June 11, 2025

VIA ELECONTRIC MAIL

TO: Michael J.K. Kratsios
Director
Office of Science and Technology Policy
17th Street and Pennsylvania Avenue, NW
Washington, DC 20504

CC: Jeffrey B. Clark
Acting Administrator
Office of Information and Regulatory Analysis
725 17th Street, NW
New Executive Office Building, Room 10201
Washington, DC 20503

Re: Request for Correction under EO 14303 and the Information Quality Act Concerning the 5th National Climate Assessment Published by the U.S. Global Change Research Program

Dear Director Kratsios:

The American people deserve that their government's policy be informed by scientific data and research that meets the highest standards of quality. This is particularly so with issues of great importance like climate change, where policymaking affects all aspects of American life. That is why it is so concerning that the National Climate Assessment (NCA) produced by the U.S. Global Change Research Program (USGCRP), which informs vast swaths of government policy on climate change, is rife with errors, omissions, and misrepresentations for the apparent unscientific purpose of pushing a predetermined narrative.

Protect the Public's Trust (PPT) is a nonpartisan organization dedicated to promoting ethics in government and restoring the public's trust in government officials. The CO2 Coalition is a non-partisan educational foundation that provides thought leaders, policy makers, and the public with an informed and dispassionate perspective on humans' role in the climate system, the limitations of climate models, and the consequences of mandated reductions in CO2 emissions. Climate claims, made without proper scientific basis or method in documents meant to influence government policy, threaten the public's trust in its scientific officials and undermines the government's mission of stewarding the environment. It also poses the danger of policymakers basing consequential government policy on unscientific claims unsupported by evidence.

The President's recent Executive Order 14303 (the Order) on Restoring Gold Standard Science is a critical step toward regaining the public's trust in the scientific information developed and communicated by its government. The Order emphasizes the importance of using non-fraudulent data and reproducible, falsifiable information, avoiding conflicts of interest, and realistic assumptions, among

other key principles. Applied to countless federal decisions, reports, projections, and analyses, this directive to all agencies is likely to require revisiting myriad federal actions, statements, and recommendations. Indeed, the Information Quality Act (IQA) requires such corrections.

While numerous decisions based on "sound science" merit review, few are as consequential and riddled with violations of the principles of EO 14303 and the IQA as the 5th National Climate Assessment (NCA 5) issued by the Biden administration in 2023.[1] Accordingly, for the reasons identified herein, we submit this Request for Correction to the Office of Science and Technology Policy (OSTP) to reevaluate the NCA 5.

I. Under the IQA, OSTP has an obligation to correct errors in scientific information it disseminates

President Trump's EO 14303 "Restoring Gold Standard Science"[2] demonstrates a strong commitment to maintaining high standards of scientific integrity. This Order directs OSTP to consult with agencies to issue new guidance to improve the production, use, and communication of scientific data.[3] The Order comes in addition to the requirements imposed on agencies under the IQA[4] to correct their scientific research when errors are identified, and under the standards for scientific integrity maintained by the Office of Management and Budget's Guidelines for Ensuring and Maximizing the Quality, Utility, and Integrity of Information Disseminated by Federal Agencies (the "OMB Guidelines").[5]

Under the IQA and the OMB Guidelines, agencies must adopt standards of quality, objectivity, utility, and integrity and incorporate those criteria into their information dissemination practices.[6] "Information" is defined to be "any communication or representation of knowledge such as facts or data, in any medium or form, including textual, numerical, graphic, cartographic, narrative, or audiovisual forms."[7] "Objectivity" in the OMB Guidelines is defined in terms of disseminating information in an accurate, clear, complete, and unbiased manner while also focusing on ensuring reliable and unbiased information.[8] And "[i]ntegrity" is defined in terms of ensuring the information "is not compromised through corruption or falsification."[9]

Where an agency has violated these scientific integrity standards, a person may submit a Request for Correction to the agency so that the violations may be corrected.

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[1] USGCRP, FIFTH NATIONAL CLIMATE ASSESSMENT (2023), https://nca2023.globalchange.gov/.
[2] Proclamation No. 14303, 90 Fed. Reg. 22601 (May 23, 2025).
[3] *Id.*
[4] Treasury and General Government Appropriations Act of 2001, Pub. L. N. 106-554, § 515 (2000).
[5] Guidelines for Ensuring and Maximizing the Quality, Objectivity, Utility, and Integrity of Information Disseminated by Federal Agencies, Republication, 67 Fed. Reg. 8452 (Feb. 22, 2002).
[6] *Id.*
[7] *Id.*
[8] *Id*.
[9] *Id.*

II. EO 14303 Highlights the Impropriety of Using or Relying on RCP 8.5 in Climate Science Projections or Analyses

The Order called out the use of Representative Concentration Pathway (RCP) 8.5 by agencies to justify climate change policies that hamper the American energy economy and present an unrealistic worst-case climate scenario with exaggerated coal use assumptions, that scientists have criticized as misleading.[10] RCP 8.5 is a high-emissions scenario that is frequently referred to as "business as usual," suggesting that it is a likely outcome if society takes no action to adapt or mitigate changes to the climate. Additional crucial assumptions are embedded within the worst-case scenario such as a six-fold increase in coal consumption by the end of the century, despite most projections showing coal use having already peaked in 2014. As well-known Professors Roger Pielke Jr. and Justin Ritchie observed a few years ago:

> The integrity of science depends on its capacity to provide an ever more reliable picture of how the world works. . . .
>
> [However, o]ur research (and that of several colleagues) indicates that the scenarios of greenhouse gas (GHG) emissions through the end of the twenty-first century are grounded in outdated portrayals of the recent past. Because climate models depend on these scenarios to project the future behavior of the climate, the outdated scenarios provide a misleading basis both for developing a scientific evidence base and for informing climate policy discussions. The continuing misuse of scenarios in climate research has become pervasive and consequential.[11]

Yet the use of worst-case scenarios, especially by including RCP 8.5, continues to inform policy summaries and legacy media outlets covering the most consequential government reports produced – most significantly, NCA 5. This is intentional because the worst-case scenarios contain the most eye-popping future liabilities and human impacts. They also provide the strongest basis for taking "bold" government action to empower federal agencies to control vast portions of the domestic energy-producing economy, and spend inordinate amounts of taxpayer funds. But the problem is the model is outdated and not grounded in real-life, documented historical data and events.

Professors Pielke Jr. and Ritchie explain the deleterious and intellectually dishonest basis on which RCP 8.5 is relied upon in documents such as the NCA 5:

> Why does this matter? Because RCP8.5—the most commonly used RCP scenario and the one said to best represent what the world would look like if no climate policies were enacted—represents not just an implausible future in 2100, but a present that already deviates significantly from reality. We know this because we have studied RCP8.5 (as well as other climate scenarios) for years and have evaluated many of its inputs and assumptions against how the world has actually developed since 2005, where RCP8.5 begins. We have also evaluated hundreds of IPCC scenarios against near-term projections of global energy assessments. Our work (including collaborations with Matthew Burgess and other colleagues), as

[10] "Fact Sheet: President Donald J. Trump is Restoring Gold Standard Science in America," The White House (May 23, 2025).

[11] R. Pielke Jr. & J. Ritchie, "*How Climate Scenarios Lost Touch With Reality*," Issues in Science and Technology, Vol. XXXVII, No. 4, Summer 2021.

well as studies by other researchers published in many papers, clearly shows that most IPCC scenarios are already off track and some, like RCP8.5, significantly so. As summarized by two scenario experts in a January 2020 commentary in *Nature*, "the world imagined in RCP8.5 is one that, in our view, becomes increasingly implausible with every passing year."

For instance, RCP8.5 projects to 2100 a six-fold growth in global coal consumption per capita, while the International Energy Agency and other energy forecasting groups collectively agree that coal consumption has already or will soon peak. Also, RCP8.5 foresees carbon dioxide emissions growing rapidly to at least the year 2300 when Earth reaches more than 2,000 ppm of atmospheric carbon dioxide concentrations. But again, according to the IEA and other groups, fossil energy emissions have likely plateaued, and it is plausible to achieve net-zero emissions before the end of the century, if not much sooner. Today, projections that carbon dioxide emissions from fossil fuels will increase dramatically for the next 50, 100, or 300 years are simply implausible.

…

These decisions might be justifiable if climate models were simply scientific tools aimed at exploring a variety of conditions as a way to test hypotheses and researchers' understanding of the climate system. But scientists, policymakers, the media, environmentalists, and the public now widely justify and interpret climate models as providing predictive information about plausible futures. By choosing RCP8.5 as one of only four forcing scenarios to be used by modelers, and compounding this choice by labeling it as the business-as-usual scenario, the IPCC promoted a scenario useful for scientific exploration but highly misleading when applied to projecting the future to inform decision-making.[12]

While the critique of RCP 8.5 above references its use in the Sixth IPCC report, the concerns remain wholly applicable to NCA 5. For instance, the NCA 5 used the same four scenarios (RCP 8.5 among them) to present its findings as well as describing RCP 8.5 as business-as-usual.[13] The extensive criticism (and undeniable implausibility) of RCP 8.5 in the years leading up to the publication of NCA 5 renders its incorporation a fatal flaw that must be viewed as intended to mislead and deceive the public and policymakers looking for an honest assessment.

Therefore, pursuant to the IQA, we request that any aspect of NCA 5 that cites, relies on, or draws conclusions based on RCP 8.5 be revisited and removed from inclusion in an updated report. Such a correction would be an important first step toward Restoring Gold Standard Science to government climate science.

[12] R. Pielke Jr. & J. Ritchie, "*How Climate Scenarios Lost Touch With Reality*," Issues in Science and Technology, Vol. XXXVII, No. 4, Summer 2021.
[13] U.S. GCRP, NCA 5: Report in Brief (NCA 5 Report) at 17, 138 (2023).

III. NCA 5 Significantly Departed from OMB's Quality, Objectivity, Utility, and Integrity Standards.

The fundamentally implausible assumptions of RCP 8.5 highlighted above that, in turn, are consistently relied on throughout NCA 5, result in errors that violate OMB Guidelines and the Order and require correction as revealed by recent scholarship.[14] The National Climate Assessments produced by the U.S. Global Change Research Program contain systematic scientific integrity violations. NCA 5 is a research document on the state of the climate produced by the USGCRP, which is currently comprised of fifteen federal agencies.[15] USGCRP's NCA 5 report is riddled with contradictory, false, and fabricated data that must be corrected.[16]

NCA 5 violated the OMB Guidelines by fabricating, falsifying, or omitting contradictory data in an apparent effort to promote Net Zero Theory.[17] The Net Zero Theory stipulates that carbon dioxide and other greenhouse gas emissions need to be completely eliminated to avoid catastrophic global warming.[18] Throughout NCA 5, there are errors, omissions, and misrepresentations of data on multiple topics that are consistently biased toward supporting the Net Zero Theory.

NCA 5 repeats many failures raised by scientists following the 4th National Climate Assessment (NCA 4), indicating a willful disregard of present Gold Standard Science. Some examples are useful. Regarding heat waves, NCA presents a chart with the title, "Record Warm Daily Temperatures are Occurring More Often," but which did not actually show daily temperatures.[19] Instead, the chart showed a ratio of daily record high temperatures to daily record low temperatures each year, with a noticeable upward spike in recent years.[20] The chart was not only misleading based on its title but was also inconsistent with a separate chart contained further within NCA 4 showing that the average warm temperature as of NCA 4's publication in 2018 was approximately the same as it was in 1900.[21] Similarly misleading and contradictory data also appears in NCA 4 purporting to link alleged increases in hurricanes and wildfires to rising carbon dioxide emissions and human activity.[22] These errors are repeated in NCA 5.

In regards to wildfire, NCA 4 claims that there has been a significant increase in acreage burned in the contiguous U.S. with a supporting chart that begins in 1983. It omits data going back to 1926 showing that recent decades of wildfires have affected only about 20% of the area as was burned in the 1920s and 1930s. These continue in NCA 5 – again raising concerns that no attempt was undertaken to correct blatant scientific misrepresentation.

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[14] *See* Richard Lindzen & William Happer, *Greenhouse Gases and Fossil Fuels Climate Science,* 33-34 (Apr. 28, 2025), https://co2coalition.org/wp-content/uploads/2025/04/Lindzen-Happer-GREENHOUSE-GASES-AND-FOSSIL-FUELS-CLIMATE-SCIENCE-2025-04-28.pdf. (Attached as Exhibit A). *See also*, William Happer, Richard Lindzen, & CO2 Coalition, Comment on the 5th National Climate Assessment 3d Order Draft (Comment on NCA 5 3d Order Draft) (1-25-23), found at: https://co2coalition.org/publications/comment-on-the-5th-national-climate-assessment-3d-order-draft/.

[15] *Agencies*, U.S. GLOBAL CHANGE RESEARCH PROGRAM, https://www.globalchange.gov/agencies.

[16] *See Comment on NCA 5 3d Order Draft.*

[17] *See* Exhibit A at 33-34; *see also* Comment on NCA 5 3d Order Draft.

[18] *Exhibit A* at 3.

[19] *Exhibit A* at 34.

[20] *Id.*

[21] *See id.* at 34-35.

[22] *Id.* at 36-39. NCA4's hurricane analysis states there has been an upward trend in North Atlantic Hurricanes since the 1970s; however, the Third National Climate Assessment (NCA3) from 2014 said in an appendix that there was no significant trend identified in the number of U.S. land-falling hurricanes. *Id.* at 36-37.

Regarding rising sea levels, NCA 4 omits data that would contradict conclusions about human impact on the environment.[23] Within NCA 4, it is noted that sea levels had risen at an average of 0.05 inches a year for most of the 20th century, but had risen at double that rate since 1993. However, it is not mentioned that the recent rates are not meaningfully different from peak rates earlier in the century when humans' impact on the climate was weaker.[24] This omitted data undercuts the purported link between rising sea levels and human impact through carbon emissions.

The above examples of misleading, contradictory, and conspicuous omissions of data, and the failure to correct the record in NCA 5 presents scientific information in an inaccurate, incomplete, and seemingly biased and falsified manner. As such, NCA 5 does not comport with OMB's Guidelines or EO 14303.

NCA 5 perpetuates claims that there is a recent increase in global temperature and carbon dioxide concentration resulting from human activity.[25] But in doing so, NCA 5 only reports on global temperatures in the last several hundred years, ignoring the geological record which confirms that there were multiple periods of much warmer temperature at much lower levels of CO2. Additionally, NCA 5 claims that current levels of CO2 (~420 ppm) are unprecedented, yet fails to mention that these recent concentrations are one-sixth the average through the last 600 million years and are still near the recorded low.[26]

Life on Earth flourished at much higher carbon dioxide concentrations of several thousand ppm, which were closer to optimum for plant growth. Indeed, the greening of Earth that has been clearly documented from satellite monitoring over the past decades is largely due to the modest increases of carbon dioxide that have already occurred.[27] More CO2 will bring more greening benefits. NCA 5 gives no hint that the increasing carbon dioxide concentrations are benefitting, not harming, human society and life on Earth.

NCA 5 further misrepresents the relationship between global temperatures and carbon dioxide concentrations, claiming that increased carbon dioxide emissions by humans post-industrialization are causing increased global temperatures.[28] However, studies show that for millions of years, low global temperatures were accompanied by high atmospheric carbon dioxide levels; and that high global temperatures were accompanied by low atmospheric carbon dioxide.[29] Thus, in the last 600 million years, carbon dioxide concentrations and global temperatures cannot be causally correlated.[30] For this

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[23] *Id.* at 39.
[24] *Id.*
[25] *See* USGCRP, FIFTH NATIONAL CLIMATE ASSESSMENT, (2023), https://nca2023.globalchange.gov/.
[26] Exhibit A at 12-16.
[27] To elaborate, NASA satellites have revealed a great increase in vegetation (greening) across the globe from the near-polar regions to the equator. Since the early 1980's, NASA satellites, with enhanced infrared sensors, began measuring leaf area. According to NASA, CO2 increases explain about 70% of greening (Hille, 2016; Schernikau and Smith, 2022; Zhu et al., 2016). In fact, a NASA study and U.S. Department of Energy study found that less than 4% of the Earth's surface had experienced decreasing leaf area (Zhu et al., 2016). *See* Hille KB (2016) Carbon Dioxide Fertilization Greening Earth, Study Finds. National Aeronautics and Space Administration, https://www.nasa.gov/technology/carbon-dioxide-fertilization-greening-earth-study-finds/; Schernikau L, Smith WH (2022) "Climate Impacts" of Fossil Fuels in Today's Electricity Systems. Journal of the Southern African Institute of Mining and Metallurgy 122 (3), 133–146, DOI: https://dx.doi.org/10.2139/ssrn.3968359; and Zhu Z, Piao S, Myneni RB, et al. (2016) Greening of the Earth and Its Drivers. Nature Climate Change 6, 791–795, DOI: https://doi.org/10.1038/nclimate3004
[28] Exhibit A at 12-16.
[29] *Id*.
[30] *Id.*

reason, NCA 5's conclusion that carbon dioxide concentrations and global temperatures are correlated is disingenuous and violates the OMB Guidelines.

Finally, the NCA 5 cites its reliance on "indigenous knowledge" to understand and assess local climate and ecosystems, guide climate adaptation efforts, and leverage "indigenous knowledge" to spur climate action.[31] PPT has submitted scientific integrity complaints regarding the reliance on "indigenous knowledge" to base regulatory decisions that restrict development under the auspice of adopting selective Indigenous Peoples' viewpoints. This is wholly inappropriate and has no basis in science. To the extent that "indigenous knowledge" influenced or altered any scientific conclusion in NCA 5, we request that such inclusion be removed and scientific conclusions adjusted to reflect only information and findings consistent with Gold Standard Science.

Conclusion

The errors, omissions, and misrepresentations identified above are only some of the many scientific integrity violations that have been found within NCA 5. The repeated inclusion and citation of RCP 8.5 in government climate science models and analyses appears to be more of an exercise in "spurring climate action" than honestly forecasting future scenarios to the public and policymakers. This is better characterized as climate activism, not Gold Standard Science. A full analysis and identification of the many errors within NCA 5 (many of which failed to be corrected after being exposed post-NCA 4) that must be addressed and corrected can be found in the research by Professors Richard Lindzen and William Happer attached as Exhibit A. In light of these scientific integrity violations and OSTP's obligations under EO 14303 "Restoring Gold Standard Science", the OMB Guidelines, and the IQA, PPT formally requests that OSTP reevaluate NCA 5 and correct the errors that have been identified as well as any others that do not comport with Gold Standard Science.

Sincerely,

Michael Chamberlain
Director
Protect the Public's Trust

Gregory R. Wrightstone
Executive Director
CO_2 Coalition

[31] NCA 5 Report at 31, 49, 55, 97, 127.

Exhibit A

Richard Lindzen
Professor of Earth, Atmospheric, and Planetary Sciences, Emeritus
Massachusetts Institute of Technology

William Happer
Professor of Physics, Emeritus, Princeton University

GREENHOUSE GASES AND FOSSIL FUELS CLIMATE SCIENCE

April 28, 2025

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I. SUMMARY

At the outset it is important to understand that carbon dioxide has two relevant properties, as a creator of food and oxygen, and as a greenhouse gas (GHG).

As to food and oxygen, carbon dioxide is essential to nearly all life on earth by creating food and oxygen by photosynthesis. Further, it creates more food as its level in the atmosphere increases. For example, doubling carbon dioxide from today's approximately 420 ppm to 840 ppm would increase the amount of food available to people worldwide by roughly 40%, and doing so would have a negligible effect on temperature.

As to carbon dioxide as a GHG, the United States and countries worldwide are vigorously pursuing rules and subsidies under the Net Zero Theory that carbon dioxide and other GHG emissions must be reduced to Net Zero and the use of fossil fuels must be eliminated by 2050 to avoid catastrophic global warming and more extreme weather. A key premise stated by the Intergovernmental Panel on Climate Change (IPCC) is the "evidence is clear that carbon dioxide (CO_2) is the main driver of climate change," where "main driver means responsible for more than 50% of the change."[1]

The Biden Administration adopted over 100 rules and Congress has provided enormous subsidies promoting alternatives to fossil fuel premised on the Net Zero Theory. The EPA Endangerment Finding, for example, asserts "elevated concentrations of greenhouse gases in the atmosphere may reasonably be anticipated to endanger the public health and to endanger the public welfare of current and future generations."[2]

On April 9, 2025 President Trump issued a "Memorandum on Directing Repeal of Unlawful Rules" and Fact Sheet stating "agencies shall immediately take steps to effectuate the repeal of any [unlawful] regulation" under Supreme Court precedents, *inter alia*, where "the scientific and policy premises undergirding it had been shown to be wrong," or "where the costs imposed are not justified by the public benefits."[3] We understand the Supreme Court has also ruled in the leading case *State Farm*[4] that an agency regulation is arbitrary, capricious and thus invalid where, *inter alia:*

- "the agency has … entirely failed to consider an important aspect of the problem"
- "the agency has relied on factors which Congress has not intended it to consider."

We are career physicists with a special expertise in radiation physics, which describes how CO_2 and GHGs affect heat flow in Earth's atmosphere. In our scientific opinion, contrary to most media reporting and many people's understanding, the "scientific premises undergirding" the Net

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[1] IPCC, *Climate Change 2021: The Physical Science Basis*, p. 424, IPCC, Press_release_wgi_ar6_website-final (Aug. 9, 2021), p. 3.

[2] EPA, Endangerment and Cause or Contribute Findings for Greenhouse Gases under Section 202(a) of the Clean Air Act, 74 Fed. Reg. 66,511, 66516 (Dec. 15, 2009)("Endangerment Finding").

[3] *Ohio v. EPA*, 603 U.S. 279 (2024), *Michigan v. EPA*, 576 U.S. 743 (2015).

[4] "Normally, an agency rule would be arbitrary and capricious if the agency has relied on factors which Congress has not intended it to consider, entirely failed to consider an important aspect of the problem …." *Motor Vehicle Manufacturers Association of the United States, Inc. v. State Farm Mutual Automobile Insurance Company,* 463 U.S. 29, 43 (1983).

Zero Theory, all the Biden Net Zero Theory rules and congressional subsidies are scientifically false and "wrong," and violate these two *State Farm m*andates.

First, Scientific Evidence Ignored. All the agency rules, publications and studies we have seen supporting the Endangerment Finding and other Biden Net Zero Theory rules ignored, as if it does not exist, the robust and reliable scientific evidence that:

(a) carbon dioxide, GHGs and fossil fuels will not cause catastrophic global warming and more extreme weather, detailed in Part III.

(b) there will be disastrous consequences for the poor, people worldwide, future generations, Americans, America, and other countries if CO_2, other GHGs are reduced to Net Zero and fossil fuels eliminated that will endanger public health and welfare, detailed in Part IV.

Second, Unscientific Evidence at the Foundation. Unscientific evidence is all we have seen underlying the Endangerment Finding and all the other Biden Net Zero rules, detailed in Part V.

Further, Pres. Trump's Memorandum Fact Sheet stated that agencies "must repeal any regulation where the costs imposed are not justified by the public benefits."[5] This is a separate and an additional reason all the Biden Net Zero Theory rules must be repealed because they have no public benefits but impose enormous costs, detailed in Parts III-V.

Therefore, these Supreme Court decisions and the science demonstrated below[6] support repealing all the Net Zero Theory rules as soon as possible.

Further, for the same reasons, Congress should repeal all Net Zero theory subsidies, all laws that require GHG emissions be reduced and all laws that restrict fossil fuel development and infrastructure.

Finally, Peter Drucker warned, as every Net Zero Theory rule and subsidy demonstrates, that science in government is often based on "value judgments" that are "incompatible with any criteria one could possibly call scientific."[7]

Therefore, we suggest the President issue an Executive Order requiring all government agencies taking action based on scientific knowledge only rely on scientific knowledge derived by the scientific method, and never base their action on unscientific evidence and sources.

We also suggest the Executive Order clarify that the scientific method is, simply and profoundly, to validate theoretical predictions with observations, and further, that scientific knowledge is never determined by the opinions of government, consensus, 97% of scientists, peer review, or is based on models that do not work, or cherry-picked, fabricated, falsified or omitted contradictory data, elaborated in Part II of the paper.

In summary, the blunt scientific reality requires urgent action because we are confronted with policies that destroy western economies, impoverish the working middle class, condemn billions of the world's poorest to continued poverty and increased starvation, leave our children despairing over the

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

[6] As well as arguments tailored to specific rules. See, e.g., our comments on the EPA Fossil Fuel Power Plant rule, Regulations.gov, Department of Energy Gas Stove Rule, Regulations.gov and the SEC Climate Risk Disclosure Rule, s71022-20132171-302668.pdf (sec.gov)

[7] Peter Drucker, *Science and Industry, Challenges of Antagonistic Interdependence, Science* 806 (May 25, 1979).

alleged absence of a future, and will enrich the enemies of the West who are enjoying the spectacle of our suicide march.[8]

Instead, let people and the market decide, not governments.

Scientific details follow.

II. SCIENTIFIC KNOWLEDGE IS DETERMINED BY THE SCIENTIFIC METHOD, VALI DATING THEORETICAL PREDICTIONS WITH OBSERVATIONS, NOT BY GOVERNMENT OPINION, CONSENSUS, 97% OF SCIENTISTS' OPINIONS, PEER REVIEW, MODELS THAT DO NOT WORK, OR CHERRY-PICKED, FABRICATED, FALSIFIED OR OMITTED CONTRADICTORY DATA

A. Scientific Knowledge is Determined by the Scientific Method

As scientists, we totally agree with the Supreme Court: "'scientific knowledge' … must be derived by the scientific method." *Daubert v. Merrell Pharmaceuticals, Inc.,* 509 U.S. 579, 593 (1993).

What is the scientific method? Prof. Richard Feynman, a Nobel Laureate in Physics, provided an incisive definition:

> "[W]e compare the result of [a theory's] computation to nature, ... compare it directly with observations, to see if it works. If it disagrees with experiment, it is wrong. In that simple statement is the key to science." *The Character of Physical Law* (1965), p. 150.

Agreement with observations is the measure of scientific truth. Scientific progress proceeds by the interplay of theory and observation. Theory explains observations and makes predictions of what will be observed in the future. Observations anchor understanding and weed out the theories that do not work. This has been the scientific method for more than four hundred years.

In short, "Progress often involves the killing of an exquisite theory by an ugly fact." Leon Lederman, a Nobel Laureate in Physics, *The God Particle* (1993), p. 256.

Historically, it is helpful to understand how 400 years ago the scientific method was invented and how it differed fundamentally from other common methods of thinking:

> The scientific method "is a vehement and passionate interest in the relation of general principles to irreducible and stubborn facts. All the world over and at all times there have been practical men, absorbed in 'irreducible and stubborn facts;' all the world over and at all times there have been men of philosophic temperament who have been absorbed in the weaving of general principles. It is this union of passionate interest in the detailed facts with equal devotion to abstract generalization which forms the novelty in our present society." Alfred North Whitehead, *Science and the Modern World* (1925), p. 3.

Also by contrast, the scientific method totally differs from a method of analysis that is commonly used in climate science as shown below: ignoring contradictory facts and science, and changing the facts to support a theory so it is not rejected. Both are egregious violations of the scientific method.

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[8] Richard Lindzen, *Manufacturing Consensus on Climate Change*, *The American Mind* (Nov. 21, 2024).

It is astounding that one of the most complex questions in physics (namely, the behavior of a multi-phase, radiatively active, turbulent fluid) should be labeled by the government — and funding agencies it controls — to be so settled that skeptics are silenced. The models supporting the climate-crisis narrative make predictions that utterly fail to match the observations of what they purport to predict. This failure means in science they should never be used. Unfortunately, this peculiar situation is particularly dangerous because many world leaders have abandoned the science and intellectual rigor bequeathed to us by the Enlightenment and its forebears.

Thus, the scientific method is very simple and very profound.

Does the theory work with observations? If not, it is rejected and not used.

B. Scientific Knowledge is <u>Not</u> Determined By Unscientific Sources

1. Government Opinion

Nobel physicist Richard Feynman put it unambiguously:

> "No government has the right to decide on the truth of scientific principles."[9]

The importance of the scientific principle that government does not determine science was chillingly underscored in Russia under Stalin and recently in Sri Lanka.

In Russia, Stalin made Trofim Lysenko the czar of Russian biology and agriculture. His false biology, which rejected well-established genetic science, prevailed for 40 years in the Soviet Union because Lysenko gained dictatorial control, providing one of the most thoroughly documented and horrifying examples of the politicization of science. Lysenko was strongly supported by "scientists" who benefitted from his patronage. Millions died because of his ruthless campaign against genetic science in agriculture.[10]

Recently in Sri Lanka, one of us (Happer) explained:

> "Ideologically driven government mandates on agriculture have usually led to disaster…The world has just witnessed the collapse of the once bountiful agricultural sector of Sri Lanka as a result of government restrictions on mineral [nitrogen] fertilizer."[11]

2. Consensus and 97% of Scientists' Opinions

What is correct in science is not determined by consensus, and 97% of scientist's opinions[12], but by experiment and observations. Historically, the consensus of scientists has often turned out to be wrong. Many of the greatest scientists in history are great precisely because they broke with consensus. To quote the profoundly true observation of Michael Crichton:

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[9] Richard Feynman, *The Meaning of It All* p. 57 (1998).

[10] William Happer, Chapter 1, Michael Gould. *Politicizing Science* pp. 29–35 (2003).

[11] William Happer, et al., *Nitrous Oxide and Climate*, CO2 Coalition (Nov. 10, 2022), p. 39 (emphasis added).

[12] Importantly, note the 97% number is false. "The figure of 97% is entirely discredited." Andrew Montford, *Fraud, Bias and Public Relations: The 97% 'Consensus' and its Critics*, Global Warming Policy Foundation (2014), p. 12.

> "Historically, the claim of consensus has been the first refuge of scoundrels…If it is consensus, it isn't science. If it's science, it isn't consensus."[13]

In science, however, consensus and 97% of scientists' opinions are not the test. The test is the scientific method, testing theory with observations, and rejecting theories not validated by observations.

3. Peer Review

Peer review can be helpful in many areas of science, but it does not determine scientific validity.

In our decades of personal experience in the field, we have been dismayed that many distinguished scientific journals now have editorial boards that further the agenda of climate-change alarmism rather than objective science. Research papers with scientific findings contrary to the dogma of climate calamity are commonly rejected by peer reviewers, many of whom fear that their research funding will be cut if any doubt is cast on the looming climate catastrophe. Journal editors have been fired for publishing papers that go against the party line of the climate-alarm establishment.[14]

We also have been dismayed by the trillions of dollars that have been spent on one-sided research predicting catastrophic climate change. Dr. Harold Lewis, a distinguished physics professor, bluntly described this reality:

> "The global warming scam, with the (literally) trillions of dollars driving it … has corrupted so many scientists … It is the greatest and most successful pseudoscientific fraud I have seen in my long life as a physicist."[15]

Peer-reviewed climate science publications should not be viewed as reliable science and do not determine scientific validity. All must be ultimately tested by the scientific method and rejected if their theories are not validated by observations.

4. Models That Do Not Work

Models are a type of theory; they predict physical observations. The scientific method requires models to be tested by observations to see if they work. If a model's prediction disagrees with observations of what it purports to predict, it is wrong and never used as science. The models supporting the climate-crisis narrative simply do not align with observations of the phenomena they are supposedly designed to predict. Instead, they consistently overestimate the warming effect of CO_2 emissions, often predicting two or three times more warming than has been observed, detailed below.

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[13] Michael Crichton, *Aliens Cause Global Warming,* Caltech Michelin Lecture (Jan. 17, 2003).

[14] Richard Lindzen, *Climate of Fear*, *Wall Street Journal* (Apr. 12, 2006).

[15] Harold Lewis, October 6, 2010 resignation letter to the American Physical Society.

5. Cherry-Picked, Fabricated, Falsified or Omitted Contradictory Data

Since theories are tested with observations, fabricating data, falsifying data, and omitting contradictory facts to make a theory work is an egregious violation of the scientific method.[16]

Richard Feynman stated this fundamental principle of the scientific method:

> "If you're doing an experiment, you should report everything that you think might make it invalid – not only what you think is right about it.... Details that could throw doubt on your interpretation must be given, if you know them."[17]

In Albert Einstein's words: "The right to search for truth implies also a duty; one must not conceal any part of what one has recognized to be true."[18]

One of us (Lindzen) observes: "Misrepresentation, exaggeration, cherry-picking, or outright lying pretty much covers all the so-called evidence" marshalled in support of the Net Zero Theory.[19]

In summary, scientific knowledge is determined by the scientific method, testing theory with observations, not by government opinion, consensus, peer review or cherry-picked, fabricated, falsified or omitting contradictory data.

Analyzed next is all the robust and reliable science contradicting the Net Zero Theory rules, publications, the EPA Endangerment Finding and support for subsidies that is simply ignored or never properly analyzed scientifically.

III. IGNORED SCIENCE #1: CO2, OTHER GHGs AND FOSSIL FUELS WILL NOT CAUSE CATASTROPHIC GLOBAL WARMING AND MORE EXTREME WEATHER

A. Carbon Dioxide Now and At Higher Levels is a Weak Greenhouse Gas, So Reducing It and the Other GHGs to Net Zero Will Have a Negligible Effect On Temperature

There are numerous greenhouse gases. The five most abundant GHGs are water vapor (H_2O), nitrous oxide (N_2O), carbon dioxide (CO_2), ozone (O_3), and methane (CH_4).[20] The Endangerment Finding cites six: carbon dioxide, methane, and nitrous oxide, and three more: hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. 74 Fed. Reg. p. 66,516. The warming effects of these

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[16] David Goodstein, *On Fact and Fraud* p. 135 (2010). "Fabrication is making up data or results," "falsification is … changing or omitting data or results."

[17] Richard Feynman, *Surely You're Joking, Mr. Feynman!* pp. 311–312 (1985).

[18] Albert Einstein, *The Ultimate Quotable Einstein* p. 480 (2010).

[19] Richard Lindzen, *Global Warming for the Two Cultures*, *Global Warming Policy Foundation* 10 (2018).

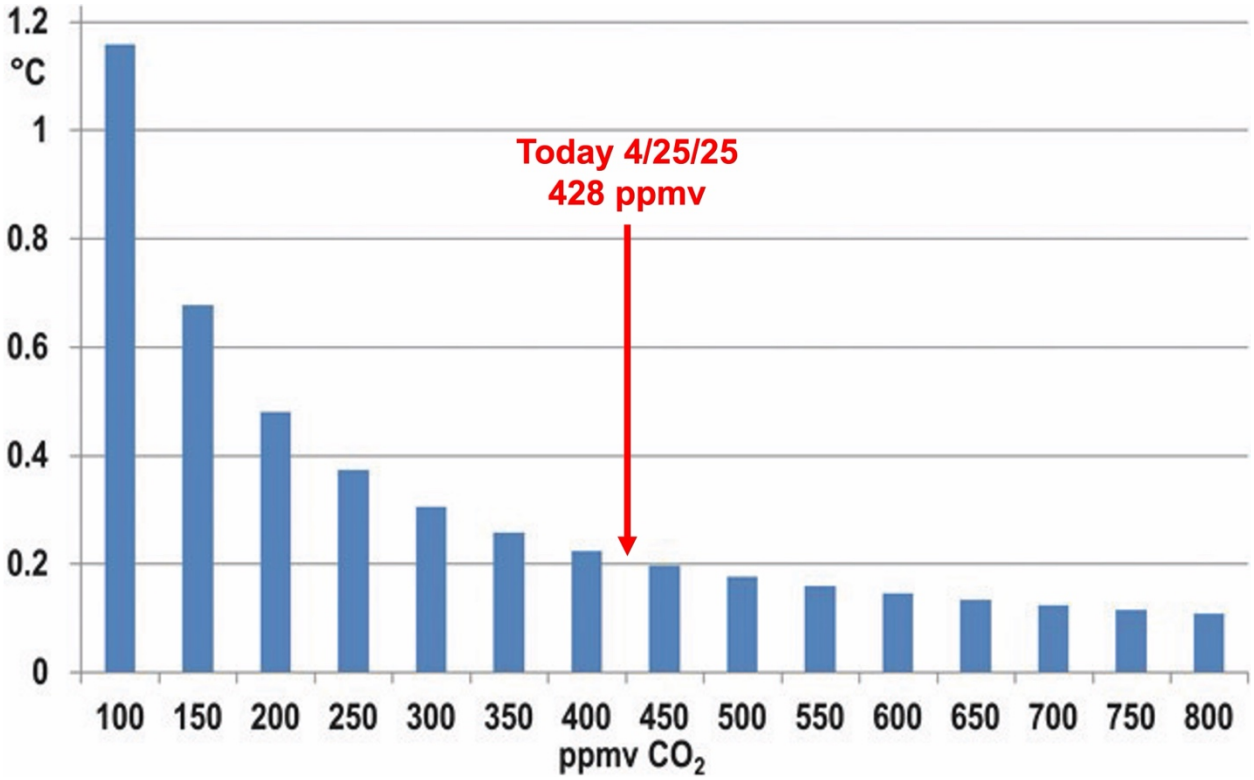
[20] Williaam van Wijngaarden & William Happer, *Dependence of Earth's Thermal Radiation on Five Most Abundant Greenhouse Gases*, p.1, https://ar5iv.labs.arxiv.org/html/2006.03098.

three are so small they are irrelevant to climate.[21] The warming effects of methane and nitrous oxide are also so small that they too are irrelevant to climate.[22]

Moreover, water vapor and clouds account "for more than 90% of the atmosphere's ability to intercept heat."[23] Thus CO_2 and all the other GHGs account for less than 10% of the atmosphere's ability to intercept heat.

Focusing on CO_2, it becomes a less effective greenhouse gas at higher concentrations because of what in physics is called "saturation." Each additional increase of CO_2 in the atmosphere causes a smaller and smaller change in "radiative forcing," or in temperature. The saturation effect is shown in the chart below.[24]

Less Global Warming For Each Additional 50 Parts-Per-Million-By-Volume of CO_2 Concentration



At today's CO_2 concentration in the atmosphere of approximately 425 parts per million, additional amounts of CO_2 have little ability to absorb heat and therefore is now a weak greenhouse gas. At higher concentrations in the future, the ability of future increases to warm the planet will

[21] Williaam van Wijngaarden & William Happer, *Instantaneous Clear Sky Radiative Forcings of Halogenated Gases* (June 23. 2023), : https://arxiv.org/pdf/2306.13642

[22] "Radiative effects of CH_4 [methane] and N_2O [nitrous oxide] are so small that they are irrelevant to climate." William van Wijngaarden and William Happer, "Methane and Climate" (2019), https://co2coalition.org/wp-content/uploads/2021/08/Methane-and-Climate.pdf, p. 4.

[23] Steven Koonin, *Unsettled* (2d. 2024) p. 51.

[24] Gregory Wrightstone, *Inconvenient Facts* (2017) p. 7 (updated).

be even smaller. This also means that the common assumption that carbon dioxide is in the IPCC's words "the main driver of climate change" is scientifically false.

In short, more carbon dioxide cannot cause catastrophic global warming or more extreme weather. Now and at higher levels, increasing carbon dioxide creates more food for people worldwide, and only a slight and beneficial increase in temperature.

How changes in atmospheric greenhouse gases affect radiation transfer are described by precise physical equations that have never failed to describe observations of the real world. Two of us (Lindzen and Happer) and Prof. van Wijngaarden applied these formulas to the enormous efforts by the U. S. and worldwide to reduce CO_2 emissions to Net Zero by 2050 in a paper that we recommend to those with a technical background.[25]

We show that all these efforts to achieve Net Zero emissions of carbon dioxide, if fully implemented, will have a trivial effect on temperature:

- United States Net Zero by 2050 — only avoids a temperature increase of 2/100 °F (0. 02 °F) with no positive feedback, and only 6/100°F (0.06 °F) with positive feedback of 4 that is typically built into the models of the United Nations International Panel on Climate Change (IPCC).
- Worldwide Net Zero by 2050 — only avoids a temperature increase of 13/100 (0.13 °F), or 50/100 °F (0.50 °F) with a factor of 4 positive feedback.

These numbers are trivial, but the cost of achieving them would be disastrous to people worldwide detailed below in part IV.

Saturation also explains why temperatures were not catastrophically high over the hundreds of millions of years when CO_2 levels were 10 to nearly 20 times higher than they are today, shown in the chart in Part III.C covering 600 million years.

Further, saturation means that from now on, CO_2 emissions from burning fossil fuels and other sources will have little impact on global warming. We could double atmospheric CO_2 to 840 ppm and have little warming effect. Since CO_2 at today's level is "saturated," for this reason alone there is no risk that the continued use of fossil fuels will cause catastrophic global warming and more extreme weather.

Nor is there any scientific basis for the United Nation and IPCC repeated warnings that carbon emission reductions are urgently necessary to avoid catastrophic climate change. Our scientific opinion is that there is no reason to limit CO_2 increases, which are bringing major benefits to agriculture and forestry.

More details on saturation are explained with the graph below. [26]

The blue curve shows the heat energy the Earth would radiate to space if our atmosphere had no greenhouse gases or clouds. The magnitude is measured in Watts per square meter (W/m^2).

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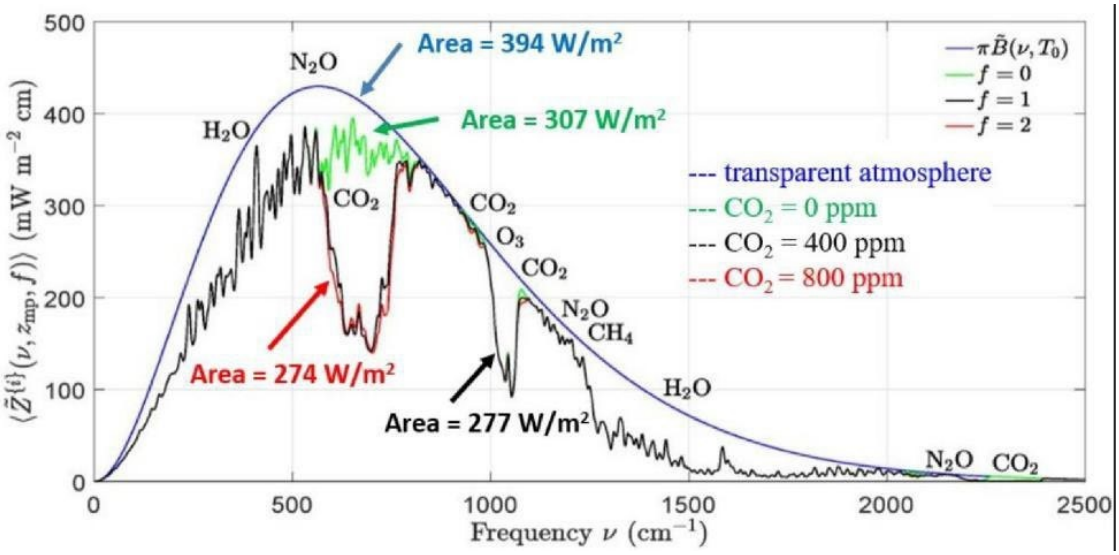
[25] Richard Lindzen, William Happer and William van Wijngaarden, *Net Zero Avoided Temperature Increase*, (Net Zero Averted Temperature Increase – CO2 Coalition; http://arxiv.org/abs/2406.07392)

[26] William Happer & Williaam van Wijngaarden, *Dependence of Earth's Thermal Radiation on Five Most Abundant Greenhouse Gases*, p.1, https://ar5iv.labs.arxiv.org/html/2006.03098.

Without greenhouse gases, the total heat loss of 394 W/m^2 would soon cool the Earth's surface to 16° F, well below freezing. Most life would end at these low temperatures. Thus, we should be grateful for greenhouse warming of the Earth.



The jagged black curve below the blue curve shows how much less the Earth radiates infrared radiation to space with the current concentration of the most abundant greenhouse gases. Because of greenhouse gases, the Earth radiates 277 W/m^2 rather than 394 W/m^2 to space, 70% (277/394) of what it would radiate with no greenhouse gases.

What would happen if CO_2 concentrations were doubled from 400 ppm to 800 ppm? "Doubling the standard concentration of CO_2 (from 400 to 800 ppm) would cause a forcing [warming] increase (the area between the black and red lines) of …3.0 W/m^2." Id. p. 13. That means a temperature increase of a trivial amount, less than 1° C (2° F). It should be noted doubling methane concentrations would have an even more trivial warming increase, 0.7 W/m^2, and thus an even more trivial temperature increase. Id. p. 14.

Accordingly, since CO_2 at today's level is "saturated," for this reason alone there is no risk that the continued use of fossil fuels and even a doubling of atmospheric CO_2 will cause catastrophic global warming and extreme weather.

Finally, it bears noting that CO_2 is not nearly as potent a greenhouse gas as water vapor and clouds (especially cirrus clouds). A radiation-blocking effect of only about 3 W/m^2 could easily also be produced by changes in the size or height of cloud cover on any given day. This is a complex system, and the idea that one variable, globally average temperature, is changed primarily by one thing, manmade CO_2, is baseless. As one of us (Lindzen) has explained:

> *"The climate system consists of two turbulent fluids interacting with each other, [ocean and atmosphere]. They are on a rotating planet that is differentially heated by the sun. A vital constituent of the atmospheric component is water in the liquid, solid, and vapor phases, and the changes in phase have vast energetic ramifications. The energy budget of this system involves the absorption and remission of about 200 watts per square meter. Doubling CO_2 involves a two percent perturbation to this budget. So do minor changes in clouds, ocean circulations, and other features, and such changes are common. In this complex multifactor system, what is the likelihood that the climate (which*

itself consists of many variables and not just globally averaged temperature anomalies) is controlled by a two percent perturbation in the energy budget due to just one of the numerous variables, namely CO_2? Believing this is pretty close to believing in magic."[27]

In conclusion, since CO_2 is now a weak GHG, and the warming effects of the other GHGs, including methane and nitrous oxide, are so small that they irrelevant to climate, there is no risk GHGs and fossil fuels will cause catastrophic global warming and extreme weather. Therefore for this reason alone there is no scientific knowledge that supports any of the Net Zero Theory rules, subsidies or polices.

B. The EPA's MAGICC Model Confirms Carbon Dioxide Now and at Higher Levels is a Weak Greenhouse Gas, So Reducing It to Net Zero Will Have a Negligible Effect on Temperatures

The Environmental Protection Agency uses the Model for Assessment of Greenhouse Gas-Induced Climate Change (MAGICC), as does the IPCC, many government agencies and climate policy analysts to predict temperatures and sea level rise from the level of CO_2 and other GHGs in the atmosphere.

The MAGICC model confirms that the U.S. achieving Net Zero CO_2 and other GHG emissions to by 2100 would cause negligible changes in Earth's surface temperature. Reducing them to Net Zero would reduce global temperatures by less than 1° C (1.8°F) by 2100.[28]

Thus the EPA's own MAGICC formula confirms that, since CO_2 is now and at higher levels a weak GHG, there is no risk CO2, other GHGs and fossil fuels will cause catastrophic global warming and extreme weather, and thus confirms there is no scientific knowledge that supports any of the Net Zero Theory rules, subsidies or polices.

C. 600 Million Years of CO_2 and Temperature Data Contradict the Theory That High Levels of CO_2 Will Cause Catastrophic Global Warming.

The chart below shows 600 million years of CO_2 levels and temperature data.[29] It usually shows an inverse relationship between CO_2 and climate temperatures during much of Earth's history over the last 600 million years.

The higher levels of CO_2 correlate with lower temperatures and vice versa. Although the data are based on various proxies, with the attendant uncertainties, they are good enough to demolish the argument that atmospheric CO_2 concentrations control Earth's climate and the theory that CO_2 will cause catastrophic global warming and extreme weather. They will not.

The blue line shows CO_2 levels.

The red line shows temperature.

Specifically, the chart shows:

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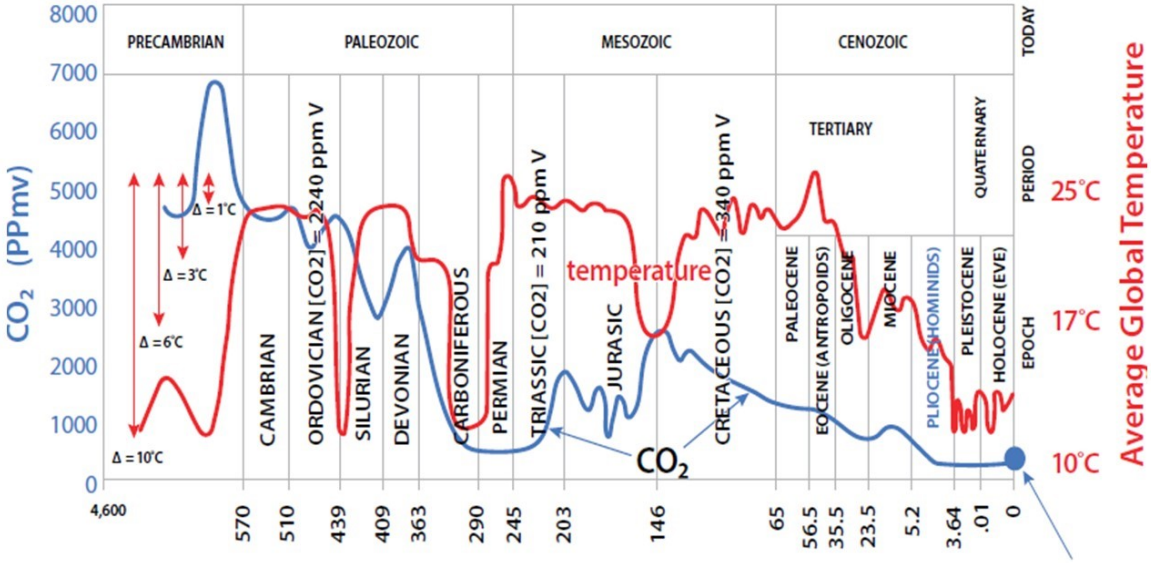
[27] Richard Lindzen, *Straight Talk About Climate Change," Acad. Quest.* (2017), p. 432.

[28] Benjamin Zycher, *The Case for Climate-Change Realism,* pp. 107-09*;* Benjamin Zycher, Stmt. U.S. Senate Budget Comm. Hrg. "Left Holding the Bag: The Cost of Oil Dependence in a Low-Carbon World" (March 29, 2023).

[29] Nasif Nahle, *Geologic Global Climate Changes*, *Biology Cabinet J.* (Mar. 2007). Updated by Greg Wrightstone May 2024

- When CO_2 was at a record high at about 7,000 ppm, temperatures were at a near-record low.
- CO_2 levels were low when temperatures were at the highest they have ever been, about 60 million years ago.
- CO_2 levels have been relatively low for the last 300 million years and have been declining from 2,800 ppm to today's 420 ppm over the last 145 million years.
- Temperatures have been higher than today over most of the 600 million years and life flourished.



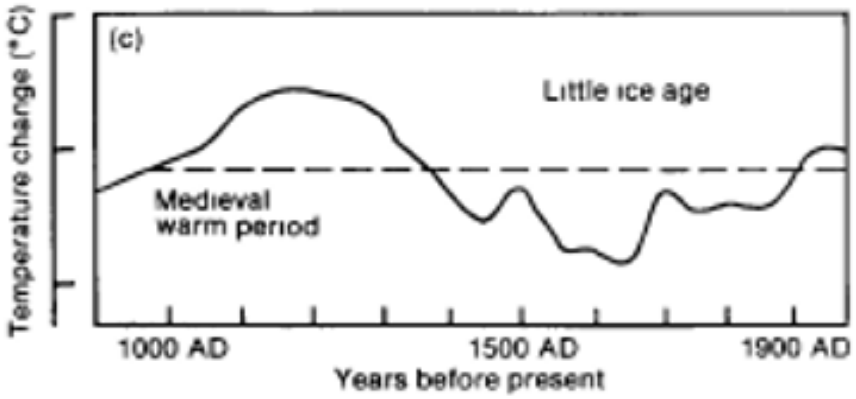
Reconstructed atmospheric carbon dioxide concentrations (Berner, 2001) & global mean surface temperature (Scotese, 1999)

Thus, CO_2 concentrations and temperatures are usually inversely related over hundreds of millions of years. Temperatures were low when CO_2 levels were high, and temperatures were high when CO_2 levels were low.

Neither contemporary observations nor the geological record support claims that CO_2 is the "control knob" on the earth's climate. There have been tremendous fluctuations in global temperature, including ice ages and warm periods, when there was negligible use of fossil fuels. A thousand years ago, during the medieval warm period (about 850–1250 A.D.), Greenland supported Norse farmers who grew crops such as barley, which cannot be grown there now because of the cold. There followed the Little Ice Age that lasted from about 1250–1850 A.D. Glaciers have been retreating ever since then. None of these fluctuations, far more dramatic than anything predicted by the studies on which Net Zero Theory relies, were caused by, or had any correlation with, changing CO_2 levels.

The IPCC provided this chart about the Medieval Warm Period (950–1250) and the Little Ice Age (1450–1850).[30] Note the temperature was much higher around 1200 than today.

[30] *IPCC, Climate Change: The IPCC Scientific Assessment* 203 (1990). We have confirmed this IPPC data from many sources.

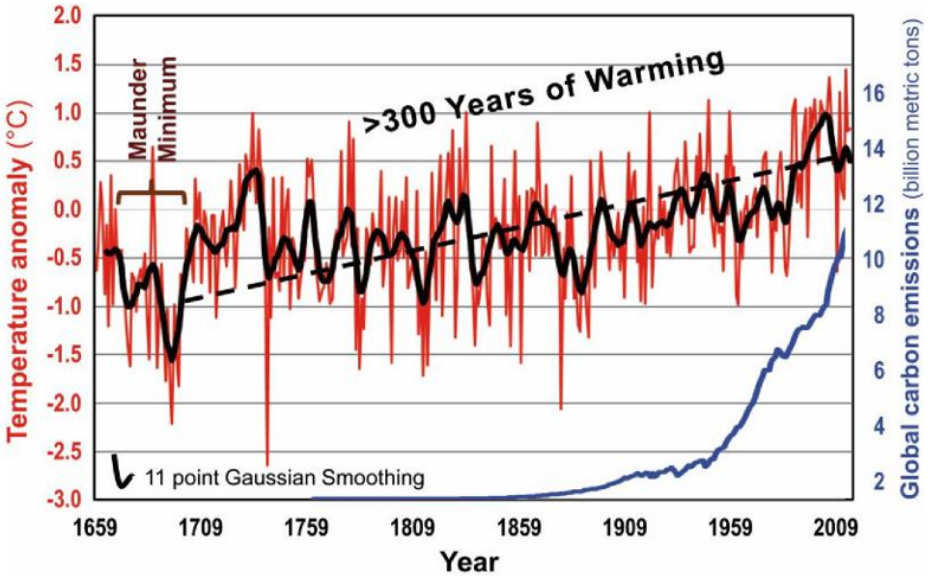


The IPCC noted:

> "The late tenth to early thirteenth centuries (about AD 950–1250) appear to have been exceptionally warm … This period is known as the Medieval Climatic Optimum…. This period of widespread warmth is notable in that there is no evidence that it was accompanied by an increase of greenhouse gases." (Emphasis added).[31]

The little warming we observe now is a continuation of the 300-year warming that is a recovery from the depths of the Little Ice Age, as shown in the following chart:[32]

Figure I-24: Greater than 300 years of warming in central England from 1695 – 2017



Note that the blue line at the bottom shows that humans did not start emitting any significant amount of CO_2 until after 1900, and only a trivial amount since the beginning of the Industrial Age from about 1750 to 1950.

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[31] *Id.* p. 202.

[32] Wrightstone, *supra*, p. 34.

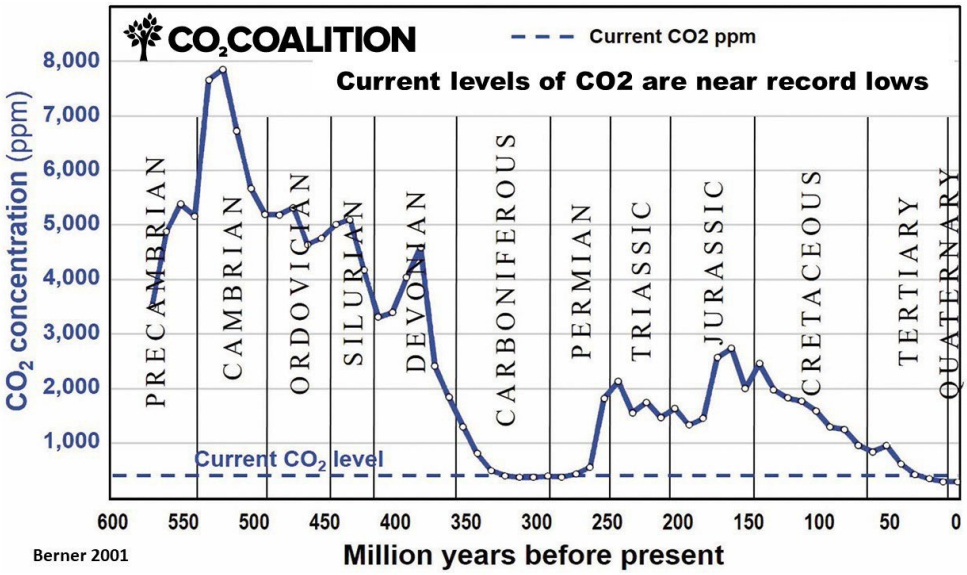
At the same time, no scientist familiar with radiation transfer denies that more carbon dioxide is likely to cause only small and benign warming. In fact, history shows that warmings of a few degrees Celsius -- which extended growing seasons -- have been good for humanity. The golden age of classical Roman civilization occurred during a warm period as did the first great civilizations during the Bronze Age in the Minoan Warm Period.

Thus, applying the scientific method to the 600 million years of omitted and not considered data contradicts the Net Zero Theory that CO_2, other GHGs and fossil fuels will cause catastrophic global warming and extreme weather. Net Zero Theory does not agree with the facts, and the scientific method requires the theory to be rejected. For this reason alone, there is no risk CO2, other GHGs and fossil fuels will cause catastrophic global warming and extreme weather.

D. Today's 425 ppm CO_2 Level Is Very Low, Not Dangerously High, 600 Million Years of Data Show

Many Net Zero Theory government and other advocates claim that today's CO_2 level is dangerously high. Frankly, they are doing what science deems falsifying data by cherry-picking a short period of geological time to prove their point. For example, the EPA in proposing its Fossil Fuel Power Plant Rule asserted "CO_2 concentration of 415 ppm is already higher than at any time in the last 2 million years," and "elevated concentrations endanger our health by affecting our food and water sources, the air we breathe, the weather we experience, and our interactions with the natural and built environments."[33]

Hundreds of million years of available data raises the obvious scientific question, what happened over geological time? The EPA, like many Net Zero Theory advocates, omits and fails to consider the contradictory data over 600 hundred million years that prove CO_2 levels today are near a record low:[34]



The omitted hundreds of millions of years of data prove that:

- CO_2 levels were more than 2,000 ppm for over half of the last 600 million years.

[33] 88 Fed. Reg. 33,249–50 (footnotes omitted).

[34] Wrightstone, *supra,* p. 16.

- CO_2 levels ranged from a high of over 7,000 ppm -- almost 20 times higher than today's 420 ppm, to a low of 200 ppm, close to today's low of 420 ppm.
- The often highly emphasized 140 ppm increase in CO_2 since the beginning of the Industrial Age is trivial compared to CO_2 changes over the geological history of life on Earth.`
- Today's 420 ppm is not far above the minimal level when plants die of CO_2 starvation, around 150 ppm, when all human and other life would die from lack of food.

Thus, applying the scientific method to cherry-picked data and omitted 600 million years of data, CO_2 levels are very low and not dangerously high. It also contradicts the theory that CO2, other GHGs and fossil fuels will cause catastrophic global warming and extreme weather. The theory does not agree with the facts, and the scientific method requires the theory be rejected. For this reason alone, there is no risk CO2, other GHGs and fossil fuels will cause catastrophic global warming and extreme weather.

In summary, the scientific evidence above demonstrates there is no scientific knowledge that supports any of the Net Zero Theory, rules, subsidies or policies and the EPA Endangerment Finding.

IV. IGNORED SCIENCE #2: THERE WILL BE DISASTROUS CONSEQUENCES FOR THE POOR, PEOPLE WORLDWIDE, FUTURE GENERATIONS, AMERICANS, AMERICA, AND THE WEST IF CO2, OTHER GHGs AND FOSSIL FUELS ARE REDUCED TO NET ZERO AND WILL ENDANGER PUBLIC HEALTH AND WELFARE

A. American Net Zero Theory Rules' and Subsidies' Disastrous Results

Many Federal and some state governments' Net Zero rules and subsidies will have disastrous effects on Americans and America endangering public health and welfare in a relatively short time, including, but not limited to, the following:

- "The EPA's New Tailpipe Emissions Rule is a Plan to Eliminate Gas-Powered Cars"[35] and eliminate gasoline car and truck production, as thus eliminating upwards of 10 million jobs,[36] and related GDP and tax revenue
- "Banning Gas Stoves by Regulation,[37] and gas furnaces, gas heaters and other personal and commercial gas appliances, requiring the purchase of electric appliances where electricity costs 3 ½ times more than natural gas according to the Department of Energy,[38] and eliminate related jobs, GDP and tax revenue.
- "An EPA Death Sentence for Fossil-Fuel Power Plants: The Biden Agency's New Rule Means the End of Natural Gas-Fueled Electricity,"[39] which provide

[35] Editorial, *Biden's EV Mandate Blows Its Cover: The EPA's New Tailpipe Emissions Rule is a Plan to Eliminate Gas-Powered Cars*, *Wall Street J.* (March 21, 2024)

[36] National Economic Insights | Alliance For Automotive Innovation

[37] Editorial, *Banning Gas Stoves by Regulation*, *Wall Street J.* (Feb. 3, 2024).

[38] Department of Energy, Energy Conservation Program For Consumer Products: Representative Average Unit Cost of Energy, 87 *Fed. Reg*. 12681, 12682 (Mar. 7, 2022).

[39] Editorial, *An EPA Death Sentence for Fossil-Fuel Power Plants: The Biden Agency's New Rule Means the End of Natural Gas-Fueled Electricity*, (May 11, 2023).

more than 60% of U.S. electricity reliably and affordably, and related jobs, GDP and tax revenue

- Significantly reducing oil and gas industry jobs, GDP and revenue as a result, affecting 10.8 million total jobs, 2.3 million direct jobs and 8.5 million indirect jobs.[40]
- The SEC Climate Risk Disclosure Rule compelling registered companies to make enormously expensive disclosures premised on the Net Zero Theory that GHG emissions cause "higher temperatures, sea level rise, and drought, …hurricanes, floods, tornadoes, and wildfires." The mandated disclosures would be scientifically false and misleading to investors because, as demonstrated above, more carbon dioxide and other GHG emissions will have a negligible effect on temperature and therefore on extreme weather.[41]
- Diverting enormous amounts of capital to Green New Deal spending and subsidies from investments in businesses that create jobs, GDP and tax revenue, for example:
    - the Inflation Reduction Act could cost $4.7 trillion by 2050,[42]
    - McKinsey and Company estimated the Net Zero transition would cost about $9.2 trillion per year and $275 trillion between 2021 and 2050.[43]
    - former Treasury Secretary Janet Yellen estimated the global energy transition from fossil fuels to renewable energy will cost $78 trillion through 2050, $3 trillion a year,[44] and
    - 450 financial firms recently pledged $130 trillion in capital to finance the transition to Net Zero emissions.[45]

As demonstrated in Part III, these astounding costs will achieve no benefits to the public and climate but at enormous costs to people and in dollars, demonstrated in Part IV.

B. CO_2 is Essential to Our Food, and Thus to Life on Earth.

Carbon dioxide is the miracle molecule of life. It is the basis for nearly all life on earth. We owe our existence to green plants that, through photosynthesis, convert CO_2 and water to carbohydrates and oxygen with sunlight. Land plants get the carbon they need from the CO_2 in the air. In turn, livestock depend on the availability of green plants to consume, so that humans can consume the livestock.

Without CO_2, there would be no food and thus no human or other life.

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[40] PWC, *Impacts of the Oil and Natural Gas Industry on the US Economy in 2021* (April 2023).

[41] Washington and Happer, *SEC's Climate Risk Disclosure Rule Would Compel Companies to Make Scientifically False and Misleading Disclosures*, *Real Clear Energy* (March 5, 2025). See also Part III.

[42] Travis Fisher and Joshua Loucks, *The Budgetary Cost of the Inflation Reduction Act's Energy Subsidies*, *Cato* (March 11, 2025 and).

[43] McKinsey and Company, *The Net Zero Transition* (January 2022).

[44] Institute for Energy Research, *Global Energy Transition Will Cost $3 Trillion a Year* (Aug. 1, 2024).

[45] Joshua Rauh and Mels de Zeeuw, *Net Zero Will Make Wall Street Richer at Main Street's Expense*, *Wall Street J.* (Nov. 12, 2021).

C. More CO_2, Including CO_2 From Fossil Fuels, Produces More Food

Increasing CO_2 in the atmosphere increases the amount of food that plants produce, a phenomenon called "fertilization." Thousands of experimental results demonstrate that more CO_2 usually increases the amount of food that plants produce.[46] A graphic illustration of the response of plants to increases in CO_2 is shown below. Dr. Sherwood Idso grew Eldarica (Afghan) pine trees with increasing amounts of CO_2 in experiments, starting with an ambient CO_2 concentration of 385 ppm. He showed what happens when CO_2 is increased from 385 ppm to 535 ppm, 685 ppm and 835 ppm over 10 years:[47]

The "fertilization" effect varies significantly by type of plant. Dr. Craig Idso reported, "[s]ince the start of the Industrial Revolution, it can be calculated … that the 120-ppm increase in atmospheric CO_2 concentration increased agricultural production per unit land area" for various crops ranging from 28% to 70%, and averaging 46%.[48] He also reported "CO_2–induced activity

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[46] *See, e.g.*, NIPCC, *Climate Change Reconsidered II: Biological Impacts* (2014); Craig Idso, "What Rising CO_2 Means For Global Food Security" CO_2 Coalition (2019); Plant Growth Database, Center for the Study of Carbon Dioxide and Global Change, http://www.CO2science.org/data/plant_growth/dry/dry_subject.php.

[47] Craig Idso, *Increased Plant Productivity: The First Key Benefit of Atmospheric CO_2 Enrichment, Master Resource* (Apr. 21, 2022).

[48] Nongovernmental International Panel on Climate Change (NIPCC), *Climate Change Reconsidered II: Biological Impacts* (2014) p. 322.

productivity increase[d]" one of the varieties of rice by 263%,[49] and that a 300 ppm increase in CO_2 resulted in an average increase of 46%.[50]

What would happen if CO_2 doubled from the current approximately 400 ppm in the atmosphere to 800 ppm? Crop yields worldwide would increase by about 40%, based on empirical findings of how CO_2 concentrations affect crop yields.[51]

What if the Net Zero Theory went into effect now and CO_2 does not double to 800 ppm?\ There would be 40% less food worldwide.

Thus, more CO_2 means more food for people worldwide. Reducing CO_2 to Net Zero means less food for people worldwide, but with only a negligible effect on temperature.

Sylvan Wittwer, the father of agricultural research on this topic, eloquently emphasized the enormous benefits of providing more food to people worldwide by rising CO_2:

> "The rising level of atmospheric CO_2 could be the one global natural resource that is progressively increasing food production and total biological output … The effects know no boundaries, and both developing and developed countries are, and will be, sharing equally."[52]

D. More CO_2 Increases Food in Drought-Stricken Areas

Another enormous social benefit of increasing CO_2 is that drought-stricken areas will have more food. In regions of the world suffering from drought, more CO_2 means there will be more food, because increasing CO_2 lessens water lost by plant transpiration:

At higher CO_2 levels, plants need less water because they grow leaves with fewer stomatal pores, and generally do not open their leaf stomatal pores as wide. The result is less water loss by transpiration. Plants need *less* water to produce the *same* — or an even *greater* — amount of biomass.[53]

On the other hand, Dr. Idso bluntly summarized the disastrous consequences if Net Zero fossil fuels and carbon dioxide policies are implemented on the food available to people worldwide:

> "If proposed rules restricting anthropogenic CO_2 emissions… are enacted, they will greatly exacerbate future food problems by reducing the CO_2-induced yield

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[49] Craig Idso, *Estimates of Global Food Production in The Year 2050: Will We Produce Enough to Adequately Feed the World?*, p. 31 (2011).

[50] Craig Idso, *The Positive Externalities of Carbon Dioxide*, CO_2 COALITION (2013) p. 3 (discussed in Wrightstone, *supra,* p. 19).

[51] One of the authors (Happer) explained that experiments with CO_2 fertilization show that many crop yields increase by a factor x with adequate water and other nutrients, where x is the ratio of the current CO_2 ppm level to the former level. Doubling from 400 to 800 ppm means x = 800/400 = 2, and $\sqrt{2}$ = 1.41, implying approximately a 40% increase. (Note it would take more than a century for CO_2 to reach 800 ppm).

[52] Quoted in NIPCC, *Climate Change Reconsidered II: Fossil Fuels* (2019), pp. 322–23.

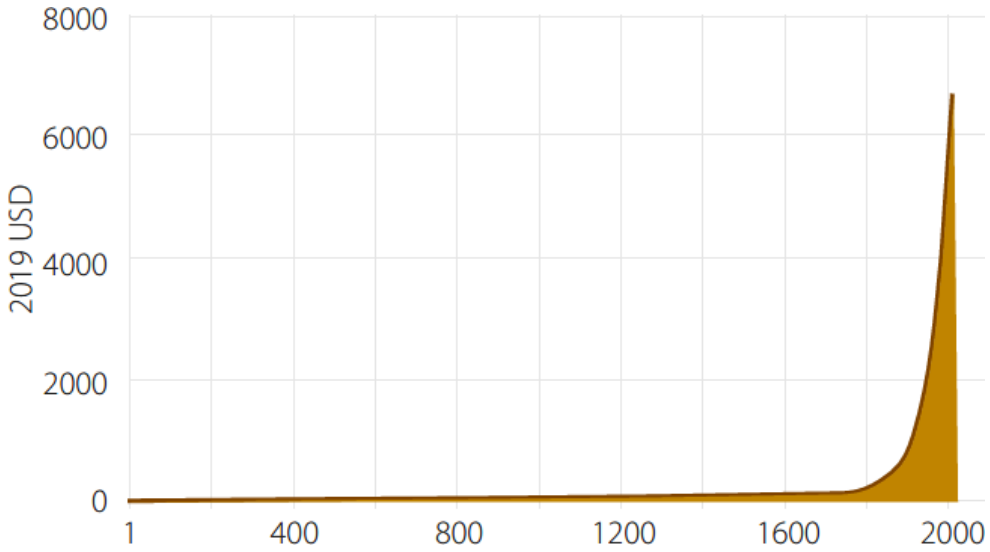
[53] Craig Idso, *What Rising CO_2 Means for Global Food Security*, CO_2 Coalition (2019), p. 13. *See also* Craig Idso & Sherwood Idso, *The Many Benefits of Atmospheric and CO_2 Enrichment* (2011).

enhancements…. And because of such CO_2 emissions rules, hundreds of millions of the world's population will be subjected to hunger and malnutrition. Even more troubling is the fact that thousands would die daily because of health problems they likely would have survived had they received adequate food and nutrition."[54]

E. Enormous Social Benefits of Fossil Fuels

Contrary to the incessant attack on fossil fuels, affordable, abundant fossil fuels have given ordinary people the sort of freedom, prosperity and health that were reserved for kings in ages past.

The following chart of the GDP per person for the last 2,000 years powerfully illustrates what has happened:[55]



F. Net Zeroing Fossil Fuels Will Cause Massive Human Starvation by Eliminating Nitrogen Fertilizer

Food scarcity is an enormous global problem, as the UN has realized by including "zero hunger" among the top two sustainable development goals. Unfortunately, 2.3 billion people are moderately or severely food insecure today,[56] and 900 million are severely food insecure. Id.

Nitrogen fertilizer, which is made from fossil fuels (natural gas), has greatly alleviated the problem of food scarcity. Nitrogen fertilizer now supports approximately half of the global population."[57]

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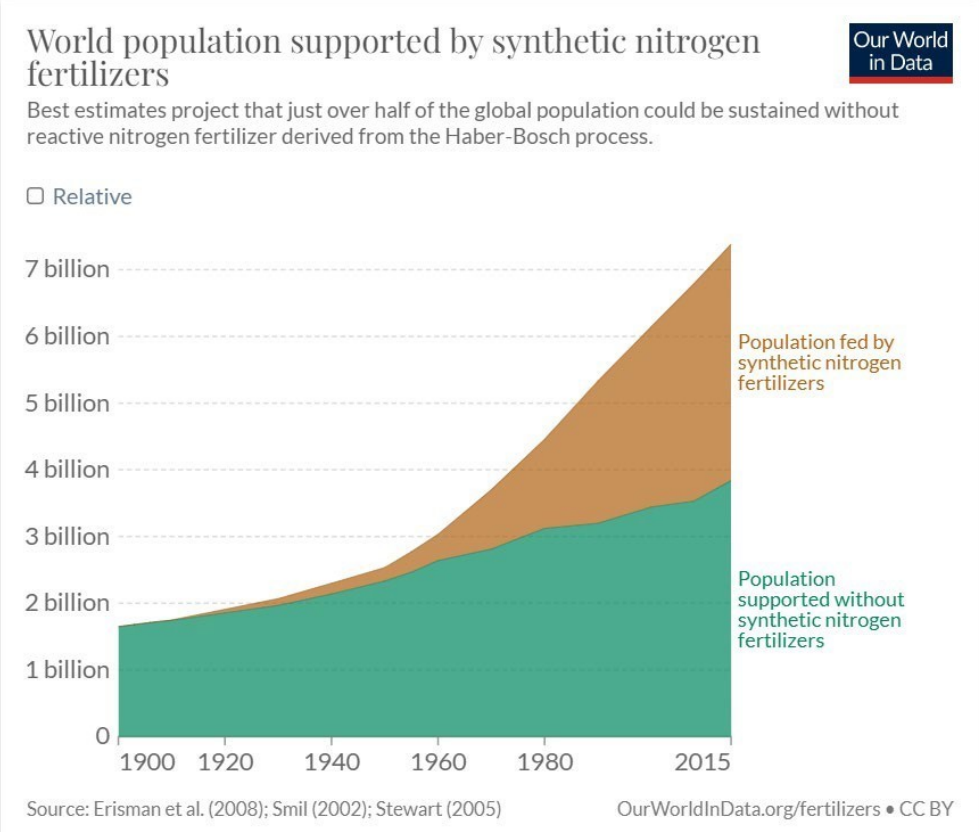
[54] Craig Idso, *Estimates of Global Food Production in The Year 2050: Will We Produce Enough to Adequately Feed the World?* p. 31 (2011).

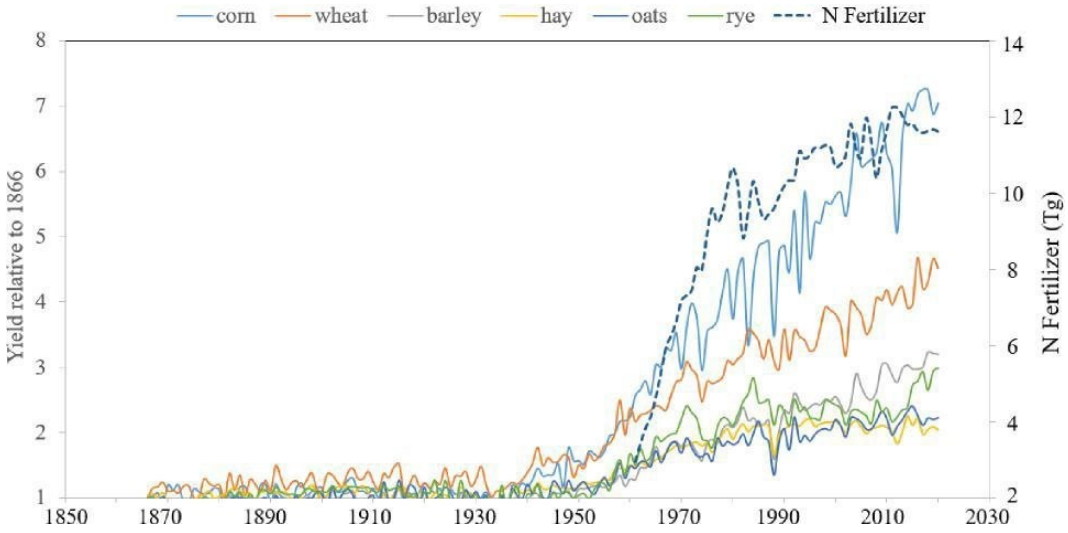
[55]Rupert Darwall, *Climate Noose: Business, Net Zero and the IPCC's Anticapitalism* Global Warming Policy Foundation p. 21.

[56] United Nations, *The State of Food Security and Nutrition In The World (2022) at* xvii (2022).

[57] Hannah Ritchie, Max Roser and Pablo Rosado, "How Many People Does Synthetic Fertilizer Feed?", *Our World In Data* (Nov. 7, 2017).



Cereal food production increased threefold after the widespread use of nitrogen fertilizer began around 1950 (see the black dotted line at the top in the chart below):[58]



The Net Zero goal is to eliminate fossil fuels which include natural gas. If fossil fuels and thus nitrogen fertilizer was reduced to "Net Zero," the left side of the chart shows what would happen -- food production would drop drastically, perhaps not quite to the yields before the widespread use of nitrogen fertilizer, since CO_2 fertilization, improved crop varieties and better

[58] William Happer, et al., *Nitrous Oxide and Climate*, CO_2 Coalition (Nov. 10, 2022), p. 39.

agricultural practices would remain. But without nitrogen fertilizer, there would still be mass starvation.

There are two reasons for the significant risk of mass starvation:

First, the recent experience in Sri Lanka which eliminated the use of nitrogen fertilizer is unfortunately another example of Net Zero ideology trumping science. Sri Lankan President Rajapaksa in April 2021 banned "the importation and use of synthetic fertilizers and pesticides and ordered the country's 2 million farmers to go organic."[59] The result was disastrous. "Its rice production has dropped more than 50%, while domestic rice prices have increased more than 80%."[60] This is a real-life warning of the worldwide disaster that would result from eliminating fossil fuels.

Second, there is already a substantial decrease in the investments needed to find, produce and distribute fossil fuels, which creates the real risk there will not be enough capital-intensive capacity to fulfil natural gas requirements. For example, clean energy investments have been greater than fossil fuels investments since 2016, and the gap is accelerating. See International Energy Agency, *World Energy Investment 2023,* p. 8.

Accordingly, without the "use of inorganic [nitrogen] fertilizers" derived from fossil fuels, the world simply "will not achieve the food supply needed to support 8.5 to 10 billion people,"[61] resulting in widespread starvation.

G. Energy Poverty Worldwide Must Be Reduced, Which Requires Increasing Hydrocarbon Availability

Energy poverty worldwide is another urgent and acute problem. The World Health Organization reports that **a**round 2.1 billion people worldwide use stoves fueled by wood, animal dung, crop waste, kerosene and coal, or open fires, which generate harmful household air pollution. Household air pollution was responsible for an estimated 3.2 million deaths per year in 2020, including over 237 000 deaths of children under the age of 5.[62] They also estimate 675 million people have no electricity at all,[63] so no electricity to power a refrigerator, a washing machine and other items that would greatly improve their lives.

"If the world's least fortunate are to improve their lives and join the developed world, there must be a dramatic increase in their personal energy consumption, and that of the societies in

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[59] Helen Raleigh, *Sri Lanka Crisis Shows The Damning Consequences of Western Elites Green Revolution*, *Federalist* (July 15, 2022).

[60] *Id*.

[61] William Happer, et al., *Nitrous Oxide and Climate*, CO_2 COALITION (Nov. 10, 2022), p. 39 (emphasis added).

[62] World Health Organization, *Household Air Pollution* (Oct. 16, 2024), https://www.who.int/news-room/fact-sheets/detail/household-air-pollution-and-health?utm_source=chatgpt.com

[63] WHO, Basic energy access lags amid renewable opportunities, new report shows, https://www.who.int/news/item/06-06-2023-basic-energy-access-lags-amid-renewable-opportunities--new-report-shows?utm_source=chatgpt.com

which they live. There is simply no other way to escape poverty .... Zero Energy Poverty by 2050 is a humane and achievable goal."[64]

Fossil fuels are the most affordable and reliable source of energy to significantly improve the lives of the billions of people who do not have adequate energy and will also prevent millions of unnecessary deaths.

H. Greenhouse Gases Prevent Us from Freezing to Death

Greenhouse gases hinder the escape of thermal radiation to space. Water vapor, and clouds which condense from it, are the dominant greenhouse agents of Earth's atmosphere. CO_2 is a greenhouse gas, but only causes a small amount of warming. As a matter of radiation physics, CO_2 can only modestly increase the surface temperature of the earth. Longer growing seasons in a warmer globe also increases agricultural yields. We should be grateful. Greenhouse gases keep the Earth's surface temperature warm enough and moderate enough to sustain life on our verdant planet. Without them, we would freeze to death.

In summary, the ignored scientific evidence above about the disastrous consequences of the Net Zero Theory rules, subsidies and policies and the EPA Endangerment Finding as a scientific matter will endanger, not promote, public health and welfare.

V. UNSCIENTIFIC EVIDENCE IS THE BASIS OF THE EPA ENDANGERMENT FINDING, ALL KNOWN NET ZERO RULES AND SUBSIDIES

A. The IPCC is Government Controlled and Thus Only Publishes Government Opinions, Not Science

Many equate the state of climate science with the reports of the IPCC. However, as its name makes clear, it is the Intergovernmental Panel on Climate Change. As demonstrated next, the IPCC is government controlled and thus provides only government opinions, not scientific knowledge. Accordingly, the IPCC provides no scientific basis for the Net Zero Theory that fossil fuels, CO_2 and GHs cause catastrophic global warming and extreme weather.

Specifically, IPCC governments, not scientists, meet behind closed doors and control what is published in its Summaries for Policymakers ("SPMs"), which controls what is published in full reports.

The picture below tells all.[65]

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[64] Chris Wright, *Bettering Human Lives*, pp. 18-19.

[65] Donna Laframboise. *US Scientific Integrity Rules Repudiate the UN Climate Process* (January29, 2017) link US Scientific Integrity Rules Repudiate the UN Climate Process | Big Picture News, Informed Analysis.

IPCC Summary for Policymakers writing meeting.

This is not how scientific knowledge is determined. In science, as the Lysenko experience chillingly underscores, and as Richard Feynman emphasized:

"No government has the right to decide on the truth of scientific principles."

The two IPCC rules are:

> **IPCC SPM Rule No.1: All Summaries for Policymakers (SPMs) Are Approved Line by Line by Member Governments**
>
> "IPCC Fact Sheet: How does the IPCC approve reports? 'Approval' is the process used for **IPCC Summaries for Policymakers (SPMs). Approval signifies that the material has been subject to detailed, line-by-line discussion, leading to agreement among the participating IPCC member countries**, in consultation with the scientists responsible for drafting the report."[66] (Emphasis added).

Since governments control the SPMs, the SPMs are merely government opinions. Therefore, they have no value as science.

What about the thousands of pages in the IPCC reports? A second IPCC rule requires that everything in an IPCC published report must be consistent with what the governments agree to in the SPMs about CO2, other GHGs and fossil fuels. Any drafts the independent scientists write are rewritten as necessary to be consistent with the SPM.

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[66] Intergovernmental Panel on Climate Change, Principles Governing IPCC Work, the Procedures for the Preparation, Review, Acceptance, Adoption, Approval and Publication of IPCC Reports, Appendix A Sections 4.4-4.6, https://www.ipcc.ch/site/assets/uploads/2018/02/FS_ipcc_approve.pdf (emphasis added).

IPCC Reports Rule No. 2: Government SPMs Override Any Inconsistent Conclusions Scientists Write for IPCC Reports

> IPCC Fact Sheet: "'Acceptance' is the process used for the full underlying report in a Working Group Assessment Report or a Special Report after its SPM has been approved.... **Changes ...are limited to those necessary to ensure consistency with the Summary for Policymakers**." IPCC Fact Sheet, *supra*. (Emphasis added).

IPCC governments' control of full reports using Rule No. 2 is poignantly demonstrated by the IPCC's rewrite of the scientific conclusions reached by independent scientists in their draft of Chapter 8 of the IPCC report *Climate Change 1995, The Science of Climate Change ("1995 Science Report").*

The draft by the independent scientists concluded:

> "No study to date has positively attributed all or part (of the climate warming observed) to (manmade) causes."
>
> "None of the studies cited above has shown clear evidence that we can attribute the observed [climate] changes to the specific cause of increases in greenhouse gases." Frederick Seitz, "A Major Deception on Climate Warming," *Wall Street Journal* (June 12, 1996). (Emphasis added).

However, the government written SPM proclaimed the exact opposite as to human influence:

> "The balance of evidence suggests a discernible human influence on global climate." *1995 Science Report* SPM, p. 4. (Emphasis added).

What happened to the independent scientists' draft? IPCC Rule No. 2 was applied, and their draft was rewritten to be consistent with the SPM in numerous ways:

- Their draft language was deleted.
- The SPM's opposite language was inserted in the published version of Chapter 8 in the *1995 Science Report,* on page 439: "The body of statistical evidence in chapter 8 ... now points towards a discernible human influence on global climate."
- The IPCC also changed "more than 15 sections in Chapter 8 of the report ... after the scientists charged with examining this question had accepted the supposedly final text." Seitz, *supra*. (Emphasis added).

Did the IPCC ever correct the falsified science in their 1995 Report to report what the scientists, as opposed to governments, concluded, as cited above, that:

> **"No study to date has positively attributed all or part (of the climate warming observed) to (manmade) causes"**? (emphasis added).

Never.

The IPCC has repeatedly reported the same false science ever since. In 2021, the most recent IPCC Report, AR 6, cited the same false science six times, e.g.:[67]

[67] IPCC. *Climate Change 2021: The Physical Science Basis*, p. 405 (emphasis added). Accord id. pp.182, 284, 312, 425, 428.

> "The evidence for human influence on recent climate change strengthened from the IPCC Second Assessment Report to the IPCC Fifth Assessment Report, and is now even stronger in this assessment. The IPCC Second Assessment Report (SAR, 1995) concluded 'the balance of evidence suggests that there is a discernible human influence on global climate.'"

Thus, all of the scientific findings in IPCC reports are contaminated as science because they are rewritten, Lysenko-like, to comply with the IPCC governments' decreed science. No matter what the independent scientists conclude, the IPCC governments' views prevail and what the scientists wrote is rewritten.

What to do with the full IPCC reports, where hundreds of world-class scientists draft some very good science? Should the IPCC reports be viewed as science? No. Use a presumption that anything in IPCC reports should be presumed to be government opinion with no value as reliable science, unless independently verified by the scientific method.

Consider what would have happened if the IPCC accurately reported the science. The scientists concluded there was no science that attributed all or most of the climate warming observed to manmade causes. There would be no U.S. Supreme Court decision *Massachusetts v. EPA*, no "Green Deal," no EPA Endangerment Finding nor 100 other Biden Net Zero Theory rules, no efforts to eliminate fossil fuels, no huge subsidies of renewable energy and electric cars.

In conclusion, the IPCC as a government-controlled organization has never followed the scientific method. Accordingly, all of the IPCC SPMs, models, scenarios and other findings are merely the opinions of IPCC governments. Therefore, as the Lysenko experience chillingly underscores, none provide any scientific knowledge that supports any of the Net Zero Theory rules, subsidies or polices, including anything in the reports unless independently confirmed by the scientific method.

B. The Models Predicting Catastrophic Warming and Extreme Weather Fail the Key Scientific Test: They Do Not Work and Would Never Be Used in Science

The IPCC is the dominant source of the models used by everybody analyzing climate change, in our experience. However, CMIP model predictions (Coupled Model Intercomparison Project) do not reliably predict temperatures and bear no rational relationship to the reality they purport to represent. Therefore, they would never be used in science.

With rare candor, establishment climate scientists Tim Palmer and Bjorn Stevens state:

> "This status quo and the complacency that surrounds it give us cause to be deeply dissatisfied with the state of the scientific response to the challenges posed by global warming. Whereas present day climate models were fit for the purpose for which they were initially developed, which was to test the basic tenets of our understanding of global climate change, they are inadequate for addressing the needs of society struggling to anticipate the impact of pending changes to weather and climate."[68]

The importance of the scientific failure of the CMIP models underlying all Net Zero policies cannot be overemphasized. The models provide no scientific basis for concluding that CO_2, other GHGs and fossil fuels will cause catastrophic climate change and extreme weather.

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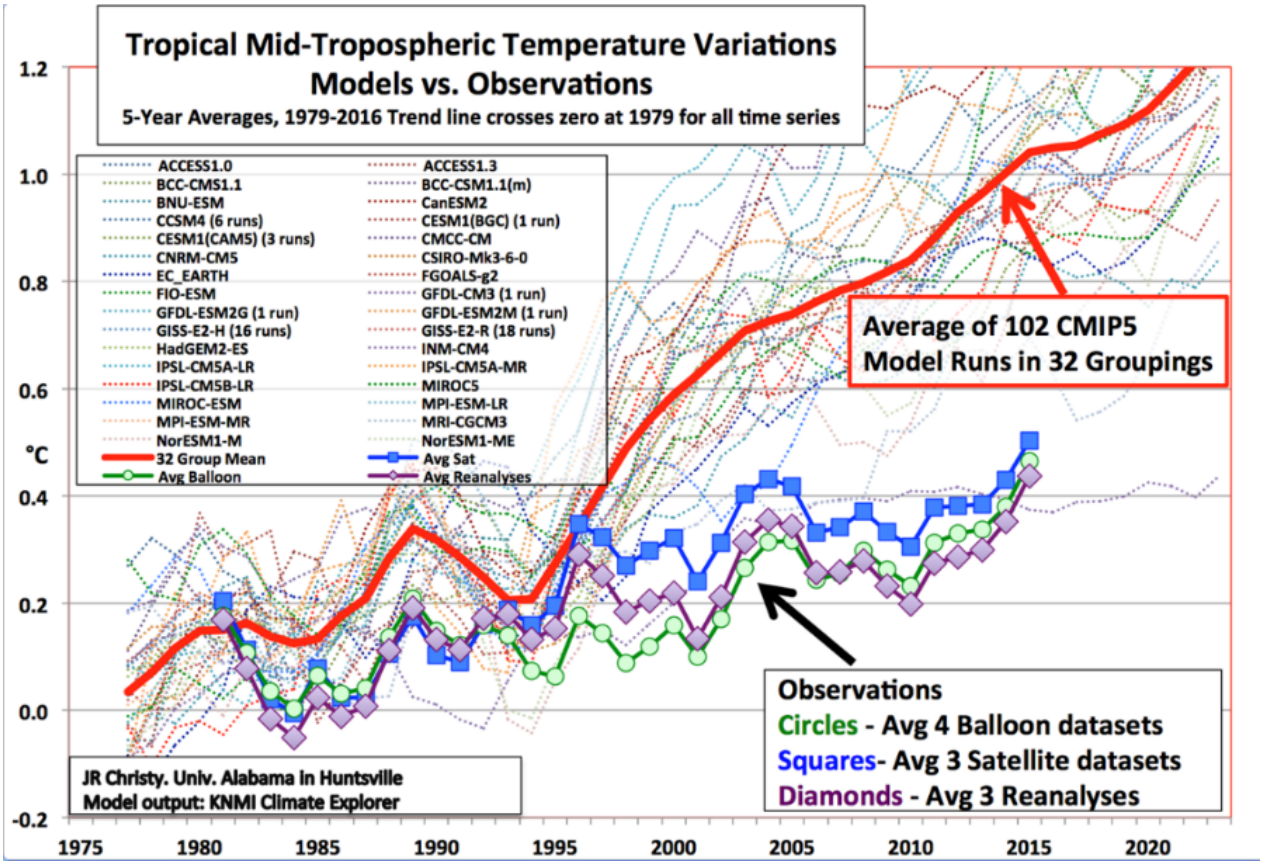
[68] T. Palmer and B. Stevens, *The Scientific Challenge of Understanding and Estimating Climate Change*, *Proc. Natl. Acad. Sci. U S A* (Dec. 3, 2019) at 24,390-95.

Here are the scientific details:

CMIP5. John Christy, Ph.D., Professor of Atmospheric Science at the University of Alabama, applied the scientific method to CMIP5's 102 predictions of temperatures from 1979 to 2016 by models from 32 institutions.

He explained he used "the traditional scientific method in which a claim (hypothesis) is made and is tested against independent information to see if the claim can be sustained," and produced the following chart:[69]



At the bottom, the blue, purple and green lines show the actual reality -- temperature observations against which the models' predictions were tested.

The dotted lines are 102 temperature "simulations" (predictions) made by the models from 32 institutions for the period 1979–2016.

The red line is the consensus of the models, their average.

The graph clearly shows 101 of the 102 predictions by the models (dotted lines) and their consensus average (red line) fail miserably to predict reality. Focusing on the red consensus line, Dr. Christy concluded, and we agree:

> "When the 'scientific method' is applied to the output from climate models of the IPCC AR5, specifically the bulk atmospheric temperature trends since 1979 (a key variable with a strong and obvious theoretical response to increasing GHGs in this period), . . . the consensus of the models [red line] fails the test to match the real-

[69] John Christy, House Comm. Science, Space and Technology (Mar. 29, 2017), pp. 3, 5.

> world observations by a significant margin. As such, the average of the models is untruthful in representing the recent decades of climate variation and change, and thus would be inappropriate for use in predicting future changes in the climate or related policy decisions."[70]

Thus, the models that produced the 101 predictions failed the test under the scientific method. They do not work, and bear no rational relationship to the reality they purport to represent. Thus, CMIP5 provides no reliable scientific evidence for Net Zero Theory rules, subsidies or policies.

Nor does the later version, CMIP6, pass this basic test of science. In Steven Koonin's book *Unsettled,* CMIP6 assertions were carefully analyzed in the chapter, "Many Muddled Models."[71] We agree with the conclusions of that chapter:

> "One stunning problem is that … the later generation of [CMIP] models are actually more uncertain than the earlier one[s].
>
> "The CMIP6 models that inform the IPCC's upcoming AR6 [Climate Change reports] don't perform any better than those of CMIP5."[72]

Representative examples of CMIP6's failure to use the scientific method are:

- "An analysis of 267 simulations run by 29 different CMIP6 models created by 19 modeling groups around the world shows that they do a very poor job [1] describing warming since 1950 and … [2] underestimate the rate of warming in the early twentieth century."[73]
- "Comparisons among the [29] models [show] … model results differed dramatically both from each other and from observations ... [and] disagree wildly with each other."[74]
- "One particularly jarring failure is that the simulated global average surface temperature … varies among models … three times greater than the observed value of the twentieth century warming they're purporting to describe and explain."[75]
- As to the early twentieth century warming when CO_2 levels only increased from 300 to 310 ppm, "strong warming [was] observed from 1910 to 1940. On average, the models give a warming rate over that period of about half what was actually observed."[76]

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[70] Id. p.13 (emphasis added).

[71] Id. pp. 77-99.

[72] Id. p. 87, 90 (emphasis added).

[73] Id. p.90.

[74] Id. p. 86.

[75] Id. p. 87.

[76] Id. p. 88.

- "That the models can't reproduce the past is a big red flag -- it erodes confidence in their projections of future climate."[77]

Thus, the CMIP6 models also fail the fundamental test of the scientific method: they do not work.

In a recent talk at the Hungarian Institute of Earth Physics and Space Science,[78] one of us (Lindzen) pointed out that current computer models also fail to show the "polar amplification" of global warming. The Earth has undergone major warmings and coolings many times in its long geological history, and all of these have involved profound changes in the tropics to poles temperature differences. The poles warm and cool much more than the tropics. Observations show that the warming since the 19th century has been almost uniform with no polar amplification. The fact that IPCC models show significant changes in tropics to poles temperature differences, contrary to data, is another confirmation that the models have no predictive power.

Thus, these models would never be used in science. For this reason alone, there is no risk CO_2, other GHGs and fossil fuels will cause catastrophic global warming and extreme weather. None of these models provides scientific knowledge that supports any of the Net Zero Theory rules, subsidies or polices.

C. The Theory Extreme Weather is Caused by CO_2, Other GHGs and Fossil Fuels is Contradicted by Observations and Thus is Scientifically Invalid

The first five chapters of *Unsettled* review the application of the scientific method to analyze extreme weather, including heat waves, hurricanes, sea level rise, wildfires, floods, droughts and precipitation shifts. We agree with the following conclusions:

> "Observations extending back over a century indicate that most types of extreme weather events don't show *any* significant change – and some such events have actually become less common or severe – even as human influences on the climate grow."
>
> "The bottom line is that the science says that most extreme weather events show no long term trends that can be attributed to human influence on the climate."[79]

Heat Waves. On extreme temperatures in the U.S., we agree:

> "*The annual number of high temperature records set shows no significant trend over the past century, nor over the past 40 years."* Koonin, *supra*, p. 112 (emphasis in original).

The U.S. Environmental Protection Agency confirms this in the graph below, which uses an index of heat waves from 1890 to 2020 that shows there is nothing out of the ordinary about recent heatwaves relative to the 130 years and shows the hottest temperatures were during the Dust Bowl in the U.S in the 1930s, not recently:[80]

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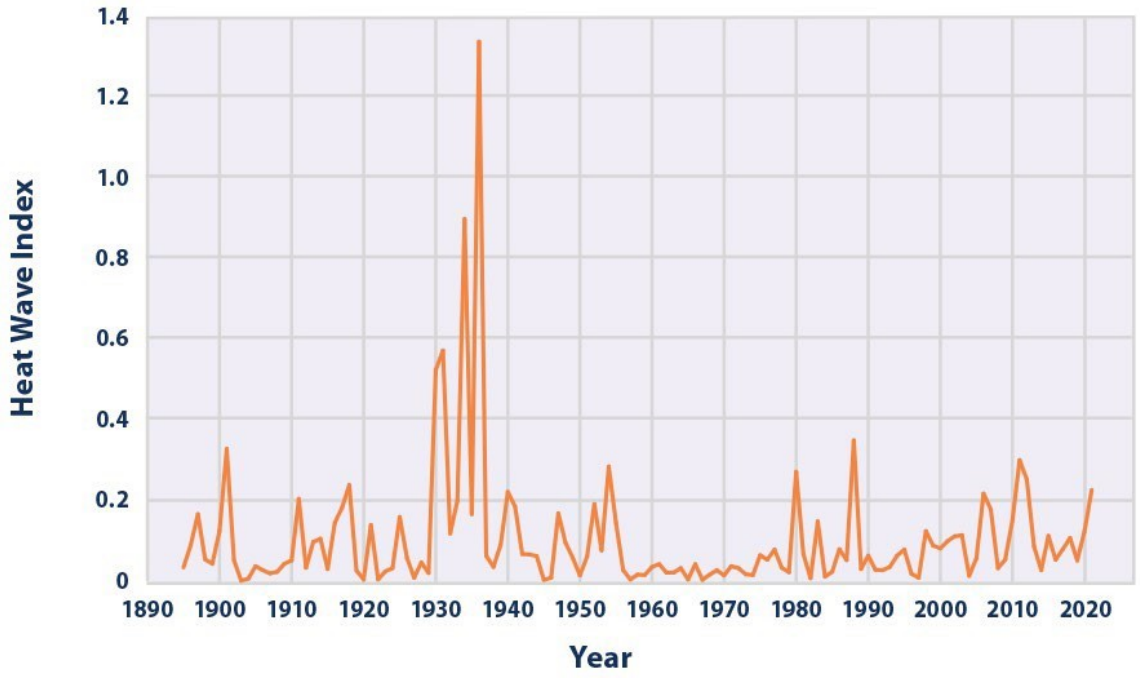
[77] *Id.* p. 91.

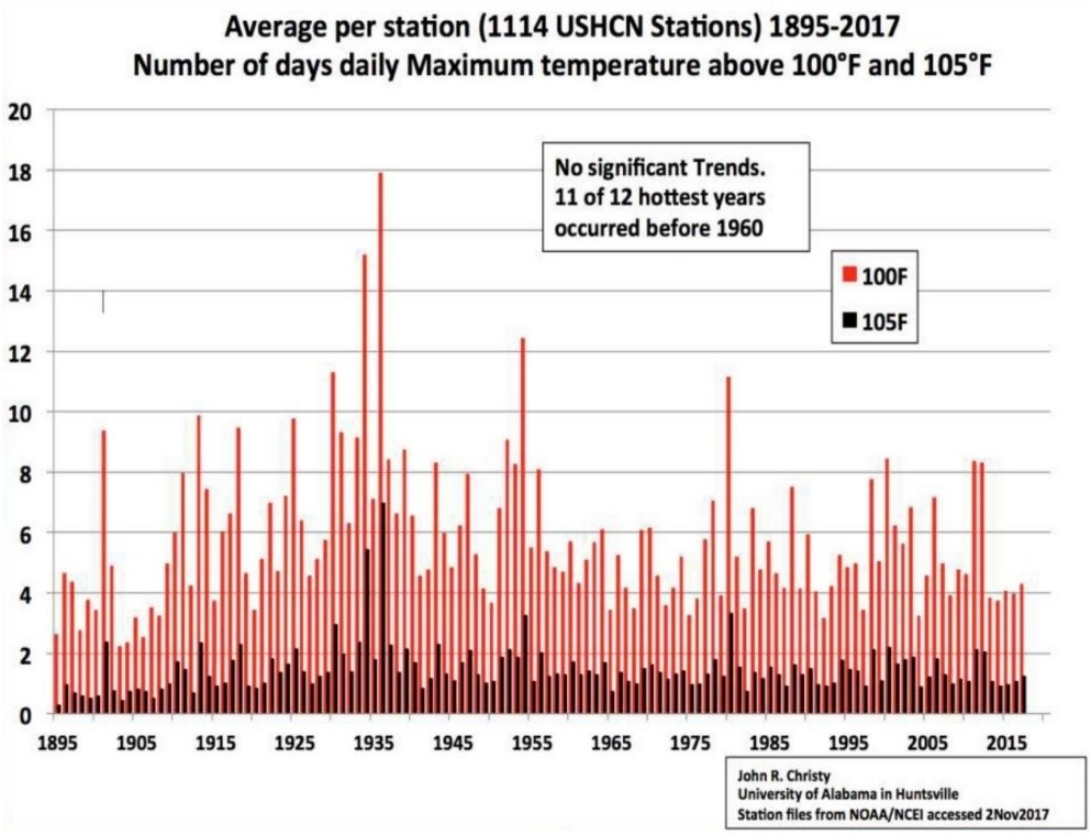
[78] https://www.dropbox.com/scl/fi/ulegimka06tryf5zxpyly/Hungarian-science-talk-b.pdf?rlkey=bd08uqdc890ngx7r8bffgd18h&dl=0],

[79] Id. p.101, 103 (emphasis added). Affirmed by IPCC, *Climate Change 2021: The Physical Science Basis*, AR6, Table 12.12

[80] EPA, *U.S. Annual Heat Wave Index 1895–2015* (2016), fig. 3, https://www.epa.gov/climate-indicators/climate-change-indicators-heat-waves.



Similarly, below is a chart that Dr. John Christy prepared showing the number of days of daily maximum temperatures above 100° F and 105° from 1895 to 2015. Days with temperatures of at least 105° F peaked in the 1920s and 1930s.[81]



[81] Dr. Roy Spencer, *US Extreme High Temperatures Chart*, US-extreme-high-temperatures-1895-2017.jpg (3000×2250) (drroyspencer.com)

The scientific method, focused on observations, shows that there is no risk of increased damage by high temperatures because of increasing atmospheric CO_2, other GHGs and fossil fuels. High temperatures may continue to cause damage, but the resulting financial losses will have nothing to do with increases in CO_2, other GHGs and fossil fuels.

Hurricanes. Chapter 6 of *Unsettled* deals with the assertion, "Storms are becoming more common and more intense and rising greenhouse gas emissions are going to make it all a lot worse." Id. p. 119.

A deep analysis of the facts reveals that "the data and research literature are starkly at odds with this message." The truth is "hurricanes and tornadoes show no changes attributable to human influences." Id. p. 111-12.

Further, "There has been no significant trend in the global number of tropical cyclones nor has any trend been identified in the number of U.S. land-falling hurricanes." U.S. Global Climate Research Program, 3rd National Climate Assessment, Appendix 3, p. 769 (footnotes omitted).

Sea Levels. "Sea Level Scares" is the subject of Chapter 8 in U*nsettled*.

As background, the chapter summarizes the geological record of sea level. Over hundreds of thousands of years, the sea level has risen as much as 400 feet (120 meters), and fallen 400 feet (120 meters). Since the Last Glacial Maximum 22,000 years ago, the sea level has risen 400 feet (120 meters). Id. p. 163.

Since 1880, the sea level has risen 10 inches (250 mm), with the annual rate of increase varying substantially and averaging 0.07 inches (1.8 mm) per year. Between 1925-1940 and between 1993-2013 the average rate of increase was the same, 0.12 inches per year (3mm). Id. p. 166.

Then *Unsettled* analyzes the rising sea level "scares" made by various organizations. For example, the "IPCC's 2019 Special Report on the Ocean and Cryosphere in a Changing Climate Report (SROCC) expresses high confidence that the satellite data from 1993 to 2015 shows an acceleration (that is, the rate of rise is increasing)." Koonin, *supra*, p. 168 (emphasis added).

What about longer periods of time than just 1993-2015? *Unsettled* explains:

> "The rate of rise over the most recent twenty-five-years should be compared to that other twenty-five-year period [also .12 inches/year (3 mm)] to understand just how significant the recent rate is." Id. p. 170.

The IPCC unscientifically cherry-picked the sea level increase between 1993–2013, but totally ignored the same increase 1925-1940.

Thus we agree with the statement in *Unsettled*:

> "The CSSR and other assessment discussions of sea level rise omit important details that weaken the case for the rate of rise in recent decades being outside the scope of historical variability and, hence, for attribution to human influences. There is little doubt that by contributing to warming we have contributed to sea level rise, but there is also scant evidence that this contribution has been or will be significant, much less disastrous." Id. p. 177 (emphasis added).

The scientific method shows that there is no risk of increased damage from rising sea levels because of increasing atmospheric CO_2, other GHGs and fossil fuels. Sea levels may rise and cause damage, but the resulting increased financial losses will have nothing to do with increases

in CO_2, other GHGs and fossil fuels. Thus Sea Level data provides no scientific knowledge that supports any of the Net Zero Theory rules, subsidies or polices.

Wildfires. There is a powerful new source of data on wildfires, "Sophisticated satellite sensors first began monitoring wildfires globally in 1993." Id. p. 154.

The result of this new source of data is totally contrary to what is in the news. *Unsettled* cites NASA data and others that show the global area burned by fires declined each year from 1998 to 2015:

> "Unexpectedly, this analysis of the images shows that the area burned annually declined by about 25% from 1998 to 2015." Further, "Despite the very destructive wildfires in 2020, that year was among the least active globally since 2003." Id. p. 154.

We agree with the statement in *Unsettled* that this should change "the conversation about wildfires [from] only one of unavoidable doom due to 'climate change,'" to a conversation about how "to take steps that would more directly curtail these catastrophes" as "we have significant power to address … human factors." Id. p. 156.

In summary, the scientific method shows that there is no risk of increased damage by wildfires because of increasing atmospheric CO_2, other GHGs and fossil fuels. Wildfires will cause damage, but the resulting increased financial losses will have nothing to do with increases in CO_2, other GHGs and fossil fuels. And thus the Wildfire data provides no scientific knowledge that supports any of the Net Zero Theory rules, subsidies or polices.

Chapter 7 of *Unsettled*, "Precipitation Perils – From Floods to Fires," deals with various weather events related to precipitation.

Flooding. U.S. data shows "modest changes in U.S. rainfall during the past century haven't changed the average incidence of floods." Id. p. 149.

Globally, data from the IPCC shows that there is "*low confidence* regarding the sign of trend in the magnitude and/or frequency of floods on a global scale." Id. p. 150

Thus, the scientific method shows that there is no risk of increased damage by flooding because of increasing atmospheric CO_2, other GHGs and fossil fuels. Flooding will cause damage, but the resulting increased financial losses will have nothing to do with increases in CO_2, other GHGs and fossil fuels. Thus Flooding data also provides no scientific knowledge that supports any of the Net Zero Theory rules, subsidies or polices.

Droughts. *Unsettled* cites data in the U.S. from 1895 to 2015 on the severity of droughts and finds "it's difficult to see much long-term change." Id. p. 150.

Globally, IPCC data "says pretty much the same thing for the globe as a whole, expressing – no doubt to the surprise of many -- *'low confidence* in a global-scale trend in drought or dryness since the middle of the twentieth century." Id.

Unsettled also cites data showing droughts have been more severe and longer lasting in the past, citing data from both the IPCC and the 2009 U.S. Global Change Research Program ("USGCRP") National Climate Assessment ("NCA"). According to the IPCC in 2014:

> "There is high confidence for droughts during the last millennium of greater magnitude and longer duration than those observed since the beginning of the twentieth century in many regions." *Unsettled* p. 152.

The 2009 NCA reports that "data reveal that some droughts in the past have been more severe and longer lasting than any experienced in the last 100 years." Id.

And the IPCC concludes "the current impact of human influences seems weak in comparison with natural variability." Id.

In summary, the scientific method shows that there is no risk of increased damage by droughts because of increasing atmospheric CO_2, other GHGs and fossil fuels. Droughts will cause damage, but the resulting increased financial losses will have nothing to do with increases in CO_2, other GHGs and fossil fuels. Thus Drought data also provides no scientific knowledge that supports any of the Net Zero Theory rules, subsidies or polices.

Climate-Related Deaths, Agricultural and Economic Disasters. Chapter 9 of *Unsettled*, "Apocalypses that Ain't" covers how "The media, and hence popular and political opinion, attribute all manner of impending societal catastrophes to human influences on the climate, including death and destruction, disease, agricultural collapse, and economic pain." Id. p. 183.

Prof. Koonin details how the science is misrepresented in three "vignettes," summarized as follows. "One is 'climate-related deaths,' a menace based on speculation, strained assumptions and incorrect use of data. The second is a future agricultural 'disaster' that is belied by the evidence and requires acrobatic distortions to even detect. And the third is purportedly enormous economic costs – which turns out, even based on the data presented, to be minimal, if not too small to measure." Id. p. 183.

Thus, none of the three are supported by the facts. The scientific method proves there is no risk of increased damage by any of these because of increasing atmospheric CO2, other GHGs and fossil fuels. Thus none of the three provide scientific knowledge that supports any of the Net Zero Theory rules, subsidies or polices.

Extreme Weather Conclusion. The enormously important good news Prof. Koonin concludes, and we agree, is:

> "The bottom line is that science says that most extreme weather events show no long-term trends that can be attributed to human influence on the climate." Id. p. 103.

According, no Extreme Weather data provides any scientific knowledge that supports any of the Net Zero Theory rules, subsidies or polices.

D. The USGCRP Fourth National Climate Assessments is Merely Government Opinion With No Scientific Value

Thirteen federal agencies comprise the U.S. Global Change Research Program ("USGCRP") and are required to prepare a National Climate Assessment ("NCA") about every five years.

The 4th NCA was published in two volumes:

Vol. I "Climate Science Special Report" (CSSR) (2017)

Vol. II: "Impacts, Risks, and Adaptation in the United States" (2018).[82]

Shockingly, the NCA4 CSSR fabricated, falsified and omitted contradictory data on, for example, heat waves, hurricanes, wildfires and sea levels. It does not provide any scientific

[82] The 5th National Climate Assessment was published in 2023, too recently to be included in this analysis.

knowledge that supports any of the Net Zero Theory rules, subsidies and policies, and is another example of the unscientific evidence Net Zero Theory rules, subsidies or polices often rely on.

Heat Waves

Prof. Koonin in *Unsettled* reports that "page 19 of the CSSR Executive Summary says (prominently and with *Very High Confidence*):

> "There have been marked changes in temperature extremes across the continuous United States. The number of high-temperature records set in the past two decades far exceeds the number of low temperature records." Id. p. 105.

In support, Prof. Koonin explained the CSSR presented the chart below entitled "Record Warm Daily Temperatures Are Occurring More Often:"[83]

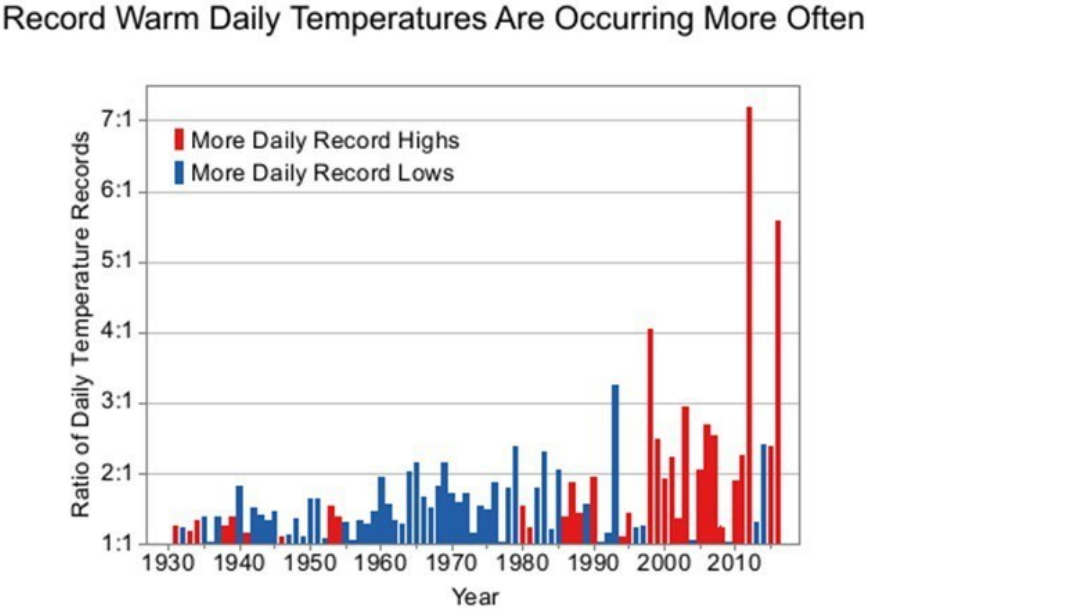


Figure ES.5: Observed changes in the occurrence of record-setting daily temperatures in the contiguous United States. Red bars indicate a year with more daily record highs than daily record lows, while blue bars indicate a year with more record lows than highs. The height of the bar indicates the ratio of record highs to lows (red) or of record lows to highs (blue). For example, a ratio of 2:1 for a blue bar means that there were twice as many record daily lows as daily record highs that year. (Figure source: NOAA/NCEI). *From Figure 6.5 in Chapter 6.*

This chart does not actually show "daily temperatures." Instead, it shows a "ratio" of daily record highs to lows—a number designed to create the impression that record-setting high temperatures are getting much more frequent!

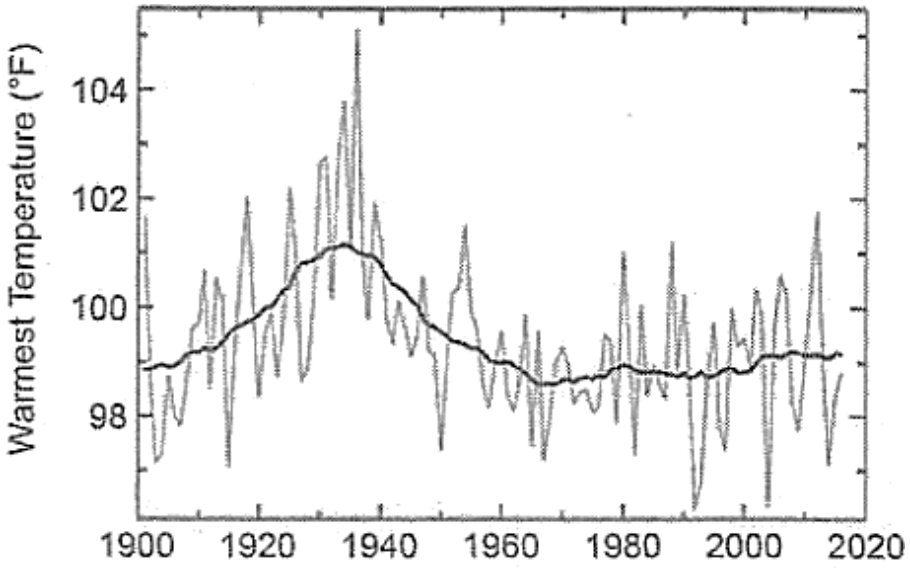
Prof. Koonin analyzed the data closely in *Unsettled*:

> "I suspect that most readers were shocked by that figure, as I was when I first saw it. Who wouldn't be? An attention grabbing title ("record warm daily temperatures are occurring more often") backed up by data with a hockey-stick shape veering sharply upward in recent years (and, in the original, years with more 'highs' portrayed in alarming scarlet). It sure looks like temperatures are going through the roof."

[83] Id. p. 105, citing NCA4 CSSR p. 19, Fig ES.5.

"But what I was disturbed by an apparent inconsistency between that figure and some others deeper in the report…. Inconsistencies are red meat to a scientist." Id. pp. 106-07

He reported actual daily temperatures were buried on page 190 of the CSSR report, in a chart that contradicts the Executive Summary chart. The spiked lines show yearly values, and the dark line shows the daily average temperatures over the last 120 years.[84]



It shows that:

- the hottest temperatures occurred during the Dust Bowl in the 1930s
- today the average warm temperature is about the same as it was in 1900
- warmest temperatures are not occurring more often.

The EPA graph on p. 30 also shows the hottest temperatures were during the Dust Bowl, and confirms there is nothing out of the ordinary about recent heatwaves using an index of heat waves from 1890 to 2020.[85]

Also shown on p. 30 is Dr. John Christy's chart showing days with daily temperatures from 1895 to 2015. Days with temperatures of over 100° F peaked in the 1920s and 1930s.[86]

Thus, the NCA4 CSSR's Executive Summary stating, "Record Warm Daily Temperatures Are Occurring More Often" Prof. Koonin states is "shockingly misleading." Id. p. 111. Its ratio chart is what is called a "fabrication" by science.[87] Frankly, it is appalling that the thirteen federal agencies that make up the USGCRP would rely upon and publish such a falsehood in a National

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[84] Id. p. 106, NCA4 CSSR p. 190, Fig. 6.3.

[85] EPA, *U.S. Annual Heat Wave Index 1895–2015* (2016), Fig. 3, https://www.epa.gov/climate-indicators/climate-change-indicators-heat-waves.

[86] *US Extreme High Temperatures Chart*, DR. ROY SPENCER, US-extreme-high-temperatures-1895-2017.jpg (3000×2250) (drroyspencer.com).

[87] David Goodstein, *On Fact and Fraud* p. 135 (2010) ("Fabrication is making up data or results.").

Climate Assessment. Thus the NCA's CSSR Heat Waves data provides no scientific knowledge that supports any of Net Zero Theory rules, subsidies or polices.

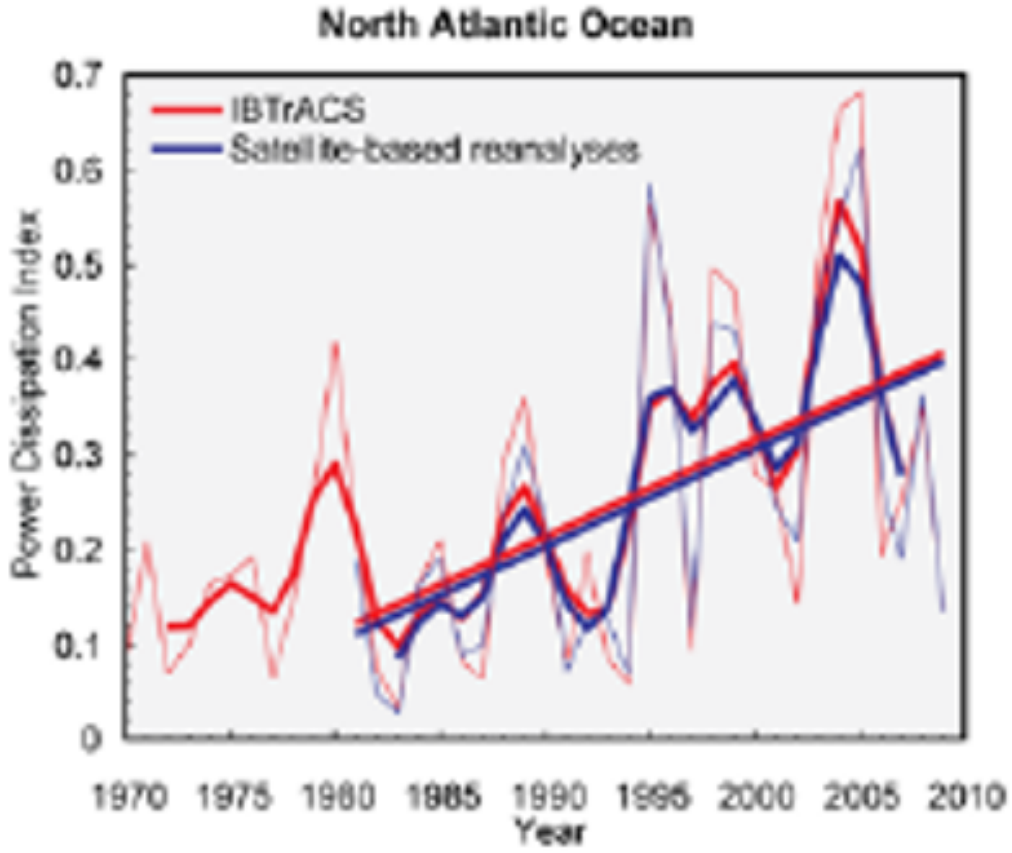
Hurricanes

The USGCRP Third NCA (NCA3) in 2014 asserts hurricanes are getting worse:

> "Key Message 8. The intensity, frequency and duration of North Atlantic hurricanes, as well as the frequency of the strongest (Category 4 and 5) hurricanes, have all increased since the early 1980s."[88]

Prof. Koonin in *Unsettled* notes the NCA report supports that statement with the graph below purporting to show an alarming increase in the strength of North Atlantic hurricanes, measured by what is called the Power Dissipation Index ("PDI"). The graph shows two sets of data from 1970 to 2010, with a sharp upward trend in the black line when the two are combined:[89]

Observed Trends in Hurricanes Power Dissipation



Here again, the USGCRP has created the misleading appearance of a dangerous trend by what science deems falsifying data by cherry-picking data from a very short period of time, here, 1970–2010, and failing to consider extensive contradictory data.

And again the USGCRP contradicts itself with data buried deep in NCA3, Appendix 3, which states expressly:

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[88] Koonin, *supra,* p. 123, citing NCA3 p. 41 (emphasis added).

[89] Id. p.124, citing Fig. 2.23 on p. NCA3 p. 42.

> "There has been no significant trend in the global number of tropical cyclones nor has any trend been identified in the number of U.S. land-falling hurricanes." *Id*. p. 769 (footnotes omitted and emphasis added).

Did USGCRP fix this error in NCA4?

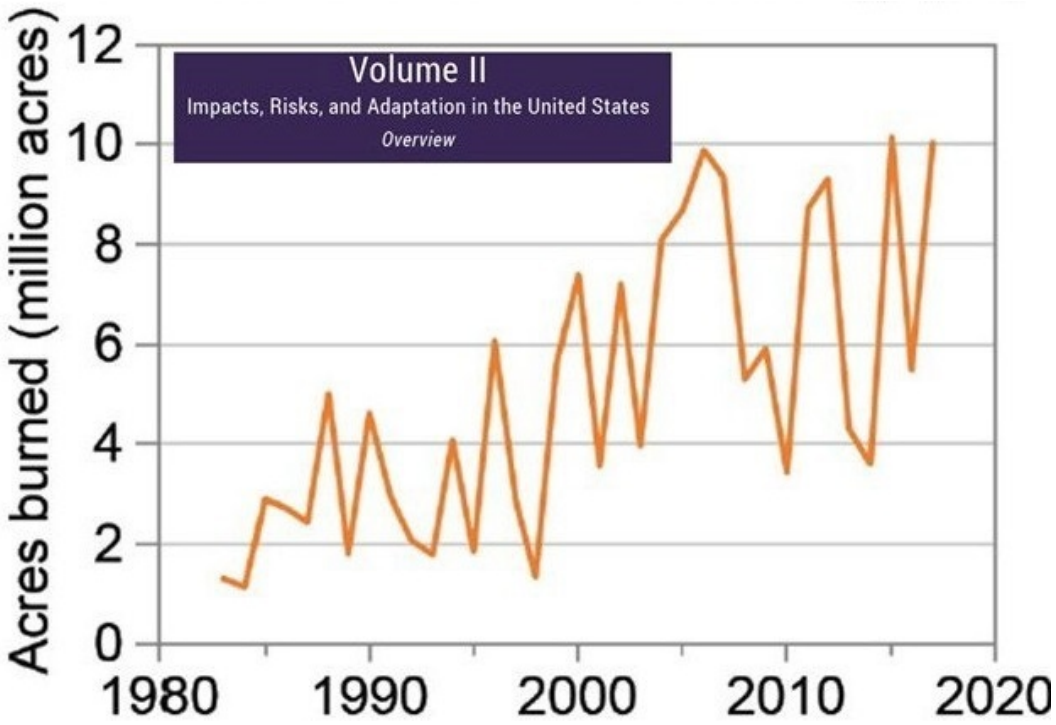
No, NCA4 CSSR repeats the same false science:

> "Human activities have contributed substantially…to the observed upward trend in North Atlantic hurricane activity since the 1970s."[90]

Thus, both the USGCRP's Third and Fourth NCA fabricated, falsified, and omitted and failed to consider contradictory data, which, in science, corrupts them both and means that can never be cited as scientific knowledge to support any of the Net Zero Theory rules, subsidies or policies.

Wildfires

Volume II of USGCRP's NCA4 presents an alarming chart purporting to show a huge increase in the number of acres burned since 1984:[91]



Also, the "Key Findings 6" of NCA4 CSSR states that the incidence of large forest fires in the West has increased since the early 1980s:

> "The incidence of large forest fires in the western United States and Alaska has increased since the early 1980s (*high confidence*) and is projected to further increase in those regions as the climate warms,

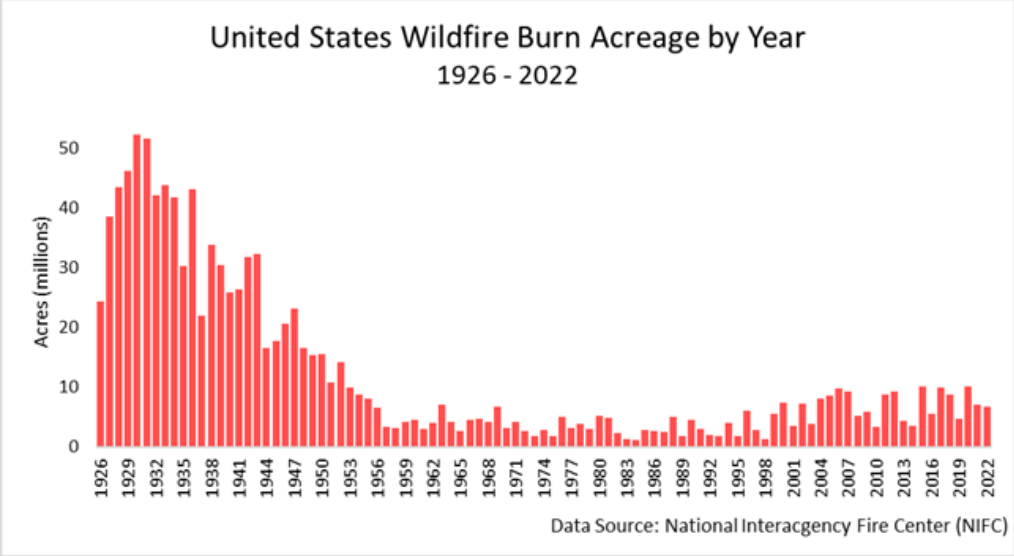
[90] *Id.* p. 118 (footnote omitted).

[91] USGCRP, *The 4th National Climate Assessment*, Vol. II, *Impacts, Risks, and Adaptation in the U.S.* (2018), p. 5 & 1508.

with profound changes to certain ecosystems (*medium confidence*). (Emphasis added)."[92]

This is yet another example of the USGCRP doing what science deems falsifying data by cherry-picking a very short period of time—1980 onward—and not considering and omitting contradictory data from a longer period of relevant time.

The National Interagency Fire Center ("NIFC") used to provide data going back to 1926. The NIFC removed all the data before 1983 from their website in March 2021. Why? That data showed that the burned area has been declining, with more than a 75% reduction since their peak in the 1920s and 1930s—even though CO_2 has been increasing. Looking at contradictory omitted data before 1984, it shows the United States now is faring much better than in the past:[93]



Similarly, the total number of wildfires in the United States has dropped enormously since the 1930s.[94]

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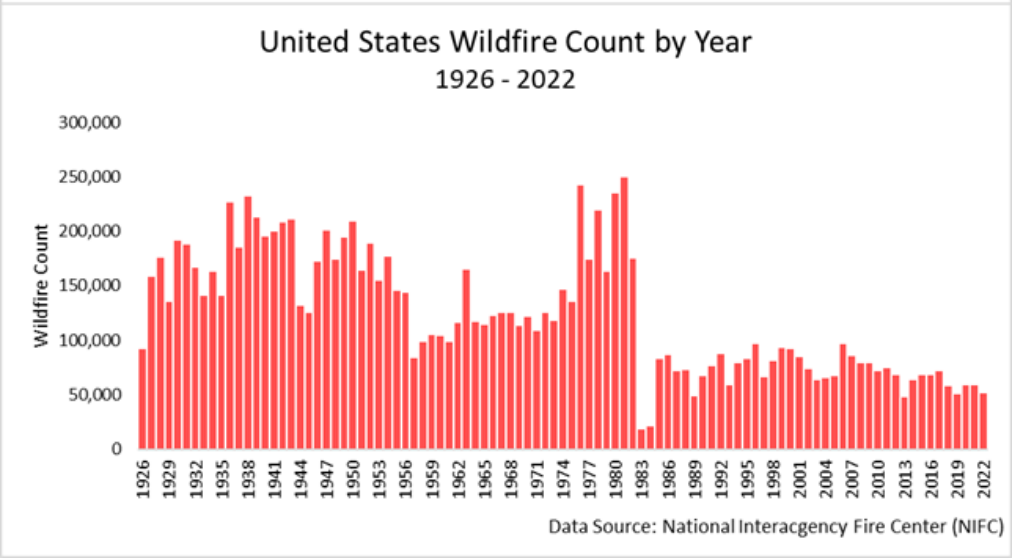
[92] *Id.* p. 249.

[93] *U.S. Wildfires*, *Climate at a Glance*, https://climateataglance.com/climate-at-a-glance-u-s-wildfires/.

[94] *Id.*



Thus, there is no long trend of increased wildfires. Rather, to the contrary, there is a long-term trend of decreasing wildfires when the omitted contradictory data is considered as scientific method requires. Thus the NCA's CSSR Wildfire data provides no scientific knowledge that supports any of the Net Zero Theory rules, subsidies or polices.

Sea Level

We agree with Steven Koonin's analysis in "A Deceptive New Report On Climate" on sea levels by the NCA4 CSSR in the *Wall Street Journal* (Nov. 2, 2017). He singled out the CSSR for what science deems falsifying data by cherry-picking data on this issue and omitting contradictory data.

The CSSR cited a sea level rise in two recent decades, but omitted data showing a similar sea level rise earlier in the century.

> "The report ominously notes that while global sea level rose an average 0.05 inch a year during most of the 20th century, it has risen at about twice that rate since 1993. But it fails to mention that the rate fluctuated by comparable amounts several times during the 20th century. The same research papers the report cites show that recent rates are statistically indistinguishable from peak rates earlier in the 20th century, when human influences on the climate were much smaller. The report thus misleads by omission. … Such data misrepresentations violate basic scientific norms."[95]

Thus, the scientific method shows that there is no risk that CO_2, other GHGs and fossil fuels will cause increased damage from rising sea levels. Sea levels may rise and cause damage, but if that occurs it will have nothing to do with increases in CO_2 and other GHGs.

In summary, NCA3 and NCA4 fabricated, falsified and omitted contradictory data on heat waves, hurricanes, wildfires and sea levels. They do not provide any scientific knowledge that supports any of the Net Zero rules, subsidies or policies. They are another example of the unscientific evidence Net Zero Theory often relies on, and thus also undermine the scientific credibility of all the National Climate Assessments.

[95] *Id.*

E. The EPA Endangerment Finding is Merely Government Opinion With No Scientific Value

The EPA Endangerment Finding is:

> "The Administrator finds that elevated concentrations of greenhouse gases in the atmosphere may reasonably be anticipated to endanger the public health and to endanger the public welfare of current and future generations."[96]

Is the Endangerment Finding based on scientific knowledge derived by the scientific method?

No. It violates the scientific method in numerous ways and therefore provides no scientific knowledge that supports any of the Net Zero Theory rules, subsidies and policies.

First, IPCC government opinions are the dominant source of the purported "science" underlying the Endangerment Finding and TSD. The TSD expressly states the SPMs are written by governments, not by scientists:

> "Each Summary for Policymakers is approved line by line, and the underlying chapters then accepted, by government delegations in formal plenary sessions." TSD, p. 4. (Emphasis added).

Further, as explained above, IPCC procedures require scientific findings in its reports be rewritten to "ensure consistency with" with the government written SPMs. All of the IPCC "scientific" findings relied on by the Endangerment Findings thus are contaminated as science because they are rewritten, Lysenko-like, to comply with the IPCC governments' decreed science.

The IPCC vigorously claims, and many people believe, that the IPCC provides the best climate science in the world. However, since the IPCC is government-controlled, they are merely government opinions. Thus, the Endangerment Finding and TSD are scientifically invalid for significantly relying on IPCC government opinions, not scientific knowledge determined by the scientific method.

Second, the Endangerment Finding and TSD emphasized that the EPA Administrator actually admitted the opinions of three government organizations were the "primary scientific basis" for the Finding, not the scientific method:

> "The major assessments by the U.S. Global Climate Research Program (USGCRP), the Intergovernmental Panel on Climate Change (IPCC), and the National Research Council (NRC) serve as the primary scientific basis supporting the Administrator's endangerment finding."[97]

Further, the Endangerment Finding states:

> "The USGCRP, IPCC, and NRC assessments have been reviewed and formally accepted by, commissioned by, or in some cases

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[96] EPA, Endangerment and Cause or Contribute Findings for Greenhouse Gases under Section 202(a) of the Clean Air Act, 74 Fed. Reg. 66,496 (Dec. 15, 2009). The Technical Support Document for Endangerment and Cause or Contribute Findings for Greenhouse Gases Under Section 202(a) of the Clean Air Act" (Dec. 7, 2009) ,http://epa.gov/climatechange/ endangerment.html.

[97] 74 Fed. Reg. 66,497.

> authored by *U.S. government agencies* and individual *government scientists*. These reports already reflect significant input from *EPA's scientists* and the *scientists of many other government agencies*."[98]

Thus, unintentionally, the EPA Administrator and the EPA made clear they chose to use government-determined opinions as "science," rather than scientific knowledge determined by the scientific method. Again, reliance on government opinions mis represented as science by itself renders the Endangerment Finding and TSD scientifically invalid.

Third, the Endangerment Finding and TSD rely on IPCC models we have shown above conclusively by observations to fail. They would never be used in science because they do not work. Reliance on models that do not work by itself renders the Endangerment Finding and TSD scientifically invalid.

Fourth, the USGCRP National Climate Assessments, as shown, are fatally flawed science and are only government opinion. Using these government opinions as one of the "primary scientific basis" for the Endangerment Finding renders them invalid under scientific method.

Fifth, the Endangerment Finding and TSD frequently rely on peer review and consensus, which, as explained, do not determine scientific knowledge, scientific method does. This is yet another reason by itself that renders the Endangerment Finding scientifically invalid.

Sixth, the Endangerment Finding and its Technical Support Document entirely failed to consider the scientific evidence:

> (a) carbon dioxide, GHGs and fossil fuels will not cause catastrophic global warming and more extreme weather and
>
> (b) there will be disastrous consequences for the poor, people worldwide, future generations, Americans, America and other countries if CO_2, other GHGs and fossil fuels are reduced to Net Zero detailed below. That failure by itself renders the Endangerment Finding and TSD scientifically invalid.

Accordingly, scientific analysis demonstrates the exact opposite of what the Administrator found. Elevated concentrations of carbon dioxide and other greenhouse gases will only cause negligible increases in temperature and thus negligible effects on extreme weather, but reducing carbon dioxide, fossil fuels and other greenhouse gases to Net Zero will have disastrous effects on the public health and welfare of Americans, America and people worldwide.

Thus the Endangerment Finding and TSD provide no scientific knowledge that supports any of the Net Zero Theory rules, subsidies and policies, and are yet another example of the unscientific evidence Net Zero Theory often relies on.

F. The National Academy of Science's *Valuing Climate Damages* is Based On Peer Review and Thus Has No Scientific Value

The National Academy of Sciences *Valuing Climate Damages: Updating Estimating the Social Cost of Carbon Dioxide* (2017) is cited by the EPA as a "major scientific assessments [that] continue to demonstrate … the impacts that GHGs have on public health and welfare both for current and future generations."[99]

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[98] *Id. p.*66,511 (emphasis added).

[99] 88 Fed. Reg. 33,249.

However, the NAS book expressly stated that it was not following the scientific method but instead was adopting "peer reviewed literature" as the "Scientific basis" for all "modules, their components, their interactions, and their implementation."

> "RECOMMENDATION 2-2 The Interagency Working Group should use three criteria to evaluate the overall integrated SC-CO_2 framework and the modules to be used in that framework: scientific basis, uncertainty characterization, and transparency.
>
> - **Scientific basis**: Modules, their components, their interactions, and their implementation should be consistent with **the state of scientific knowledge as reflected in the body of current, peer-reviewed literature**."[100]

With all due respect, this very prestigious scientific group chose not to follow the scientific method. Instead, they based their analysis and thus all recommendations on peer review and consensus, which provide opinions but have no value as scientific evidence. No matter how distinguished the group, their reliance on "peer reviewed literature" rather than the scientific method means their opinions have no value as scientific knowledge. Theories only become reliable science when their predictions agree with observations.

Accordingly, the NAS book *Valuing Climate Damages: Updating Estimating the Social Cost of Carbon Dioxide* merely states unscientific opinions. It also does not provide any scientific knowledge that supports any of the Net Zero Theory rules, subsidies or policies. It is yet another example of the unscientific evidence Net Zero Theory often relies on.

G. The Social Cost of Carbon Estimates are Scientifically Invalid for Three Alternative Reasons

On February 26th, 2021, the Interagency Working Group (IWG) published "Technical Support Document: Social Cost of Carbon, Methane, and Nitrous Oxide Interim Estimates under Executive Order 13990" ("SCC TSD Estimates").[101] The Social Cost Estimates are scientifically invalid for three alternative reasons.

First, the IWG estimated the social cost of carbon by combining three models, DICE, PAGE and FUND, together called Integrated Assessment Models (IAMs).

However, two of the three models, DICE and PAGE, only computed the social costs of CO_2 and excluded data on the enormous social benefits of CO_2 and the disastrous costs of reducing CO_2 emissions and eliminating fossil fuels to do so.[102] This is another example of omitting unfavorable data that is an egregious violation of scientific method. It is like promoting the theory the world is flat by only considering observations as far as the eye can see, excluding all the evidence the world is round. For this reason alone, the Social Cost Estimates are fatally flawed science.

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[100] *Id. p.*47 (emphasis added).

[101] https://www.energy.gov/sites/default/files/2 024-06/129.%20Interagency%20Working%20Group%20on%20Social%20Cost%20of%20Greenhouse%20Gases%2C%20Social%20Cost%20of%20Carbon.pdf

[102] Dayaratna, McKittrick & Michaels, *Climate Sensitivity, Agricultural Productivity and the Social Cost of Carbon in FUND*, *Environmental Economics & Policy Studies* (2020), pp. 443-48

Second, the Social Cost Estimates expressly state it relied on peer review and consensus, not scientific method, to determine its estimates:

> "In developing the SC-GHG estimates in 2010, 2013, and 2016 the IWG used **consensus**-based decision making, relied on **peer-reviewed** literature and models …. Going forward the IWG commits to maintaining a **consensus** driven process for making evidence-based decisions that are guided by the best available science and input from the public, stakeholders, and **peer reviewers**." Social Cost Estimates, p. 36 (emphasis added).

As explained, peer review and consensus do not determine scientific knowledge, scientific method does. Accordingly, for this reason alone the Social Cost Estimates are scientifically invalid.

Third, the Social Cost Estimates states key numbers used in its estimates were based on IPCC government-dictated models from the IPCC's Fourth Assessment Synthesis Report in 2007 (IPCC AR4), four "recent scientific assessments by the IPCC," USGCRP National Climate Assessments of 2016 and 2018. Social Cost Estimates, p.32.

The five IPCC government-dictated publications relied upon were:

- IPCC 2007 Synthesis Report, Contribution of Working Groups I, II and III to the Fourth Assessment Report
- IPCC 2014 Climate Change 2014: Synthesis Report. Contribution of Working Groups I, II and III to the Fifth Assessment Report
- IPCC 2018 Global Warming of 1.5°C.
- IPCC 2019a Climate Change and Land
- IPCC 2019b Special Report on the Ocean and Cryosphere in a Changing Climate.

Relying on IPCC government-dictated publications contaminates the science in the Social Cost Estimates and the USGCRP's USGCRP National Climate Assessments of 2016 and 2018 makes them scientifically invalid.

Therefore, for these three reasons, separately and together, the Social Cost Estimates are scientifically invalid and provide no reliable scientific evidence there is any climate-related risk from fossil fuels, CO_2 and other GHGs. They also provide no scientific knowledge that supports any of the Net Zero Theory rules, subsides or policies.

In summary, the unscientific evidence above is at the foundation in whole or in part as the basis for the EPA Endangerment Finding and the Net Zero Theory rules, subsides and policies.

VI. CONCLUSIONS

As career scientists, we have demonstrated that:

1. The common belief that CO_2 is the main driver of climate change and the EPA Endangerment Finding assertion that "elevated concentrations of greenhouse gases in the atmosphere may reasonably be anticipated" to endanger the public health and welfare are scientifically false,
2. Reducing CO_2 and other GHG emissions to Net Zero by 2050 and eliminating the use of fossil fuels to do so will have a trivial effect on temperature

3. Unscientific evidence is the fundamental basis of all the Net Zero Theory we have seen and the EPA Endangerment Finding
4. Scientific evidence contradicting the Net Zero theory is ignored by all the agency rules, rationale for subsidies and publications we have seen supporting the Net Zero Theory and the EPA Endangerment Finding, as if it does not exist.
5. There is extensive reliable scientific evidence that:
    a) carbon dioxide, GHGs and fossil fuels will not cause catastrophic global warming and more extreme weather
    b) there will be disastrous consequences for the poor, people worldwide, future generations, Americans, America, and other countries if CO_2, other GHGs and fossil fuels are reduced to Net Zero and will endanger public health and welfare.
6. All the Biden Net Zero Theory rules must be repealed also because they have no public benefits but impose enormous costs on people and in dollars.

Therefore, these Supreme Court decisions and the science demonstrated above[103] support repealing all the Net Zero Theory rules as soon as possible.

Further, for the same reasons, Congress should repeal all Net Zero theory subsidies, all laws that require GHG emissions be reduced and all laws that restrict fossil fuel development and infrastructure.

Finally, Peter Drucker warned, as every Net Zero Theory demonstrates, that science in government is often based on "value judgments" that are "incompatible with any criteria one could possibly call scientific."[104]

Therefore, we suggest the President issue an Executive Order requiring all government agencies taking action based on scientific knowledge only rely on scientific knowledge derived by the scientific method, and never base their action on unscientific evidence and sources.

We also suggest the Executive Order clarify that the scientific method is, simply and profoundly, to validate theoretical predictions with observations, and further, that scientific knowledge is never determined by the opinions of government, consensus, 97% of scientists, peer review, or is based on models that do not work, or cherry-picked, fabricated, falsified or omitted contradictory data, elaborated in Part II of the paper.

In summary, the blunt scientific reality requires urgent action because we are confronted with policies that destroy western economies, impoverish the working middle class, condemn billions of the world's poorest to continued poverty and increased starvation, leave our children despairing over the alleged absence of a future, and will enrich the enemies of the West who are enjoying the spectacle of our suicide march."[105]

Instead, let people and the market decide, not governments.

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[103] As well as arguments tailored to specific rules. See, e.g., our comments on the EPA Fossil Fuel Power Plant rule, Regulations.gov, Department of Energy Gas Stove Rule, Regulations.gov and the SEC Climate Risk Disclosure Rule, s71022-20132171-302668.pdf (sec.gov)

[104] Peter Drucker, *Science and Industry, Challenges of Antagonistic Interdependence, Science* 806 (May 25, 1979).

[105] Richard Lindzen, "Manufacturing Consensus on Climate Change," *The American Mind* (Nov. 21, 2024).

CURRICULUM VITAE

Richard Lindzen, Ph.D.

I am an Alfred AT Sloan Professor of Atmospheric Science Emeritus at MIT. After completing my doctorate at Harvard in 1964 (with a thesis on the interaction of photochemistry, radiation and dynamics in the stratosphere), I did postdoctoral work at the University of Washington and at the University of Oslo before joining the National Center for Atmospheric Research as a staff scientist. p. the end of 1967, I moved to the University of Chicago as a tenured associate professor, and in 1971 I returned to Harvard to assume the Gordon McKay Professorship (and later the Burden Professorship) in Dynamic Meteorology. In 1981 I moved to MIT to assume the Alfred AT Sloan Professorship in Atmospheric Sciences. I have also held visiting professorships at UCLA, Tel Aviv University, and the National Physical Laboratory in Ahmedabad, India, and the Hebrew University in Jerusalem, the Jet Propulsion Laboratory in Pasadena, and the Laboratory for Dynamic Meteorology at the University of Paris.

I developed our current understanding of the quasi-biennial oscillation of the tropical stratosphere, the current explanation for dominance of the solar semidiurnal and diurnal tides at various levels of the atmosphere, the role of breaking gravity waves as a major source of friction in the atmosphere, and the role of this friction in reversing the meridional temperature gradient at the tropopause (where the equator is the coldest latitude) and the mesopause (where temperature is a minimum at the summer pole and a maximum at the winter pole). I have also developed the basic description of how surface temperature in the tropics controls the distribution of cumulus convection and led the group that discovered the iris effect where upper-level cirrus contract in response to warmer surface temperatures. I have published approximately 250 papers and books. I am an award recipient of the American Meteorological Society and the American Geophysical Union. I am a fellow of the American Meteorological Society, the American Geophysical Union and the American Association for the Advancement of Science, and a member of the National Academy of Sciences and the American Academy of Arts and Sciences.

I have served as the director of the Center for Earth and Planetary Sciences at Harvard and on numerous panels of the National Research Council. I was also a lead author on the Third Assessment Report of the UN's Intergovernmental Panel on Climate Change – the report for which the IPCC shared the Nobel Peace Prize with Al Gore.

William Happer, Ph.D.

I am a Professor Emeritus in the Department of Physics at Princeton University.

I began my professional career in the Physics Department of Columbia University in 1964, where I served as Director of the Columbia Radiation Laboratory from 1976 to 1979. I joined the Physics Department of Princeton University in 1980.

I invented the sodium guidestar that is used in astronomical adaptive optics systems to correct the degrading effects of atmospheric turbulence on imaging resolution. I have published over 200 peer-reviewed scientific papers, am a Fellow of the American Physical Society, the American Association for the Advancement of Science, and a member of the American Academy of Arts and Sciences, the National Academy of Sciences and the American Philosophical Society.

I served as Director of Energy Research in the U.S. Department of Energy from 1991 to 1993. I was a co-founder in 1994 of Magnetic Imaging Technologies Incorporated (MITI), a small company specializing in the use of laser-polarized noble gases for magnetic resonance imaging. I served as Chairman of the Steering Committee of JASON from 1987 to 1990.

I served as Deputy Assistant to the President and Senior Director for Emerging Technologies at The National Security Council in the White House from 2018 to 2019.

I am the Chair of the Board of Directors of the CO2 Coalition, a nonprofit 501(c)(3) organization established in 2015 to educate thought leaders, policy makers and the public about the vital contribution made by carbon dioxide to our lives and our economy.