NATIONAL SUSTAINABLE AGRICULTURE COALITION

September 22, 2025

The Honorable Lee Zeldin
Administrator
U.S. Environmental Protection Agency
1200 Pennsylvania Avenue NW
Washington, DC 20460

Re: National Sustainable Agriculture Coalition Comments on Reconsideration of 2009 Endangerment Finding and Greenhouse Gas Vehicle Standards (FR Docket No. EPA-HQ-OAR-2025-0194)

Dear Administrator Zeldin,

The National Sustainable Agriculture Coalition (NSAC) welcomes the opportunity to submit comments on the proposed rule change entitled "Reconsideration of 2009 Endangerment Finding and Greenhouse Gas Vehicle Standards."

NSAC is a national alliance of over 160 family farm, food, rural, and conservation organizations that together take common positions on federal agriculture and food policies to advance sustainable agriculture. For almost four decades, NSAC has worked to build a better, more just, and sustainable food and farm system in support of our members that serve farmers, ranchers, and families from coast to coast.

Docket No. EPA-HQ-OAR-2025-0194 proposes that the 2009 Endangerment Finding should be reconsidered and offers the alternative rationale that warming temperatures and rising carbon dioxide (CO_2) levels benefit agricultural productivity. We disagree. To that end, NSAC submits this comment to elevate the known adverse effects that increased greenhouse gas (GHG) emissions are having on our agricultural and rural communities and share the concerns we are hearing from producers and other stakeholders about these effects.

At NSAC, we firmly believe that climate change poses a severe, even existential, threat to American agriculture, and we must take action to mitigate its impact. As such, we do not support the proposed reconsideration of the 2009 Endangerment Finding. As established by decades of peer-reviewed science, greenhouse gases are air pollutants that harm public welfare, in part through their negative impacts on our food systems and agricultural communities. The transportation sector accounts for nearly one-third of U.S. emissions[1], and it remains essential

[1] U.S. Environmental Protection Agency, "Transportation Sector Emissions," last modified March 31, 2025, https://www.epa.gov/ghgemissions/transportation-sector-emissions. It is worth noting, as well, that the agriculture sector directly contributes to one-tenth of US emissions, which demonstrates even more so why the climate impacts both to and from agriculture should factor into the rationale behind retaining the engagement finding.

that the Environmental Protection Agency (EPA) continue regulation under the Clean Air Act as a vital tool for reducing emissions.

I. The adverse outcomes of climate change on most U.S. crops continue to outweigh any perceived benefits.

The rescission proposal references Department of Energy (DOE) Climate Working Group findings as its alternative rationale for the proposal, which raises significant concerns. The DOE Climate Working Group represented a narrow subset of climate scientists whose findings contradict broader scientific consensus; the Working Group has since been disbanded after facing a lawsuit on its legality and there is ongoing concern about using their report in any regulatory decisions. More than 85 experts submitted a response to the draft report, stating that the report currently fails to adequately represent the scientific understanding of climate change; top experts at the National Academies of Science, Engineering, and Medicine have additionally released a report focused on evidence gathered since 2009 on the threat of greenhouse gas emissions on public health and welfare. We echo the concern that the DOE Climate Working Group's draft report fails to acknowledge research consensus from scientists indicating that climate change, GHG accumulation, rising temperatures, and human endangerment impacts are developing as rapidly - and possibly more rapidly - than models back in 2009 predicted.

The authors of the DOE report conclude that rising CO_2 concentrations will provide net agricultural benefits sufficient to offset climate-related risks. This claim contradicts the Fifth National Climate Assessment's (NCA5) finding that "Climate change has increased agricultural production risks by disrupting growing zones and growing degree-days, which depend on precipitation, air temperature, and soil moisture," a conclusion they rank as *very likely, very high confidence*.[2]

As temperatures rise, precipitation amounts shift, and severe weather events occur with increasing frequency, agricultural systems experience both negative and positive feedback outcomes that are difficult to predict. Increased CO_2 and rising temperatures may initially expand grain and oilseed production in some regions. Certain crops such as wheat, hay, and barley are projected to see future yield increases in some areas associated with anticipated increases in precipitation and C fertilization; and high-latitude regions such as Alaska have reported positive impacts from increasing temperatures.[3]

However, the potentially devastating agricultural outcomes outweigh possible positive outcomes of climate change in much of North America, including the northern tier of the United States. Facing higher temperatures, four major U.S. and global commodity crops - corn, soybean, wheat, rice - are expected to experience yield declines, especially when these temperatures occur during

[2] A. R. Crimmins, C. W. Avery, D. R. Easterling, K. E. Kunkel, B. C. Stewart, and T. K. Maycock, eds., *Fifth National Climate Assessment* (Washington, DC: U.S. Global Change Research Program, 2023), https://doi.org/10.7930/NCA5.2023

[3] David Reidmiller et al., eds., *Impacts, Risks, and Adaptation in the United States: Fourth National Climate Assessment, Volume II* (Washington, DC: U.S. Global Change Research Program, 2018), doi: 10.7930/NCA4.2018

critical periods of reproductive development.[4] Should precipitation patterns become more variable, this initial expansion may prove short-lived as temperatures continue rising. In addition, summer nighttime lows are increasing more rapidly than daytime highs; hot nights stress crops by accelerating respiratory loss of photosynthetic products and by altering biochemical processes.[5] There is also evidence that higher CO_2 levels reduce the nutritional quality of foods and feed by increasing carbohydrate content, with corresponding reductions in protein, micronutrients, and antioxidants.[6]

Climate change is also expected to cause weeds to migrate further north. Elevated CO_2 levels also enhance weed growth and, in higher CO_2 environments, commonly used herbicides lose their ability to kill weeds.[7] Two of the worst cropland weeds of the southern U.S. - purple nutsedge and Palmer amaranth - reach their maximum photosynthetic and growth rates at approximately 100-105 F[8,9], temperatures that cause most summer fruiting vegetables (tomato, pepper, bean) to abort flowers and severely stress even the most heat-loving field crops.

In addition, climate change directly threatens soil health and fertility in at least two ways. First, rising temperatures alter soil microbial communities and may accelerate the net oxidation of soil organic matter (SOM)[10], changes that reduce the soil's capacity to deliver essential plant nutrients to growing crops, to absorb rainfall and retain moisture in plant-available forms, and to support vigorous crops with good resilience to pests, diseases, and weather extremes. Second, heavier rainfalls and floods exacerbate soil erosion losses from agricultural land, which already average at least five-fold higher than natural soil-formation processes.[11] Furthermore, these climate-induced soil changes create a positive feedback loop since SOM is 50% carbon, and its oxidation emits about 1.8 tons of CO_2 for every ton of SOM lost. Increasing temperatures and CO_2 levels also accelerate formation and emission of nitrous oxide (N_2O)[12], a powerful

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[4] Chuang Zhao et al., "Temperature Increase Reduces Global Yields of Major Crops in Four Independent Estimates," *Proceedings of the National Academy of Sciences of the United States of America* 114, no. 35 (2017): 9326–9331.

[5] A. Abbas, S. Rossi, and B. Huang, "Plant Metabolic Responses and Adaptation Mechanisms to Elevated Night Temperature Associated with Global Warming," *Grass Research* 4 (2024): e015, https://doi.org/10.48130/grares-0024-0013.

[6] Kristie L. Ebi and Lewis H. Ziska, "Increases in Atmospheric Carbon Dioxide: Anticipated Negative Effects on Food Quality," *PLoS Medicine* 15, no. 7 (2018): e1002600, https://doi.org/10.1371/journal.pmed.1002600.

[7] Reidmiller et al., *Fourth National Climate Assessment, Volume II*, 2018.

[8] L. G. Holm, D. L. Plucknett, J. V. Pancho, and J. P. Herberger, *The World's Worst Weeds* (Malabar, FL: Krieger Publishing Company, 1991), 609 pp.

[9] J. Ehleringer, "Ecophysiology of *Amaranthus palmeri*, a Sonoran Desert Summer Annual," *Oecologia* 57 (1983): 107–112.

[10] M. U. F. Kirschbaum, "The Temperature Dependence of Soil Organic Matter Decomposition, and the Effect of Global Warming on Soil Organic C Storage," *Soil Biology and Biochemistry* 27, no. 6 (1995): 753–760.

[11] R. R. Weil and N. C. Brady, *The Nature and Properties of Soils*, 15th ed. (Boston: Pearson, 2017).

[12] A. J. Eagle, L. P. Oander, K. L. Locklier, J. B. Heffernan, and E. S. Bernhardt, "Fertilizer Management and Environmental Factors Drive N_2O and NO_3 Losses in Corn: A Meta-Analysis," *Soil Science Society of America Journal* 81, no. 5 (2017): 1191–1202.

greenhouse gas with 300 times the global warming potential of CO_2 that accounts for half of the GHG footprint of U.S. agriculture.[13]

The current consensus is that in major agricultural growing regions of the U.S., climate change will lead to more agricultural stress, yield declines, and disruptions to production.[14] This body of research does not support the DOE report's claim that "enhanced atmospheric CO_2 will provide sufficient agricultural benefits to offset climate-related risks."

The DOE report further claims that adaptation of the agricultural system will be enough to mitigate risk, but they ignore the long-term risks of climate change such as sea level rise. Mitigating greenhouse gas emissions remains the most effective long-term strategy for protecting agricultural productivity and public welfare. Even so, there has additionally been no indication of action by this administration to remove barriers and support farmers in adapting their operations to climate shifts already underway, nor any further discussion of that in this report. Instead, the United States Department of Agriculture (USDA) has terminated projects dedicated to helping farmers make their operations more resilient to extreme weather and climate volatility; and has undermined its own capacity to help farmers adapt to changing conditions by drastically reducing agency staff levels.

The reality of farming in the United States makes plain that climate change will continue to disrupt agricultural production across most major commodity crops and regions, regardless of theoretical CO_2 fertilization benefits. We request EPA stop relying solely on the DOE draft report and refer to the overwhelming evidence of increased risk to agricultural productivity, including by agricultural communities experiencing climate impacts daily.

II. Current data and impacts of GHG emissions support continued climate change action.

The National Climate Assessments represent the gold standard of climate assessment, incorporating input from hundreds of scientists across federal agencies and non-federal experts. The latest, the Fifth National Climate Assessment (NCA5), published in 2023, is comprehensive and indicates enough current effects and future risk of climate change to warrant ongoing regulation of GHG emissions.

We have just experienced the hottest year on record, with 2024 marking the first calendar year that global temperatures exceeded 1.5 C above preindustrial climate conditions. Elevated temperatures increase the rate of drought onset, overall drought intensity, and drought impact

[13] United States Environmental Protection Agency (EPA), *Inventory of U.S. Greenhouse Gas Emissions, 1990–2022*, Chapter 5 "Agriculture" and Chapter 6 "Land Use, Land Use Change, and Forestry" (2024), https://www.epa.gov/ghgemissions/inventory-us-greenhouse-gas-emissions-and-sinks-1990-2022.
[14] Crimmins et al., *Fifth National Climate Assessment,* 2023.

through altered water availability.[15] Drought additionally depletes soil carbon due to low biomass productivity. The phenomenon of "flash drought," in which a sudden onset of intense heat and below-normal precipitation cause a rapid depletion of soil moisture levels from ample to deficient, can lead to severe crop losses. Increasingly erratic weather patterns related to climate change make flash droughts more common, and officials warn that parts of ten states from Missouri and West Virginia to the Gulf Coast face a high risk of flash drought in fall of 2025.[16] In Virginia, a flash drought set in during the summer of 2019 after excessive rainfall during the first half of the year, and farmers observed that damage was accentuated because their crops and pastures formed smaller, shallower, and less healthy root systems in the excessively wet soils. These limited root systems cannot reach moisture deeper in the soil profile to sustain crops through the drought.

Among NCA5's findings, the assessment shows what our agriculture communities regionally face in response to a lack of action on GHG emissions:

- Severe heat stress has reduced production of crops like Arizona upland cotton. The 2021 drought is estimated to have had $1.28 billion worth of impacts on crop production. Almonds, wine grapes, and other high value crops were among those affected.
- In the Southern Great Plains, temperatures and precipitation have increased across most of the region; in Texas, only temperatures have increased. Days with heavy precipitation have become more frequent, and tropical storms present rising challenges. Droughts are particularly challenging – such as in Texas, where there were droughts in 82 of 156 months from 2010 to 2022. For Oklahoma, it was 69 of those months; and for Kansas, 56 of those months.
- Rising pest pressure, wildfire smoke, decreased chilling degree-days, and sunburn have severely damaged tree fruit and vineyard production in the Pacific Northwest.
- Extreme heat and drought in the interior Pacific Northwest reduced wheat and barley yields. In 2021 and 2022, USDA funded research projects on dryland organic wheat production in the interior Pacific Northwest and Northern Great Plains were repeatedly hit by drought and heat so intense that crops failed completely despite best management practices.[17]
- In the Southwest, the megadrought began in 2000, in part driven by reduced mountain snowpacks – this caused the driest period for the region in 1200 years, resulting in reduced soil moisture, increased vegetation stress, and reduced reservoir levels. Despite these overall drying trends, the Southwest, like other regions, is experiencing floods from unusually rapid snowmelt and brief, heavy precipitation events.

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[15] Xingcai Liu et al, Global Agricultural Water Scarcity Assessment Incorporating Blue and Green Water Availability Under Future Climate Change, *Earth's Future* (2022). DOI: 10.1029/2021EF002567

[16] Timothy McGill, "Officials Issue Warning over Concerning 'Flash Drought' That Could Impact Multiple US States: 'Hazard to Life or Property'," *Yahoo News*, September 12, 2025, https://www.yahoo.com/news/articles/officials-issue-warning-over-concerning-122500919.html.

[17] J. R. Reeve et al., *From Compost Carryover to Compost Legacy: Intercropping and Compost Effects on Yield, Quality, and Soil Health in Organic Dryland Wheat*, Progress and Final Reports, OREI Award 2019-51300-30476 (2024), https://portal.nifa.usda.gov/web/crisprojectpages/1020449-from-compost-carryover-to-compost-legacy-intercropping-and-compost-effects-on-yield-quality-and-soil-health-in-organic-dryland-wheat.html.

- The entire coast of California is further strained by marine heatwaves, sea level rise, harmful algal blooms, and ocean acidification.
- The heat and drought have greatly lengthened and intensified wildfire seasons throughout the western U.S. These unprecedented fires have taken hundreds of lives, destroyed thousands of homes, scorched or smoke-damaged countless acres of crops, and endangered the health of firefighters working overtime to contain the blazes.[18] In addition, smoke from Canadian wildfires has degraded air quality to unhealthful levels across broad sectors of the US for weeks on end during 2023-2025, causing illnesses, hospitalizations and deaths.[19] This represents an unprecedented impact from Canadian wildfire smoke on U.S. public health, and a direct air pollution impact of climate change that comes within the purview of the Clean Air Act.

Due to climate change and depending on region, farmers and farm workers face:

- Unprecedented heat and drought that have led to crop and livestock stresses, yield losses, and depleted surface and groundwater resources;
- More intense weather and changing precipitation patterns, heavy rains, hurricane winds, and floods, as well as increasing pest pressures;
- Decrease in quality and availability of forage; and
- Rising hospitalizations and fatalities from heat and more airborne pollution (including wildfire smoke). These hazards disproportionately affect the 3 million farmworkers who do ⅔ of the labor to put food on US tables.[20]

Our members working directly with farmers share stories that become more common every year. While farming has always been unpredictable, farmers speak about an increased level of variability and intensity that are a result of climate change and that make farming harder, riskier, and less profitable. While the DOE report claims that enhanced plant growth might offset climate risks through increased carbon availability, farmers describe to us their concerns about the other limitations that climate change exacerbates - water, sunlight, temperatures, other nutrient availability, and pests.

One Arkansan sheep farmer describes how three months of no rain, high wind, and extremely high temperatures impacted their forage and forced them to pay significantly more for feed and to delay breeding season, resulting in a 50% reduction in lambs that year. In addition, when a couple of rains occurred in the middle of the drought, the heat and moisture together cause a huge parasite bloom that has caused them to lose many of their lambs over the years. A Florida lychee farmer describes how they've watched their yield go from tens of thousands of pounds of

[18] "If I Live to 25, I've Lived a Good Life': He Started Fighting Wildfires as a Teenager. After Inhaling Smoke on the Front Lines for Six Seasons, He Faced an Impossible Choice," *New York Times*, September 7, 2025, https://www.nytimes.com/2025/09/07/us/wildfire-firefighter-cancer.html.

[19] Yiyi Xu et al., "Canadian Wildfires of 2023 and Risk of Mortality and Hospitalization among Hemodialysis Patients in the Eastern and Midwestern United States," *Journal of the American Society of Nephrology* 35, no. 10 (2024): 1800–1810, https://doi.org/10.1681/ASN.2023090926.

[20] U.S. Environmental Protection Agency (EPA), *Climate Change Impacts on Agriculture and Food Supply*, last modified August 11, 2025, https://www.epa.gov/climateimpacts/climate-change-impacts-agriculture-and-food-supply.

lychees a few decades ago to just a few thousand because the fruit requires cold weather and the temperatures are increasing. One rancher shares their worry about decreases in the nutrient quality of hay; another farmer relays the widespread concerns about drainage issues related to more intense rain events. Farmers across the West describe recent years as their worst crops in decades due to extreme drought; one shares that the psychological stress of not being able to control their environment has always been a struggle, but that the more extreme weather and variability make him acknowledge that his time as a farmer might be limited.

These testimonials illustrate a critical disconnect between the theoretical projections of potential yield gains in the DOE report and the realities faced by producers on the ground. The mounting challenges described by farmers contradict claims that climate change will provide a net benefit to agriculture. Rising temperatures and changing weather patterns because of GHG emissions already cause harm to public welfare and increasing concentrations will cause greater risk.

Climate stability and agricultural productivity represent interconnected public welfare concerns that extend beyond individual farming operations and encompass our food security, economic stability, and environmental health. Effective climate policy recognizes that farmers serve as critical stewards of our natural resources and food systems, and their operational success directly impacts broader community welfare. Climate protection and mitigating GHG emissions constitutes a fundamental public good that benefits current and future generations. We urge EPA in the strongest terms to maintain the 2009 Endangerment Finding based on overwhelming evidence of the ongoing and potential harm of GHG emissions to public welfare, including our farms, ranches, rural communities, and food systems.

Thank you for the opportunity to comment on the proposed rescission of the 2009 Endangerment Finding. As the EPA continues to move forward in this process, we trust that you will take our comments and especially the farmer testimonials therein into full consideration. We welcome the opportunity to continue the dialogue with EPA on this vitally important matter. Please contact us with any questions regarding our input.

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