Oregon
Tina Kotek, Governor

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Submitted to the Federal eRulemaking Portal at: www.regulations.gov

Subject: Oregon Comments on Docket ID No. DOE–HQ– 2025–0207

Dear Secretary Wright,

On behalf of the State of Oregon, please accept these comments on the report produced by DOE's Climate Working Group (CWG), titled "A Critical Review of Impacts of Greenhouse Gas Emissions on the U.S. Climate" (CWG Report). We submit these comments to (1) express strong opposition to the process used to develop the report, (2) criticize the report's level of scientific rigor, (3) provide information on the current harms to human health and the general welfare that Oregon is experiencing associated with climate change, and (4) object to the use of the report as justification for EPA's proposed rule to repeal the 2009 endangerment finding.

Flawed Report Development Process

The CWG report was developed in less than eight weeks by five individuals known to hold minority views on many climate change topics. Report authors attempt to refute or undermine conclusions developed in large scientific assessments such as the Intergovernmental Panel on Climate Change's 6th Assessment Report and the U.S. Government's 5th National Climate Assessment. In contrast to the CWG report, large scientific assessments are developed by hundreds of scientists from a variety of backgrounds over multiple years and follow rigorous and transparent processes for selecting report authors, drafting reports and incorporating feedback from expert reviewers.[1]

[1] See Intergovernmental Panel on Climate Change Procedures and Appendix A to the Principles Governing IPCC Work.; see also Avery, C.W., Crimmins, A.R., Lustig, A.R. *et al.* Navigating complex waters: Designing a process for the development of the National Climate Assessment. *Climatic Change* 178, 44 (2025). https://doi.org/10.1007/s10584-024-03854-8

Federal law also has specific requirements for scientific reports that are used in policy development and agency rulemaking.[2] Reports of this kind are considered "influential information" under DOE and EPA's own standards and are required to meet the highest standards of quality and transparency.[3] In addition, the 1972 Federal Advisory Committee Act (FACA), describes the process to be followed when undertaking committee work of this type and was put in place to avoid arbitrary and capricious decision-making, bias and the distortion of facts to advance narrow policy interests.[4] The requirements in law and in agency guidance documents described above do not appear to have been followed during the development of the CWG report. The only way to correct these process problems would be for the DOE Secretary to reject the existing CWG report and begin a new process that assembles experts to develop a new report that meets those requirements.

Report Lacks Scientific Rigor

The process of science involves vigorous debate and discussion which includes the presentation and refutation of scientific evidence and claims. Report authors claim to be participating in the scientific process, however, the CWG report presents a fractured and incomplete view of the climate science, accentuating what positive can be found from increasing greenhouse gas concentrations while diminishing the real harms Oregonians are facing today as well as the threat to future generations. Many scientists, including those cited in the CWG report, have described many of the claims in the report as misleading and false.[5] We share their concerns regarding the accuracy of the report and believe that the DOE and CWG should respond to those statements. Several of our specific concerns are described below.

2021 Western North America heat wave

The report references the 2023 Oregon Climate Assessment by the Oregon Climate Change Research Institute as part of a discussion around the 2021 heat dome (Section 8.6.1, page 96), which broke the surface temperature record in Portland for three days in a

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[2] Among others, the Treasury and Federal Appropriations Act of 2001 enacts the Office and Management and Budget's "ensuring the quality, objectivity, utility, and integrity of information (including statistical information: disseminated by Federal agencies", 64 Fed. Reg. 8452, https://www.federalregister.gov/documents/2002/02/22/R2-59/guidelines-for-ensuring-and-maximizing-the-quality-objectivity-utility-and-integrity-of-information)

[3] See DOE Information Quality Guidelines part III.c. for details regarding DOE's responsibility for ensuring dissemination of information of the highest quality. See also EPA Information Quality Guidelines.

[4] FACA requires the submission of a membership balance plan to ensure that the agency considers and selects from a cross-section of persons directly affected by, interested in, and qualified to participate in the functions of the advisory committee. This requirement was not followed, and even if it had been, the selected experts do not represent that balance of views. https://www.congress.gov/crs-product/R47984

[5] Tandon, A, L. Hickman, C. Keating and R. McSweeney. Factcheck: Trump's climate report includes more than 100 false or misleading claims. CarbonBrief. August 13, 2025.

row and killed more than 100 people in Oregon[6]. According to the review, the assessment buttresses its claim that "an important counter to the first claim is that other researchers concluded from historical weather data that while a heat wave of the magnitude observed was indeed virtually impossible without anthropogenic climate change, it was also virtually impossible *with* climate change."

However, the 2023 Climate Assessment flatly states in the same paragraph quoted by the review that "[a] heat dome would have occurred without climate change, but maximum temperatures would not have been as high." The review seems to invent a claim that the underlying meteorological conditions leading to the heat dome were caused by climate change, when the actual literature is saying that the magnitude of the heat wave was increased by climate change such that hitting those record high temperatures would not have happened in the absence of over a century of global warming.

Ocean acidification

Section 2.2.1 (page 7) of the report states that the term ocean acidification "is a misnomer because the oceans are not expected to become acidic; 'ocean neutralization' would be more accurate." While the argument made by the authors in this case is not very relevant to the climate change science, it is clear from statements like this and several others in the report including where the authors refer to "media narratives" (page 95) or misleading media reporting (page 15) that they would prefer to see certain climate change narratives reframed – beyond any claims about the science. The authors preference for the term ocean neutralization is serving that interest.

Ocean acidification, similar to soil acidification, is the reduction of the pH of the substance. Whether the substance itself is in an initial basic state (pH > 7) or acid state (pH < 7), any process that moves the pH lower would be considered acidification because the term describes the direction of the change. Incidentally, alkalization, the process of increasing the pH of a medium, is the term for the opposite effect. The term "neutralization" does not clearly indicate the direction of the pH movement and is therefore not useful. "Neutralization" also implies an innocuous or well-meaning intention behind the change to pH without acknowledging that a move toward a neutral pH in the ocean is not a preferred outcome given the harm to marine life that could follow. We disagree that "neutralization" would be a more accurate term because it doesn't accurately reflect a clear direction of pH movement and the concerns of moving toward (and beyond) the neutral state.

[6] https://www.oregonlive.com/data/2021/07/oregons-heat-wave-death-toll-grows-to-116.html

Section 2.2.1. also states that "ocean biota appear to be resilient to natural long-term changes in ocean pH since marine organisms were exposed to wide ranges in pH" up to about 20,000 years ago where proxies show ocean pH was around 7.4 to 7.5 and that "even if the water [ocean] were to turn acidic, it is believed that life in the oceans evolved when the oceans were mildly acidic." Studies referenced in this section do not offer evidence for the authors' claims. First, ocean biota and marine organisms have evolved over very large time scales and planetary, oceanic and atmospheric conditions were dramatically different over the time period (2-4 billion years ago) discussed by Krissansen-Totton et al. (2018). Conditions during that period in earth's history would not have been conducive for human habitation. Report authors suggestions that ocean biota and human civilization would be fine if the oceans turn acidic are not reasonable and, in addition, they do not provide any evidence for that claim. Additionally, the report misuses the study referenced by Rae et al. (2018) by conflating historical conditions in the deep Southern Ocean with near shore and surface ocean conditions that are understood to be more significant to fisheries and human health.

The academic literature on the topic of ocean acidification is extensive.[7] Still, report authors can only cite two studies (both misleading references, as described above) to offer evidence for their implied claim that any variation in ocean pH caused by climate change would be insignificant compared to the variation of ocean pH going back 2-4 billion years ago. Report authors do not cite any countervailing evidence despite the many studies characterizing the harms of ocean acidification.[8]

Oregon's own experience is that that acidification and hypoxia events are already incurring significant harms to our aquaculture and the welfare of our fisheries, including the collapse of an oyster hatchery's production in 2007 due to changes in PH levels.[9]

Extreme Weather – Wildfires

Wildfires are discussed in section 6.8 of the report (pages 69-70) under the section on extreme weather. Report authors put significant emphasis on a Marlon et al. (2012) study from which they include an image (Figure 6.8.2) which is a portion of a figure from the 2012 study. Lead author Jennifer Marlon stated that the "chart and text are highly misleading and includes data that should not be plotted in a scientific report" and that using their data

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[7] See IPCC AR6 Working Group 1 Chapter 5.3: Ocean Acidification and Deoxygenation

[8] See studies referenced in Bindoff, N.L. et al., 2019: Changing Ocean, Marine Ecosystems, and Dependent Communities. In: IPCC Special Report on the Ocean and Cryosphere in a Changing Climate [Pörtner, H.-O., D.C. Roberts, V. Masson-Delmotte, P. Zhai, M. Tignor, E. Poloczanska, K. Mintenbeck, A. Alegría, M. Nicolai, A. Okem, J. Petzold, B. Rama, and N.M. Weyer (eds.)]. pp. 447–588, https://www.ipcc.ch/site/assets/uploads/sites/3/2019/11/09_SROCC_Ch05_FINAL-1.pdf

[9] Oregon Ocean Acidification & Hypoxia Council https://www.oregonocean.info/index.php/ocean-policy/ocean-acidification-and-hypoxia-council/about-the-oah-council

in this way "is manipulative and goes against all standard scientific norms and practice."[10] CWG report authors fail to ground the term "fire deficit," as used in the Marlon et al. study, in its proper context which is made clear in the study's conclusion. Instead, CWG report authors twist the term to imply that wildfire incidence and extent are minimal compared with the historical record. CWG report authors appear to be counting on the lay audience to come away from their report with the impression that current wildfire risk and potential human health impacts from that risk are lower than they were in the past. Despite their transparent skepticism, fire deficit conditions and increasing risk of wildfire impacts can and do coexist.[11]

Summarizing the Current Evidence of Climate Change Impacts in Oregon

The harms of climate change are already being felt in Oregon, with heat waves, droughts, and significant wildfires that have directly harmed Oregonians' health and welfare. Increasing average temperatures have also caused other costs to Oregon over the last few decades, changing which crops can be grown, pressuring our forest biomes, and requiring retrofits to older housing stock to install air conditioning to keep summers livable. That wide range of impacts has led our state to work for decades to foster and invest in reducing emissions using innovative energy sources, from our state Renewable Portfolio Standards and eliminating coal-fired power being used for electricity, the Clean Fuels Program for transportation fuels, to clean vehicle standards on automakers. These actions have reduced Oregon's contribution to climate change, helping spur the development and commercialization of low-carbon technologies that other states and countries can adopt as part of our collective action against climate change. The impacts of climate change which spur our work have been felt across the state, from the peaks of our mountains to the beds of our streams, as we summarize here.

Anthropogenic climate forcing is a driver of rising air and stream temperatures in Oregon. Attribution studies show a clear inflection point around 1960 when "anthropogenic radiative forcing" (greenhouse gases, aerosols, land-use changes) became a dominant cause of rising air temperatures in the Pacific Northwest. This demonstrates the direct role of human-caused climate pollution in altering Oregon's thermal and hydrologic systems.[12]

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[10] Kramer, A. 'A Serious Misuse of My Research': Climate Scientists Say New Trump Energy Report Botches Their Work. NOTUS. June 30, 2025. https://www.notus.org/climate-environment/scientists-trump-climate-change-report-doe-citations-mischaracterizations

[11] See Parks, S.A., Guiterman, C.H., Margolis, E.Q. *et al.* A fire deficit persists across diverse North American forests despite recent increases in area burned. *Nat Commun* 16, 1493 (2025). https://doi.org/10.1038/s41467-025-56333-8

[12] Oregon Department of Environmental Quality, Total Maximum Daily Loads for the Willamette Subbasins Technical Support Document Appendix G: Climate Change and Stream Temperature in Oregon: A Literature Synthesis Amended, May 2025,

For Oregonians, it confirms that unchecked emissions will continue to escalate water-quality impairments.

Increased incidence and extent of wildfires. As global temperatures increase, wildfires are expected to become larger and more frequent in Oregon and across the West. In the Pacific Northwest and California, the number of days with extreme wildfire danger has more than doubled since 1979. Drought and increased aridity also contribute to increased fire risk in Oregon. If greenhouse gas emissions do not decrease, concentrations of fine particulate matter from wildfire smoke could double or triple by the end of the century. A recent DEQ air quality study found that smoke from wildfires is causing an increase in the number of days with impaired air quality considered unhealthy or hazardous for sensitive groups.[13] That worsening air quality from wildfires is expected to increase with additional global warming.[14]

More area in Oregon burned during the 2024 wildfire season than in any previous year on record. In July 2024, Governor Tina Kotek declared a state of emergency over the threat caused by wildfires burning tens of thousands of acres throughout Oregon. During that month, nearly 40 wildfires were burning across the state. Four fires exceeded 100,000 acres, leading to closures of large areas of public land, including areas in the Willamette National Forest and the entire Malheur National Forest. The Durkee fire, the largest fire in the United States at that time, closed Interstate 84 in eastern Oregon, negatively affecting travel and commerce.

At the end of the fire season in October, more than 2,000 fires had burned over 1.93 million acres across the state, with a majority of acres burned in rangelands.[15] This surpassed the 2012 total of 1.2 million acres burned, and the 2020 total of 1.14 million acres. Fires destroyed at least 42 homes and 132 other structures and caused severe disruptions to transportation, utility infrastructure, and social services. Ranchers in Eastern Oregon lost access to critical resources for their livestock, leading to long-term challenges in restoring the land and significant lost business revenue. These impacts led Governor Kotek to issue a Major Disaster Declaration following the 2024 wildfire season.[16]

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https://ormswd2.synergydcs.com/HPRMWebDrawer/Record/6900948/File/document (DEQ TMDL Report) Page 12.

[13] Wildfire Smoke Trends and the Air Quality Index, July 2025. https://www.oregon.gov/deq/wildfires/Documents/wf2024wfTrendsRep.pdf

[14] Fleishman, E., editor. 2025. Seventh Oregon climate assessment. Oregon Climate Change Research Institute, Oregon State University, Corvallis, Oregon. https://doi.org/10.5399/osu/1181.

[15] https://gacc.nifc.gov/nwcc/

[16] Oregon Public Broadcasting. (2024). https://www.opb.org/article/2024/07/24/durkee-fire-eastern-oregoninterstate-84/

Increased wildfire activity has had devastating impacts on the state's forest ecosystems and rural communities over the last several years. From 1992 to 2001, wildfires in the state burned an average of 198,000 acres per year. In the years between 2002 and 2017, that number jumped to an average of 433,541 acres burned each year. Over the past five years, Oregon has averaged over $100 million annually in emergency wildfire suppression costs. Oregon fire officials have documented the catastrophic 2020 wildfires – which caused over $541 million in damages – as Oregon's highest wildfire damage assessment to date.

Increased wildfire smoke from climate change contributes to asthma and other pulmonary-related emergency department visits and tens of millions in added health-care costs. According to the Oregon Health Authority, inhalable fine particles from combustion (including wildfires) damage the lungs, heart, and other organs. Oregon climate scientists project larger and more extreme wildfires if greenhouse gas emissions do not decrease, driving more wildfire smoke. Increased warming will contribute to projected smoke-related asthma emergency-department visits adding about $99.7 million to health-care costs in Oregon in the future. This is a direct, pollution-driven cost pressure on hospitals, clinics, insurers, and publicly funded programs.[17]

Economic losses from a major smoke event in Oregon are likely to be highly localized and industry specific given the unequal distribution of wildfire smoke and economic activity and the unequal effects of smoke among industries. Quantitative estimates suggest that a major smoke event will reduce the state's per annum Gross Domestic Product by at least $1 billion, or about one-third of one percent. Compounded or cascading losses from multiple independent or interacting events within the same year will result in greater economic effects, as will accounting for health effects of smoke.[18]

Extreme heat leads to spikes in emergency department and urgent-care visits and preventable deaths. Heat waves, which are made more frequent and intense by climate change, are already driving health-care utilization in Oregon. The Oregon Health Authority shows daily heat-related illness emergency department and urgent-care visits tracking with high heat index days and documents 139 heat-related deaths across 2021–2023, including 109 deaths in 2021 during the heat dome. This is exactly how climate pollution translates into clinical demand (IV fluids, cooling, admissions) and mortality.[19]

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[17] Oregon Health Authority, Climate and Health in Oregon: 2023 Report, https://www.oregon.gov/oha/PH/HEALTHYENVIRONMENTS/CLIMATECHANGE/Documents/FINAL%20Climate%20Health%20in%20Oregon%202023%20v071124%20(1).pdf ("OHA 2023 Report"), Page 31.
[18] Oregon Climate Change Research Institute, Oregon State University, Seventh Oregon climate assessment, https://oregonstate.app.box.com/s/ziqc1kisxkup45147phjp526kheugqnb, Page 7.
[19] OHA 2023 Report, https://www.oregon.gov/oha/PH/HEALTHYENVIRONMENTS/CLIMATECHANGE/Documents/FINAL%20Climate%20Health%20in%20Oregon%202023%20v071124%20(1).pdf, [28].

Heat and smoke combine to create increased health impacts for up to ~40% of Oregonians. Ultrafine particulate matter exposure and extreme heat often occur on the same days and can produce synergistic harms, worse than either exposure alone, culminating in emergency department visits, hospitalizations and even death. In 2023, 12 counties (home to ~1.7 million people) had ≥14 days with both a heat index ≥80°F and compromised air quality on the same day, concentrating risk among people with asthma, COPD and other chronic conditions. Clinically, these compounding exposures drive more exacerbations, more admissions, and higher costs.[20] In addition, "wildfire smoke and population in Oregon from 2046–2051 suggest that the number of cases of short-term health outcomes attributable to smoke are likely to increase considerably relative to 2005–2009 among all adults, and especially among older adults. The increase in adverse outcomes was associated with substantial increases in economic losses and lost quality-of-life."[21]

Ozone, which is formed and increased by combustion, including burning fossil fuels, contributes to worsened cardiorespiratory effects. Beyond smoke particles, recent research flags ozone as "another air pollutant increased by combustion, including wildfires and burning fossil fuels," which can worsen health effects during hot, smoky periods. For Oregon health care providers this means more chest pain, dyspnea, asthma flares and potential cardiovascular events, translating to higher emergency department demand and admissions when climate-driven heat and fire seasons overlap.[22]

Warming waters & low water flows from climate change result in more harmful algal blooms (HABs), toxin exposure, and health advisories. The Oregon Health Authority links warm weather, nutrients, and low water flow, all intensified by climate change, to cyanobacterial blooms that release toxins. Reported impacts include serious illness and skin/ear/eye irritation; in 2023 OHA issued 12 recreational health advisories for rivers, lakes, and reservoirs (including a permanent advisory on stretches of the Umpqua river). These events generate clinical visits (GI, neurologic, dermatologic), public-health response costs, and lost recreation/tourism revenue.[23]

Hotter summers are leading to warmer rivers and shrinking salmon habitat. August mean air temperatures across Oregon are rising at +0.29°C per decade since 1960. Corresponding stream temperatures are increasing by +0.09°C to +0.27°C per decade in

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[20] Ibid., [37].
[21] Oregon Climate Change Research Institute, Oregon State University, Seventh Oregon climate assessment, https://oregonstate.app.box.com/s/ziqc1kisxkup45147phjp526kheugqnb, Page 7.
[22] OHA 2023 Report, https://www.oregon.gov/oha/PH/HEALTHYENVIRONMENTS/CLIMATECHANGE/Documents/FINAL%20Climate%20Health%20in%20Oregon%202023%20v071124%20(1).pdf [38].
[23] Ibid., [44].

unregulated streams, especially in summer.[24] The impact is that warmer rivers exceed thermal tolerances for salmon and trout, leading to habitat loss, population declines, and increasing threats to Tribal and commercial fisheries.

Coastal zone ocean acidification is impairing waters and harming marine life. In 2024, Oregon listed the first marine waters to be impaired for ocean acidification in the U.S. These impairments are primarily caused by climate change.[25] Some potential impacts of coastal acidification are decreased carbonate availability which can interfere with shell forming marine organism development leading to marine food chain impacts.[26]

Declining snowpack and summer flows results in hotter and lower rivers. Snowpack losses and altered runoff are shifting streamflow timing by 10–30 days earlier with 5–25% reductions in June streamflow. In Oregon, August discharges are declining by as much as 8.5% per decade.[27] The impact is that less cold water in rivers during peak summer means intensified competition among agriculture, cities, and ecosystems for adequate water resources.

These harms and impacts on Oregon's public health and welfare are well researched, documented, and supported by scientific consensus. The list is not intended to be comprehensive but to provide examples of localized impacts directly resulting from and/or exacerbated by increased concentrations of greenhouse gas emissions.

Report Does Not Justify Rescinding the 2009 GHG Endangerment Finding

The CWG report was issued in conjunction with, and is cited as the primary scientific justification for, EPA's proposed rule to repeal the 2009 GHG Endangerment Finding and vehicle emission GHG standards since 2010. As described above the report contains many serious flaws. Those include errors of omission, references to source material that frequently mischaracterize reported findings and references to poor quality source material that do not meet the highest quality standards required for influential information.

Report authors are clear (Preface, page x) that they were unable to review all relevant climate change topics but instead focused on topics "that are downplayed in, or absent from, recent assessment reports; and that are within our competence."

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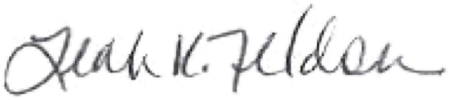
[24] DEQ TMDL Report, https://ormswd2.synergydcs.com/HPRMWebDrawer/Record/6900948/File/document, Page 7.
[25] Oregon Department of Environmental Quality. 2024 Integrated Report Fact Sheet: Assessing Ocean Acidification and Hypoxia Impacts in Oregon Marine Waters
[26] https://www.epa.gov/ocean-acidification/effects-ocean-and-coastal-acidification-marine-life
[27] DEQ TMDL Report, https://ormswd2.synergydcs.com/HPRMWebDrawer/Record/6900948/File/document, Page 8.

This is despite being charged with writing “a report on issues in climate science relevant for energy policymaking.”

Given its serious flaws and because report authors reject the scientific consensus on the issue of climate change and its impacts in the U.S., the report must not be used to inform any policy or rulemaking process. That consensus has been built through the deliberate process of science over the decades and has withstood, and been made stronger by, the significant debate, criticism and transparency. Our recommendation is that it be set aside. If DOE and EPA are interested in a comprehensive review and assessment of the current state of climate science, the open and legal process followed by the recent national climate assessments must be the benchmark.

Sincerely,



Leah Feldon
Director