy this issue, the CWG Report must incorporate improved analyses that are better able to distinguish changes in SLR rates and evaluate enough locations to support conclusions concerning the entire U.S. coast. The CWG Report must incorporate satellite-based observations to assist in disentangling changes in land elevation and their effects on local relative SLR.

9. The CWG Report's conclusions regarding projected SLR are entirely unscientific and must be removed.

This is a technical comment referring to CWG Report section 7.3, pp. 79-80

The CWG Report's SLR section 7.3 closes with the authors implying incredulity regarding NOAA's projected 2050 SLR levels: "NOAA's projection is remarkable," "a dramatic acceleration." Rather than making an effort to demonstrate why they believe such a projection is incredulous, they simply state that, "We should know in a decade or so whether that prediction has legs." What is remarkable here is not NOAA's projection, but the fact that the authors are admitting that they don't believe the projections and concluding that we'll just have to wait and see what happens. This is a lazy statement that has no place in a serious scientific report, and especially so in a report that seeks to provide the basis for regulatory action of such enormous consequences.

To remedy this issue, this paragraph must be replaced with a meaningful analysis or removed entirely.

²⁵ Sweet, W.V. et al. (2022). Global and Regional Sea Level Rise Scenarios for the United States: Updated Mean Projections and Extreme Water Level Probabilities Along U.S. Coastlines, NOAA Technical Report NOS 01, National Oceanic and Atmospheric Administration, National Ocean Service, Silver Spring, MD, 111 pp., https://earth.gov/sealevel/us/internal_resources/756/noaa-nos-techrpt01-global-regional-SLR-scenarios-US.pdf

²⁶ IPCC, 2023: Summary for Policymakers. In: Climate Change 2023: Synthesis Report. Contribution of Working Groups I, II and III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change [Core Writing Team, H. Lee and J. Romero (eds.)]. IPCC, Geneva, Switzerland, pp. 1-34, doi: 10.59327/IPCC/AR6-9789291691647.001.

10. The CWG Report ignores assessment conclusions regarding the projected impacts of climate change on agriculture.

This is a technical comment, referring to CWG Report section 9.2, pages 105-106.

On pages 105 and 106, the CWG Report concludes that the effects of climate change on U.S. agriculture will be neutral or even beneficial, citing studies that show the benefits of increased CO₂ on crop productivity. However, the Report focuses on studies that evaluate the effects of elevated CO₂ concentrations alone and ignores the substantial body of literature showing that changes in temperature and precipitation patterns, including changes in extreme weather events, are likely to overwhelm CO₂'s benefits. The IPCC's Sixth Assessment Report (AR6) indicates a general decline in yield for every major crop, even at lower levels of climate change and including the effects of CO₂ fertilization (see section 5.4.3.2 and Figure 5.6).²⁷ Although the AR6 summary indicates less reduction for North America and the ability to mitigate those impacts through adaptation measures, the CWG Report neglects to present these or other results that would allow a robust conclusion regarding the impacts of climate change on agriculture.

To remedy this issue, the CWG Report must incorporate the AR6 conclusions or other studies that show the combined impacts of climate change on yield.

11. The CWG Report fails to adequately review the literature related to the consequences of climate change on the economy.

This is a technical comment, referring to CWG Report Chapter 11, pages 116-125.

The CWG Report chapter 11, Climate Change, the Economy, and the Social Cost of Carbon, falls woefully short of providing a meaningful review of the consequences of climate change on the economy. It ignores major assessments of the topic, including the Economics chapter of the Fifth National Climate Assessment.²⁸ It does not cite outputs of other significant and directly relevant bodies of work, such as EPA's Climate Change Impacts and Risk Analysis (CIRA) program.²⁹ Many of these studies support higher, rather than lower, values for the social cost of carbon and should be discussed to allow for an objective evaluation of the topic.

To remedy this issue, the CWG Report must present a more thorough review of the relevant literature on climate change and its impacts on the economy.

12. The CWG Report demonstrates a deep misunderstanding of why climate change is an issue of serious concern.

This is a technical comment and refers to text on CWG Report page 117.

²⁷ Bezner Kerr, R., et al. (2022). Food, Fibre, and Other Ecosystem Products. In: Climate Change 2022: Impacts, Adaptation, and Vulnerability. Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change [H.-O. Pörtner, et al. (eds.)], Cambridge University Press, Cambridge, UK and New York, NY, USA, pp. 713-906, doi:10.1017/9781009325844.007.

²⁸ The Fifth National Climate Assessment is no longer available through the U.S. Global Change Research Program. DOE may be able to obtain a copy through a request to the Office of Science and Technology Policy.

²⁹ USEPA (2025). CIRA Journal Publications, <https://www.epa.gov/cira/cira-journal-publications>.

On page 117, the CWG Report states, “Since 1900, the average global surface temperature anomaly warmed 1.3°C, about as much as the IPCC predicts will occur in the next century under a moderate emissions scenario.”

This statement demonstrates a deep misunderstanding of why climate change is an issue of serious concern. This is a classic example of linear extrapolation applied to a highly complex, nonlinear set of interacting systems. If the authors do not know better than to suggest such a simplistic extrapolation, their expertise in the topic of climate change is subject to serious question. If they do know better, then this is a disingenuous attempt to mislead the reader and is even more serious than ignorance of the topic.

With the apparently modest increase in global surface temperature since 1900, the planet and its physical and biological systems are now at the upper end of the temperature range that has dominated the Earth for at least the last 10,000 years and likely the last 100,000 years.³⁰ Although additional increases appear to be small, they move planetary systems into a temperature range that predates human civilization. Because our human systems have been designed, constructed, and maximized to be effective at a lower global temperature, moving beyond that range is likely to change physical and biological systems in ways that we are unprepared to address, creating increasingly severe physical, biological, and economic disruption.

To remedy this issue, the CWG Report must remove this statement and discuss the nonlinearities and complex system interactions inherent in the interactions between natural and human systems affected by climate change.

13. The CWG Report presents a misleading comparison between the social cost of carbon and the marginal social benefit.

This is a technical comment, referring to text on CWG Report page 123.

On page 123, the CWG Report states, “A pre-tax price of \$3.00 per gallon would imply the marginal social benefit of the fuel is nearly seven times the marginal social cost.”

This framing is highly misleading. The direct comparison between the social cost of carbon and the presumed marginal social benefit of fuel implies that the consumer must choose to pay for either the (largely long-term) benefit of reduced emissions or the immediate-term benefit of the fuel but cannot have both. A more appropriate framing is that the social cost of carbon represents an additional cost of consuming the fuel due to that consumption’s contribution to long-term damages. The fuel price already includes the costs of providing benefits other than those that directly accrue to the consumer’s immediate consumption of the fuel. The price also includes (some of) the costs of providing benefits to society, such as meeting near-term clean air and water standards and protecting worker and public safety.

There are numerous policy options to address the costs to society due to the long-term impacts of climate change, including a carbon tax on fossil fuels that incorporates the social cost of carbon into the fuel price. Regardless of whether the social cost of carbon is officially determined or included in the fuel price, society

³⁰ Gulev, S.K. et al. (2021). Changing State of the Climate System. In *Climate Change 2021: The Physical Science Basis. Contribution of Working Group I to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change* [Masson-Delmotte, V. et al. (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA, pp. 287–422, doi:10.1017/9781009157896.004.

will pay the costs of climate change's impacts. If, as the Report suggests, the social cost of carbon is actually low, it would seem to make sense to add a modest increment to the fuel price.

To remedy this issue, the CWG Report must revise this statement to accurately explain the relationship between fuel price, the social cost of carbon, and the cost of fuel consumption.

14. The CWG Report's conclusion regarding the utility of emission reductions from U.S. vehicles is specious and misleading.

This is a technical comment, referring to text on CWG Report page 130.

On page 130, the CWG Report states that, “even the most aggressive regulatory actions on GHG emissions from U.S. vehicles cannot be expected to remediate alleged climate dangers to the U.S. public on any measurable scale.”

This statement is misleading in several ways. First, it is well understood that GMST is linearly proportional to cumulative emissions for the range of reasonable emissions projections, so every increment of emissions increases GMST.³¹ Every increase in GMST increases the risk of adverse climate change impacts, including the risk of severe impacts related to climate tipping points. Thus, doing nothing is guaranteed to increase the risks of climate change damages to health and the environment.

Second, CO₂ emissions from U.S. passenger cars and light-duty trucks were 966 million metric tons in 2022.³² This makes U.S. light-duty vehicles the sixth largest emitter of fossil fuel CO₂ emissions in the world, just behind Japan.³³ The CWG Report thus argues by analogy that no benefit would be gained by reducing GHG emissions from any single country because such reductions cannot be expected to remediate what the Report refers to as “alleged” climate dangers. Despite the Secretary's statement that climate change is real and deserves attention, he and the authors argue here that any single action is fruitless. If one step cannot be taken because it is fruitless, then the thousand steps that are needed cannot be taken. This is disingenuous and irresponsible.

Third, the CWG Report ignores the fact that removal of the fuel efficiency standards that are based upon the Endangerment Finding will unquestionably lead to higher fuel consumption and higher emissions of GHGs and other air pollutants. Such an outcome will lead to increased harm to human health and the environment, including higher mortality, caused by greater warming of the climate as well as by increased exposure to other air pollutants. The failure of the CWG Report to consider the likely consequences of reducing GHG emissions from light-duty vehicles reflects the exceptionally simplistic arguments that the Report misrepresents as meaningful analysis.

³¹ Arias, P.A., et al. (2021). Technical Summary. In *Climate Change 2021: The Physical Science Basis. Contribution of Working Group I to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change* [Masson-Delmotte, V., et al. (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA, pp. 33–144. doi:10.1017/9781009157896.002.

³² EPA (2024). Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2022 U.S. Environmental Protection Agency, EPA 430R-24004. <https://www.epa.gov/ghgemissions/inventory-us-greenhouse-gas-emissions-and-sinks-1990-2022>.

³³ Crippa, M., et al. (2024). GHG emissions of all world countries, Publications Office of the European Union, Luxembourg, 2024, doi:10.2760/4002897, JRC138862

To remedy this issue, the CWG Report must conduct a meaningful analysis of the consequences of removal of U.S. fuel efficiency standards and present a reasonable estimate of future vehicle emissions in comparison to country-level emissions globally.

Conclusion

EPN believes the DOE CWG Report must be retracted immediately. EPN's analysis shows that the Report provides a biased, incomplete, misleading, and inaccurate characterization of climate science and is an unacceptable scientific basis for regulatory policy. DOE must request that it not be used by EPA in any official EPA action. If not retracted, major additions to the provided science are necessary and appropriate implementation of the IQGs, including independent and transparent peer review, is needed.