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September 9, 2026

Office of Science and Technology Policy
Executive Office of the President
Eisenhower Executive Office Building
1650 Pennsylvania Avenue
Washington, DC 20504

Re: Comments in Response to OSTP's Request for Information entitled, *Proposed Amendment to the Fifth National Climate Assessment (NCA5)*, 91 Fed. Reg. 54,893 (Aug. 25, 2026)

To whom it may concern:

The American Free Enterprise Chamber of Commerce ("AmFree") is a trade organization representing small- and medium-sized American businesses. It is dedicated to advancing the principles of free enterprise, free markets, limited government, and American leadership globally. We are pleased to submit this response to the Office of Science and Technology Policy's (OSTP) request for information, *Proposed Amendment to the Fifth National Climate Assessment (NCA5)*, 91 Fed. Reg. 54,893 (Aug. 25, 2026) (Proposed Amendment).

OSTP's issuance of the Proposed Amendment is an appropriate step "to correct scientific information" to meet the Information Quality Act's (IQA) standards, as President Trump directed in his "Restoring Gold Standard Science" Executive Order.¹ Scientists acknowledge that RCP8.5, SSP5-8.5, and related high-emission scenarios are outside the bounds of reasonable possibility. This widespread recognition requires an end to the Federal Government's reliance upon these implausible scenarios. The Proposed Amendment reduces this reliance by providing warnings on the Fifth National Climate Assessment (NCA5), which relies heavily on these scenarios. But in doing so, the Proposed Amendment also shows how deeply NCA5 depended on implausible scenarios. And, apart from this, NCA5 also violates the IQA by presenting information without the context necessary to prevent it from misleading policymakers and the public about the likely consequences of climate change.

¹ Exec. Order 14,303, *Restoring Gold Standard Science* (dated May 23, 2025), § 7(a), 90 Fed. Reg. 22,601, 22,604-05; Pub. L. No. 106-554, app. C, § 515, 114 Stat. 2763A-153 (2000) (H.R. 5658).

Although this comment recommends several ways to strengthen the Proposed Amendment, the best course is for OSTP to recommend that USGCRP withdraw NCA5.

The attached comment proceeds in three parts. Part I discusses the strong scientific basis for the Proposed Amendment and urges the withdrawal of NCA5 because of its thoroughgoing reliance on RCP8.5. Part II suggests five ways that OSTP should strengthen the Proposed Amendment. And Part III shows that OSTP should recommend withdrawal of NCA5 because it violates the IQA in ways that amendment cannot cure.²

Respectfully submitted,

/s/ Gentry Collins

Gentry Collins

Chief Executive Officer

The American Free Enterprise Chamber of
Commerce

² AmFree also wishes to direct OSTP's attention to the Center for Environmental Accountability's comment on the NCA6 Draft Prospectus, which further details NCA5's errors and how to avoid repeating them. <https://web.archive.org/web/20251117134600/https://environmentalaccountability.org/wp-content/uploads/2024/07/CEA-NCA6-Comment.pdf>

I. The Proposed Amendment Has a Strong Basis in the Scientific Community’s Conclusion That RCP8.5, SSP5-8.5, and Related Scenarios Are Implausible, Not Just Unlikely

The Proposed Amendment is correct that RCP8.5, SSP5-8.5, and related high-emission scenarios are implausible and accordingly “not policy relevant.”³ These implausible scenarios “should not,” and indeed must not, “be used as a policy, planning, regulatory, public-communication, or grant-making premise.”⁴ The “primary basis” for the Proposed Amendment, OSTP explains, “remains the current ScenarioMIP-CMIP7 determination that forcing levels comparable to SSP5-8.5 [RCP8.5’s sister emissions scenario] are no longer considered plausible, even under assumptions that include rollback of currently implemented climate policies.”⁵ That determination represents the scientific community’s conclusion that the emission levels SSP5-8.5 projects are not only unlikely, but beyond the “wide range of ... trajectories considered to ... have a non-negligible likelihood of occurring.”⁶ In plain English, “[t]he scientific literature” has established that these scenarios are unrepresentative of any reasonably possible future.⁷ But as the Proposed Amendment also recognizes, the scenarios’ implausible projections result from “the structural assumptions underlying RCP8.5 and related pathways,” and these assumptions, unless corrected, will infect “future scenario frameworks.” This possibility makes it imperative that “[f]uture federal assessments” evaluate “replacement scenarios” for plausibility “on the basis of empirical support, transparency, consistency with observed ... trends, and relevance to the policy questions under consider[ation].”⁸

RCP8.5 is one of four “radiative forcing pathways” developed by the Intergovernmental Panel on Climate Change (IPCC) as a stopgap while developers built socioeconomically plausible emissions scenarios. These Representative Concentration Pathways (RCPs) were called RCP2.6, RCP4.5, RCP6.0, and RCP8.5, respectively, indicating the radiative forcing expected by 2100 (e.g., RCP8.5 assumed a pathway that reached a radiative forcing of 8.5 watts per square meter in 2100).

Critically, these scenarios were not intended to be *predictions*, a point that the Proposed Amendment recognizes.⁹ Instead, the IPCC stressed that “[i]t is an open research question as to how wide a range of socioeconomic conditions could be consistent with a given [RCP] pathway of forcing,

³ Proposed Amendment § 2.2.4.

⁴ *Id.* at § 2.2.1.

⁵ *Id.* at § 3.2 (citing van Vuuren, D. P., O’Neill, B. C., Tebaldi, C., Sanderson, B. M., Chini, L. P., Friedlingstein, P., Hasegawa, T., Riahi, K., and colleagues, 2026, *The Scenario Model Intercomparison Project for CMIP7 (ScenarioMIP CMIP7)*, Geoscientific Model Development 19: 2627-2656. DOI: 10.5194/gmd-19-2627-2026).

⁶ van Vuuren *et al.*, *supra* note 5, § 2.2.2.

⁷ Proposed Amendment § 2.1; *see also, e.g.*, Malte Meinshausen *et al.*, *A Perspective on the Next Generation of Earth System Model Scenarios: Towards Representative Emission Pathways (REPs)*, Geosci. Model Dev. (preprint) (Sep. 6, 2023), <https://doi.org/10.5194/gmd-2023-176>.

⁸ Proposed Amendment § 1.

⁹ *Id.* §§ 1, 2.1.

including its ultimate level, its pathway over time, and its spatial pattern.”¹⁰ The IPCC warned researchers and policymakers against reading too much into the different scenarios: “The differences between the RCPs can therefore not directly be interpreted as a result of climate policy or particular socioeconomic developments.”¹¹

Despite this, RCP8.5 became firmly lodged in the scientific literature as the expected trajectory of radiative forcing. Thousands of scientific papers refer to RCP8.5 as the “business-as-usual” scenario.¹² That label could hardly be more misleading: whereas the latest projections of the International Energy Agency expect a median warming of less than 3°C by 2100, RCP8.5 projects a temperature rise of around 5°C.¹³

Reaching RCP8.5 would require a drastic departure from a plausible “business as usual.” As Zeke Hausfather and Glen Peters explained *in 2019*, the “[e]mission pathways to get to RCP8.5 generally require an unprecedented fivefold increase in coal use by the end of the century, an amount larger than some estimates of recoverable coal reserves.”¹⁴ “[A]lthough increases are still possible, many energy forecasts expect it to flatline over the next few decades.”¹⁵ As coal gives way to natural gas and lower-carbon sources, emissions per unit of energy—and total emissions—will fall.

These scenarios also assume continued global population growth. That is unlikely. Global births peaked at 142 million in 2016 and fell to 129 million by 2021.¹⁶ Globally, fertility has steadily declined from 1950 (>4.8 births per woman) through 2021 (about 2.2 births per woman) and will likely continue declining through 2100. Fewer people means lower emissions. These reasons, among others, led the Biden-era EPA to acknowledge that RCP8.5 is not a plausible emissions pathway.¹⁷ By 2022, *before* NCA5’s release, it was obvious that RCP8.5 should not continue to inform public policy inputs.

¹⁰ IPCC, *IPCC Expert Meeting Report: Towards New Scenarios for Analysis of Emissions, Climate Change, Impacts, and Response Strategies*, at ix, 43 (Sept. 2007), <https://www.ipcc.ch/publication/ipcc-expert-meeting-report-towards-new-scenarios-for-analysis-of-emissions-climate-change-impacts-and-response-strategies/>.

¹¹ RCP Database (version 2.0, 2009), <https://tntcat.iiasa.ac.at/RcpDb/dsd?Action=htmlpage&page=welcome>.

¹² See Google Scholar Search, https://scholar.google.com/scholar?hl=en&as_sdt=0%2C9&q=“rcp8.5+‘business+as+usual’”&btnG= (searching “rcp8.5 ‘business as usual’”) (last visited Aug. 27, 2026). Admittedly, some of these papers are critiquing the use of the term “business-as-usual” to describe RCP8.5, but many if not most take the scenario at face value.

¹³ Int’l Energy Agency, *World Energy Outlook 2025*, at 27 (2025), <https://iea.blob.core.windows.net/assets/9753df19-0a71-422a-b725-012c555763b3/WorldEnergyOutlook2025.pdf>; Zeke Hausfather & Glen P. Peters, Comment, *Emissions—The “Business As Usual” Story Is Misleading*, 577 Nature 618, 618 (2020), <https://doi.org/10.1038/d41586-020-00177-3>; Zeke Hausfather, *Explainer: The High-Emissions ‘RCP8.5’ Global Warming Scenario*, CarbonBrief (Aug. 21, 2019), <https://www.carbonbrief.org/explainer-the-high-emissions-rcp8-5-global-warming-scenario>.

¹⁴ Hausfather & Peters, *supra* note 13, at 619.

¹⁵ *Id.*

¹⁶ All numerical figures in this paragraph come from: GBD 2021 Fertility & Forecasting Collaborators, *Global Fertility in 204 Countries and Territories, 1950–2021, with Forecasts to 2100*, Lancet (Mar. 20, 2024), [https://doi.org/10.1016/S0140-6736\(24\)00550-6](https://doi.org/10.1016/S0140-6736(24)00550-6).

¹⁷ U.S. EPA, *Report on the Social Cost of Greenhouse Gases: Estimates Incorporating Recent Scientific Advances* (Nov. 2022), https://www.epa.gov/system/files/documents/2022-11/epa_scghg_report_draft_0.pdf (“The SSP5-8.5 projection is the only SSP-RCP pairing with CO2 emissions projections outside the 1st to 99th percentile range of RFF-SPs.”); see

RCP6.0 and SSP4-6.0 fail the same test. Pielke, Burgess, and Ritchie measured the full IPCC scenario database against observed 2005–2020 emissions and IEA projections to 2050, admitting only scenarios that stayed within a $\pm 0.1\%/y$ or $\pm 0.3\%/y$ divergence tolerance of that trajectory. Not one of the plausible scenarios they identified falls within the range of the 6.0 W m⁻² scenarios.¹⁸ RCP6.0 and SSP4-6.0 are therefore no more policy relevant than RCP8.5. OSTP should extend the Proposed Amendment’s determination to them and to any successor pathway at comparable forcing, and USGCRP should excise results resting on those scenarios from NCA5 and from prior National Climate Assessments.

As all of this illustrates, RCP8.5, SSP5-8.5, and related high-emission scenarios were implausible when they were developed, are implausible now, and have no reasonable possibility of becoming plausible in the future. They are not useful bases for federal policy. And NCA5’s heavy reliance on them—RCP8.5 and SSP5-8.5 make up about half of all scenario mentions in the report—is a sufficient justification for the withdrawal of NCA5.

II. OSTP Should Strengthen the Proposed Amendment’s Interpretation Guidelines and NCA5 Claim Correction Instructions.

The Proposed Amendment’s corrections are positive but insufficient to stop RCP8.5, SSP5-8.5, and related scenarios from misleading policymakers and the public. Only withdrawal eliminates the harm. But short of that, OSTP should strengthen the Proposed Amendment in the following ways.

First, OSTP should strengthen the “Determination” section by eliminating the sentence: “High forcing scenarios may remain useful for model intercomparison, sensitivity testing, and exploratory research.”¹⁹ And in its place, the final amendment should state that RCP8.5, SSP5-8.5 and related high-emission scenarios are not useful to federal agencies for any purpose. Likewise, the sentence in the “Countervailing considerations” section of the Proposed Amendment that reads “A model run based on a pathway now identified as implausible may be useful for narrow...,”²⁰ should begin with the words “It has been argued that.” These changes would ensure that the final amendment does not inadvertently encourage continued improper use of these scenarios.

Disavowing all use of such scenarios is the correct approach because even model intercomparison, sensitivity testing, and exploratory research should use plausible scenarios, that is, scenarios that are within “a wide range of ... trajectories considered to ... have a non-negligible likelihood of occurring.”²¹ Even scenarios at that range’s highest end must be non-negligibly possible.

Roger Pielke Jr., *The Biden Administration Abandons RCP8.5*, The Honest Broker (Feb. 17, 2023), <https://rogerpielkejr.substack.com/p/the-biden-administration-abandons>.

¹⁸ Roger Pielke Jr. *et al.*, *Plausible 2005–2050 Emissions Scenarios Project Between 2 °C and 3 °C of Warming by 2100*, 17 Env’t Rsch. Letters, art. no. 024027, fig. 2 (2022), <https://doi.org/10.1088/1748-9326/ac4ebf> (“None of the plausible scenarios fall within the range of SSP 6.0 scenarios.”); *see also* Roger Pielke Jr., *Is the New HIGH Climate Scenario Plausible?*, Am. Enter. Inst. (Sept. 7, 2026), <https://www.aei.org/commentary/is-the-new-high-climate-scenario-plausible/>.

¹⁹ Proposed Amendment § 2.1.

²⁰ *Id.* at § 3.4.

²¹ van Vuuren *et al.*, *supra* note 5.

Research on nearly impossible scenarios reveals nothing, and it induces regulators and regulated parties to misallocate resources to guard against a future that will never come.

Bank stress-testing is a concrete example. The Dodd-Frank Act requires periodic tests of whether banks hold enough capital to withstand downturns.²² Stress tests must consider scenarios involving both “baseline and severely adverse” conditions.²³ These tests influence how much capital banks hold in reserves, which cannot be put to an economically productive use.²⁴ If the “severely adverse” conditions used in these tests employ projected economic effects of climate change derived from RCP8.5 or another implausible scenario, those harms are exaggerated, reserves rise to guard against imagined risks, and present economic productivity falls.

Second, where the Proposed Amendment’s Interpretation Guidelines and instructions for NCA5 claim corrections state that NCA5 results based on RCP8.5, SSP5-8.5, or equivalent high forcing “should not be used” or “cited” for certain purposes, the final amendment should state that such scenarios “must not be used” or “cited” “for any purpose, including” those that the Proposed Amendment lists.²⁵ OSTP should make the same change where the phrase “should not be used” appears in the Proposed Amendment’s instruction to amend NCA5’s front matter.²⁶

Third, where the Proposed Amendment’s standard clarification for affected NCA5 claims reads, “It should not be interpreted as expected ...,”²⁷ the final amendment should read, “It should not be interpreted as reasonably possible, expected” This change is necessary to convey what implausible truly means. It means much more than not expected; it means that the implausible projection has no “non-negligible likelihood of occurring.”²⁸ And implausible scenarios render NCA5 results that depend on them implausible, too. Without stronger language to convey this point, the proposed standard clarification risks understating it.

Fourth, where § 4.9 of the Proposed Amendment instructs that federal materials “that use NCA5 high-emission outputs should be viewed in light of” the amendment, the final amendment should go further and instruct that such materials also “be amended ... in light of” the amendment. These materials will continue to mislead policymakers and the general public unless they are revised to remove or conspicuously label instances of reliance on NCA5 high-emission outputs.

Fifth, the final amendment should direct USGCRP to make the projection the GCRA actually requires: to “analyze current trends in global change” and “project major trends for the subsequent

²² 12 U.S.C. § 5365(i).

²³ *Id.*

²⁴ See *Stress Tests*, Board of Governors of the Federal Reserve System (Updated June 22, 2022), <https://www.federalreserve.gov/supervisionreg/stress-tests-capital-planning.htm>.

²⁵ This phrase occurs in the Proposed Amendment at §§ 2.2.1, 2.2.3–2.2.4, 4.1–4.2, 4.4–4.5, and 4.8.

²⁶ *Id.* at § 4.1.

²⁷ *Id.* at § 2.3.

²⁸ van Vuuren *et al.*, *supra* note 5.

25 to 100 years.”²⁹ That calls for a central projection and a stated range of uncertainty, not a survey of every conceivable pathway. No NCA has ever supplied one, though the materials are at hand. The scenarios consistent with observed emissions and IEA projections cluster at 3.4 W m⁻² of forcing and yield 2°C to 3°C of warming by 2100, with a median of 2.2°C.³⁰ The principal remaining uncertainty is equilibrium climate sensitivity, where the IPCC’s likely range of 1.5°C to 4.5°C spans a threefold difference and observationally constrained estimates, such as Lewis and Curry’s median of 1.66°C, sit near its floor.³¹ At the lower end, warming approaches 2°C by 2100, most of which has already occurred: 2051 would resemble 2026, and 2126 would be less than a degree warmer. USGCRP should state such a projection, the range around it, and the assumptions driving it.

III. OSTP Should Recommend That USGCRP Withdraw NCA5

Only withdrawing NCA5 can bring full compliance with the IQA and restore Gold Standard Science consistent with President Trump’s Executive Order.³² Apart from its reliance on implausible high-emissions scenarios, NCA5 violates the IQA’s requirement that information disseminated by federal agencies be of “maxim[um] ... quality, objectivity, utility, and integrity.”³³ NCA5 also fails the requirements that Gold Standard Science be “transparent; communicative of error and uncertainty; ... and without conflicts of interest.”³⁴ NCA5 neglects to provide appropriate context for findings, relies on substantively flawed studies, and suffers broad conflicts of interest issues.

NCA5’s failure to provide context and reliance on flawed studies violates the IQA’s “objectivity” standard. According to OMB guidelines, “[o]bjectivity” “involves two distinct elements, presentation and substance.” Presentation requires that information “is presented within a proper context” and that “other information must also be disseminated in order to ensure an accurate, clear, complete, and unbiased presentation.” Substance requires that the information itself is “accurate, reliable, and unbiased.”³⁵

NCA5’s “presentation” fails this standard because it systematically presents information without “proper context.” The statutory basis for NCA5, the Global Change Research Act of 1990 (GCRA),³⁶ requires USGCRP to issue a quadrennial report on “global change” defined as “changes ... that may alter the capacity of the Earth to sustain life.”³⁷ But NCA5 (and its previous iterations)

²⁹ 15 U.S.C. § 2936(3).

³⁰ Pielke *et al.*, *supra* note 18.

³¹ IPCC, *Climate Change 2013: The Physical Science Basis*, Summary for Policymakers (2013), <https://www.ipcc.ch/report/ar5/wg1/>; Nicholas Lewis & Judith Curry, *The Impact of Recent Forcing and Ocean Heat Uptake Data on Estimates of Climate Sensitivity*, 31 J. Climate 6051 (2018), <https://doi.org/10.1175/JCLI-D-17-0667.1>.

³² See Pub. L. No. 106-554, app. C, § 515, 114 Stat. 2763A-153 (2000) (H.R. 5658); Exec. Order 14,303, § 7(a), 90 Fed. Reg. at 22,604-05.

³³ Pub. L. No. 106-554, app. C, § 515, 114 Stat. at 2763A-154.

³⁴ Exec. Order 14,303, § 3(a), 90 Fed. Reg. at 22,602.

³⁵ Quotations in this paragraph come from: *Guidelines for Ensuring and Maximizing the Quality, Objectivity, Utility, and Integrity of Information Disseminated by Federal Agencies*, 67 Fed. Reg. 8452, 8459 (Feb. 22, 2002).

³⁶ Pub. L. No. 101-606, 104 Stat. 3096 (1990) (codified at 15 U.S.C. § 2921 *et seq.*).

³⁷ 15 U.S.C. § 2921(3).

look only at climate change. “Global change” is more than climate change. It includes energy and agricultural production, disaster resilience, and human health innovations—metrics that plainly affect Earth’s capacity to sustain life. The Proposed Amendment does not and cannot cure NCA5’s total exclusion of these metrics, which deprives policymakers and the public of the context necessary to understand climate impacts and misleads them about current trends in global change. NCA5’s confidence and likelihood labels compound the defect. Those labels express the probability of an outcome conditional on an emissions scenario occurring, yet NCA5 assigns the scenarios themselves no relative likelihoods.³⁸ A finding that follows only from an implausible scenario is not “very likely,” and labeling it so overstates the risk while defeating the requirement that federal science be “communicative of error and uncertainty.”

William Nordhaus’s DICE-2016 model shows how this lack of context misleads. The model puts 3°C of warming by 2100 at costs of 3.9% of global GDP in that year.³⁹ When framed so that only these climate damages are visible, the model appears to predict a staggering \$19.5 trillion loss. But when framed in the context of other global factors that will drive GDP growth between now and 2100, the model predicts that the world will be more than six times wealthier than it was in 2015. Climate change thus lowers that growth multiple from 6.7 to 6.5; it does not reduce world wealth.

Nor is the “substance” of the information presented in NCA5 “accurate, reliable, and unbiased.” NCA5 relies on deeply flawed studies. Its chapter on economics for example, cites a 2015 study⁴⁰ coauthored by one of the chapter’s coauthors, Solomon Hsiang, for the proposition that “[o]ver the coming century” climate change will result in “large negative impacts on economic production.”⁴¹ That study purports to show that unrestrained global warming will reduce world GDP per capita by 23 percent in the year 2100, nearly an order of magnitude more than the competing Nordhaus DICE model.⁴² But as other economists have demonstrated, that study “is shallow and misleading.”⁴³

That this study is cited in a chapter of NCA5 that Hsiang coauthored raises separate questions of bias and conflicts of interest. The chapter cites studies that Hsiang coauthored multiple times, raising questions about whether this work was selected for its quality. There are more than 700 authors involved in the publication of NCA5, each of whom helped produce a document, and sat on workgroups producing assessments, that call for further research on the severity of climate change—implicating each in a potential conflict. Each of those authors self-declared no conflict on a USGCRP

³⁸ NCA5, Front Matter (2023), <https://nca2023.globalchange.gov/chapter/front-matter/#section-2>.

³⁹ All numerical figures in this paragraph come from: Oren Cass, *How to Worry about Climate Change*, Nat’l Affs., Winter 2017, <https://www.nationalaffairs.com/publications/detail/how-to-worry-about-climate-change/>.

⁴⁰ Burke *et al.*, *Global Non-linear Effect of Temperature on Economic Production*, 527 *Nature* 235 (2015), <https://doi.org/10.1038/nature15725>.

⁴¹ NCA5, ch.19, *Economics* (2023), <https://doi.org/10.7930/NCA5.2023.CH19>.

⁴² Burke *et al.*, *supra* note 40.

⁴³ See David Barker, Comment, *Global Non-Linear Effect of Temperature on Economic Production: Comment on Burke, Hsiang, and Miguel*, 21 *Econ. J.* Watch 35 (2024), https://econjwatch.org/file_download/1309/EJWCCompleteIssueMar2024.pdf?mimetype=pdf.

form that has never been made public. No public record shows that anyone at USGCRP reviewed those declarations or tested whether an author held an actual conflict. USGCRP should release the completed NCA5 forms and those from prior assessments.

NCA5 also fails the IQA’s “utility” standard, which OMB defines as “the usefulness of the information to the intended users.”⁴⁴ Many of the studies NCA5 relies on sit behind paywalls, withhold their underlying data, or both. A reader who cannot reach a study or its data cannot replicate its analysis or verify its findings—and no interpretive amendment makes an inaccessible study accessible.

These failures exceed what an interpretive amendment can address. OSTP should recommend withdrawal of NCA5.

⁴⁴ 67 Fed. Reg. at 8459.