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FACT SHEET

EPA'S ENDANGERMENT FINDING:
THE LEGAL AND SCIENTIFIC FOUNDATION FOR CUTTING CLIMATE-CHANGING POLLUTION

In 2009 the U.S. Environmental Protection Agency (EPA) issued its science-based finding that the buildup of heat-trapping greenhouse gases in the atmosphere endangers public health and welfare. This Endangerment Finding reflects the overwhelming scientific evidence on the causes and impacts of climate change. It was made after a thorough rulemaking process considering thousands of public comments and was upheld by the federal courts. In the years since, the scientific basis for the Endangerment Finding has only gotten stronger.

The Endangerment Finding requires the EPA to take action under the Clean Air Act to curb emissions of carbon dioxide (CO_2), methane, and four other heat-trapping air pollutants from vehicles, power plants, and other industries. The EPA made the Endangerment Finding following the Supreme Court's landmark 2007 decision in *Massachusetts v. EPA*, which held that greenhouse gases are air pollutants covered by the Clean Air Act. The Court further held that the Clean Air Act obligates the EPA to curb pollutants that it determines endanger public health and welfare by contributing to climate change.

However, the Trump Administration is now proposing to revoke this finding and block the EPA from regulating greenhouse gas emissions.

BASIS IN LAW

Sixty years ago, President Lyndon B. Johnson asked Congress for legislation to control air pollution, including heat-trapping greenhouse gas emissions. In a special message to Congress, President Johnson cautioned that "air pollution is no longer confined to isolated places. This generation has altered the composition of the atmosphere on a global scale through radioactive materials and a steady increase in carbon dioxide from the burning of fossil fuels."[1]

In this message, President Johnson stated that "the Clean Air Act should be improved to permit [the EPA's predecessor agency] to investigate potential air pollution problems before pollution happens, rather than having to wait until the damage occurs, as is now the case, and to make recommendations leading to the prevention of such pollution."[2] The modern Clean Air Act, signed in 1970 by President Nixon and amended in 1977 and 1990, defined air pollutants expansively; expressly called out adverse effects on climate; and included broad, forward-looking language authorizing the EPA administrator to regulate any "air pollution which may reasonably be anticipated to endanger public health or welfare."[3]

In the subsequent decades, scientific evidence continued to accumulate on the dangers posed by the rising atmospheric concentrations of greenhouse gases, caused mainly by burning fossil fuels in vehicles, power plants, and other industries. Despite that evidence, in 2003 the EPA rejected calls to regulate greenhouse gas emissions from motor vehicles, claiming that these gases were not "air pollutants" under the Clean Air Act.[4] States, cities, and environmental groups challenged the EPA's decision and prevailed in the landmark 2007 Supreme Court ruling in *Massachusetts v. EPA*.

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The Supreme Court held that greenhouse gases emitted from vehicles and other sources are unambiguously air pollutants under the Clean Air Act.[5] "Greenhouse gases fit well withing the Clean Air Act's capacious definition of 'air pollutant,'"[6] the Court wrote, noting also that the Act covers both public health harms and adverse effects on weather and climate.[7] Congress, the Court emphasized, gave the EPA the responsibility to keep up with evolving science: "Without regulatory flexibility, changing circumstances and scientific developments would soon render the Clean Air Act obsolete. The broad language of [Section] 202(a)(1) reflects an intentional effort to confer the flexibility necessary to forestall such obsolescence."[8] The law's "clear statutory command" requires the EPA to make a scientific judgment as to "whether greenhouse gas emissions contribute to climate change.[9]

Following the *Massachusetts v. EPA* decision, in 2009 the EPA conducted a thorough examination of the scientific evidence of climate change and considered thousands of public comments. The agency found that greenhouse gases endanger the public health and welfare of Americans, basing this finding on the overwhelming scientific consensus reached by decades of peer-reviewed research.[10] The 2009 rulemaking also included the determination that greenhouse gas emissions from motor vehicles "contribute" to the dangerous buildup of climate pollution in the atmosphere. The two findings—endangerment and contribution—provided the legal mandate for the EPA to issue greenhouse gas emission standards for vehicles in 2010 under Section 202 of the Clean Air Act.[11]

The U.S. Court of Appeals for the D.C. Circuit upheld the EPA's determinations in 2012, finding that the "body of scientific evidence marshaled by the EPA in support of the Endangerment finding is substantial."[12] The Supreme Court declined to review that decision.

In 2015 the EPA issued standards limiting CO_2 pollution from new and existing fossil fuel–fired power plants under Section 111 of the Clean Air Act. The EPA updated the 2009 Endangerment Finding on the basis of further scientific assessments and determined that power plants "contribute significantly" to dangerous atmospheric levels of greenhouse gases.[13] The EPA made a similar "contributes significantly" finding in 2016 when issuing standards for methane emissions from oil and gas sources under Section 111.[14] A year later, the EPA found that greenhouse gas emissions from aircraft engines contribute to dangerous climate-changing air pollution under Section 231.[15] In each action, the EPA updated its findings with the latest scientific evidence.

The EPA strengthened its climate protection standards for motor vehicles, oil and gas operations, and power plants in a series of actions from 2022 through 2024.[16] The EPA also rejected another petition to reverse the Endangerment Finding filed by an assortment of groups linked to the fossil fuel industry climate deniers.[17] Once more, the D.C. Circuit rejected their challenges, and the Supreme Court denied review.[18]

The second Trump administration, however, is reversing course. Across the government, it has closed down climate change websites, slashed climate science research and cancelled national climate assessments, and rescinded funding for clean energy and community resilience.[19] It has forbidden agencies from calculating and reporting the benefits of curbing climate pollution (banning consideration of the social cost of carbon).[20] The EPA has already proposed a repeal of its CO_2 standards for power plants.[21] And it has proposed to revoke the Endangerment Finding and climate pollution standards for vehicles.[22]

BASIS IN SCIENCE

These current actions fly in the face of climate science. The EPA's 2009 Endangerment Finding was based on extensive review of decades of scientific research and peer-reviewed assessment reports synthesizing thousands of individual climate science studies.[23] The Agency concluded, on the basis of the scientific evidence, that "elevated concentrations of heat-trapping greenhouse gases are the root cause of recently observed climate change" and that these changes are "very likely due to the observed increase in anthropogenic greenhouse gas concentrations."[24] The EPA considered the current and future effects of climate change and found that climate-changing pollution endangers public health for current and future generations.[25]

The science has only gotten stronger since then. A few of the more recent science assessments include:

- The IPCC Sixth Assessment Report (2021–2023), which concludes that human influence on the climate system is unequivocal and strongly attributes worsening heat waves, sea level rise, extreme weather, and health risks to anthropogenic greenhouse gas emissions.[26]
- The Fifth National Climate Assessment (2023), which finds that climate change is already affecting every region of the United States with increased intensity and speed, causing disproportionate harm to vulnerable communities and straining health and infrastructure systems.[27]
- Duffy et al. (2019), "Strengthened Scientific Support for the Endangerment Finding for Atmospheric Greenhouse Gases," provides a detailed update of the basis for the EPA's 2009 finding, demonstrating that nearly all global warming since 1950 is due to human activity and reinforcing the causal link between greenhouse gas emissions and climate change.[28]

As discussed in these assessments, the principal public health effects supporting the EPA's determination include:

- **Direct temperature effects:** Extremely hot days and heat waves have become more frequent, intense, and prolonged. Heat remains the leading cause of weather-related deaths in the United States, and recent data confirm that projected warming will substantially increase heat-related mortality and morbidity.

- **Air quality effects:** Stronger evidence has emerged showing climate-driven increases in ground-level ozone pollution (smog) and particulate matter, which have intensified respiratory illnesses and exacerbated asthma and other chronic respiratory conditions.
- **Extreme weather events:** Recent studies document that heavy precipitation events are increasing in frequency and severity, and that hurricanes are becoming more intense and causing heavier rainfalls. Droughts and wildfires have also become more severe and persistent in parts of the U.S., linked to warming and drier conditions. These events have increased risks of death, injury, and the spread of infectious diseases.
- **Disease and allergen effects:** Warmer temperatures have extended geographical ranges and seasons for vector-borne diseases and significantly increased exposure to pollen and aeroallergens, amplifying allergic illnesses and related conditions. These changes pose growing health risks and contribute to EPA's finding that greenhouse gas pollution endangers public welfare.[29]

The principal environmental and welfare effects supporting this determination include:

- **Food production, agriculture, and forestry effects:** Although increased CO_2 concentrations may benefit certain crops in controlled situations, the full body of evidence shows that, on net, climate change impacts—including increased temperatures, droughts, and floods, changing precipitation patterns, and extreme weather events—are harming U.S. agriculture. Wildfires have increased in size and frequency, particularly in the western United States, further harming U.S. forestry.
- **Water resource impacts:** Recent assessments indicate significant reductions in snowpack, increased drought severity, and altered precipitation patterns, further threatening the adequacy of water supplies across large areas of the United States. Warmer temperatures and heavier rainfall have also contributed to rising temperatures in lakes and streams and more frequent flooding, which can worsen water quality and increase risks to public health and ecosystems.
- **Sea level rise:** Ongoing observations have confirmed accelerated sea-level rise along much of the U.S. coast, surpassing previous projections. Increased sea-level rise heightens the risk of storm surge, flooding, coastal erosion, and loss of wetlands, posing greater threats to coastal communities.
- **Energy and infrastructure effects:** Climate change continues to increase stresses on energy production and use. Energy demand is increasing, especially for cooling. Risks to U.S. infrastructure—including energy transmission, water infrastructure, roads, bridges, airports, and homes—are growing due to more frequent permafrost melt, sea level rise, and coastal erosion.
- **Impacts on ecosystems and wildlife:** Recent evidence further highlights significant disruptions to plant life cycles, animal migration patterns, and habitat ranges due to climate change. These impacts increasingly threaten biodiversity and critical ecosystem goods and services on which current and future generations depend.

THE CURRENT ADMINISTRATION'S PLAN TO MAKE CLIMATE BENEFITS DISAPPEAR

Court decisions since 2008 have held that when agencies tote up the costs and benefits of regulation, they have to account for the harm caused by CO_2 and other climate pollutants, and they can't ignore the benefits of reducing those pollutants. The U.S. Court of Appeals for the Ninth Circuit ruled that agencies "cannot put a thumb on the scale by undervaluing the benefits and overvaluing the costs of more stringent standards."[30] In calculating the benefits and costs of fuel economy standards, the National Highway Traffic Safety Administration had put a zero-dollar value on climate harms from vehicle CO_2 emission and on the benefits of reducing those emissions. The court found this "arbitrary and capricious."[31]

In response, the federal government developed a methodology for calculating the benefits of greenhouse gas reductions, the so-called social cost of carbon. In 2023 the EPA published the most up-to-date version of the methodology, after expert peer review and public comment. The agency noted that this was only "a partial accounting of climate change impacts and likely underestimate[s]" the value of carbon pollution reductions. Nonetheless, the EPA found that CO_2 reductions are worth between $120 and $600 per metric ton (the number depends on the year when the reductions occur and what economic discount rate is used).[32]

Now, in a memo from the Office of Management and Budget, the Trump administration has attempted to throw out the EPA methodology, ordering agencies to stop quantifying greenhouse gas emissions and to stop giving those emissions a dollar value. In the future, the memo says, such analyses will be "few to none."[33] Through this sleight of hand, the current administration seeks to make the enormous harm from greenhouse gas emissions simply disappear and to erase any trace of the health and economic benefits of curbing those emissions.

Take the standards for power plants, for example. Coal-fired and gas-fired power plants released more than 1.4 billion metric tons of CO_2 in 2024, nearly 30 percent of all U.S. energy-related emissions.[34] When the EPA updated CO_2 standards for power plants in 2024, it calculated that the standards would deliver $390 billion in total climate and health benefits, more than 20 times the cost to industry. Two-thirds of those benefits—around $260 billion—would flow from curbing CO_2 emissions, while the remainder would come from reducing pollutants that cause deadly fine particles and smog.[35]

Recently, however, when proposing to repeal those power plant standards, the EPA issued a new analysis that completely ignores the benefits of curbing climate pollution. It includes *no* analysis of the harms from power plant CO_2 emissions and puts a *zero-dollar value* on reducing them. In the new analysis, $270 billion in health and economic benefits from slowing climate change have just disappeared. Even so, the lost public health benefits from curbing other health-harming fine particles and smog alone ($120 billion) outweigh the industry's compliance cost savings ($19 billion) by *six to one*.

The EPA has done the same thing when proposing repeal of its climate protection standards for cars, SUVs, and pickups. When updating those standards in 2024, the EPA calculated that they would cut 7 billion metric tons of CO_2 and other greenhouse gases over the next 30 years. The EPA projected that these reductions would eliminate climate harms worth *$1.6 trillion*, in addition to over $800 billion in consumer savings on fuel and $240 billion in public health savings due to reductions in particulate matter and smog.[36]

But these massive public health and economic benefits just disappear in the EPA's proposed rule to repeal the endangerment finding and the vehicle standards. Once again, the EPA followed the Trump Office of Management and Budget's directive to treat carbon pollution reductions as worthless.

BROAD PUBLIC SUPPORT

Polling shows large majorities of Americans think climate change is caused by human activity and is harming people in the U.S.[37] Three quarters of Americans, including a majority of Republicans, think the United States should regulate carbon dioxide as a pollutant. Large bipartisan majorities oppose the administration's efforts to slash climate research and stop providing public information.[38]

CONCLUSION

Repealing the Endangerment Finding and climate protection standards for vehicles, power plants, and other industries would violate our nation's clean air laws and betray public trust. NRDC will use all available means to fight these efforts to bury the enormous harms from climate-changing pollution.

Endnotes

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