

EPA's Endangerment Finding for Greenhouse Gas Pollution

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The Endangerment Finding fulfilled the Supreme Court's mandate.

In *Massachusetts v. EPA* (2007), the Supreme Court held that greenhouse gases are pollutants under the Clean Air Act.

The Court also rejected a "laundry list" of other reasons for inaction advanced by the Bush Administration as not consistent with the relevant provisions of Clean Air Act, which require regulation when EPA finds that emissions of a pollutant endanger public health or welfare.

On December 15, 2009, the Environmental Protection Agency (EPA) determined, based upon a careful review of the scientific record, that greenhouse gas emissions endanger the public health and welfare of current and future generations.

The Endangerment Finding was made after an exhaustive review of climate change research and extensive public comment.

- The Technical Support Document supporting the Endangerment Finding references more than 100 published scientific studies and considers peer-reviewed syntheses of climate change research by the U.S. Climate Change Science Program/U.S. Global Change Research Program, the Intergovernmental Panel on Climate Change (IPCC), and the National Research Council of the U.S. National Academy of Sciences. The creation of these assessment reports involved hundreds of scientists who considered thousands of published studies on climate change, and the reports themselves were subject to extensive review by additional, independent experts.
- EPA's thorough consideration of public input on the Endangerment Finding occupies eleven volumes and over 500 pages.

After this rigorous process, EPA made the following findings:

Greenhouse gas pollution generated by human activity is causing climate change.

- **Heat-trapping greenhouse gases are now at record-high levels** in the atmosphere compared to either the recent or distant past. Average global carbon dioxide (CO₂) concentrations have increased approximately 38% since the Industrial Revolution, primarily due to human activities such as burning fossil fuels. Atmospheric concentrations of CO₂ and methane are well above the natural range over at least the last 800,000 years.
- Multiple lines of evidence indicate that the **climate is changing due to rising concentrations of heat-trapping greenhouse gases**, including long-term increases in global average air and ocean temperatures (with three independent worldwide datasets showing nearly identical warming trends), accelerated and expanded melting of snow and ice, acidification of the ocean due to CO₂ absorption, changes in precipitation patterns and wildlife behavior, and rising global average sea level (because of melting ice sheets and the expansion of sea water with rising temperatures). Because greenhouse gases are long-lived in the atmosphere and because emissions will continue, warming and climate impacts during the 21st century are very likely to become more severe.
- Most of the warming observed in the last 50 years is very likely due to human-caused greenhouse gas pollution, as variation in natural forces alone (such as solar and volcanic activity) cannot explain the observed warming—and would, in fact, have led to cooling.

Greenhouse gas pollution will endanger public health.

- The number and intensity of extremely hot days and heat waves will increase, increasing heat-related mortality and sickness. (Harmful heat-related impacts are expected to dominate benefits from reduced cold-related mortality and sickness.)
- Regional ground-level ozone pollution (smog) will increase, escalating ozone-triggered respiratory illnesses and death.
- The severity and/or frequency of extreme weather events such as storms (including hurricanes) will increase. The number of people at risk due to flooding will increase because of stronger precipitation events and the interaction of rising sea levels and stronger storm surges and hurricanes.

Greenhouse gas pollution will endanger public welfare.

- The number of people at risk due to droughts will increase because many low-rainfall areas are projected to receive less rain and because rising temperatures and evaporation will cause soils to dry.
- Seasonal snowpacks in the Western United States will shrink, endangering water supplies relied upon by Western communities.
- The number and extent of wildfires, insect outbreaks, and tree mortality in the interior West, the Southwest, and Alaska will likely expand.
- Damaging impacts outside of the United States may harm our trade, humanitarian, and national security interests.

Legal attacks by some of largest U.S. emitters

Industry challenges to the Endangerment Finding would prevent EPA from carrying out the law and protecting the health and welfare of U.S. citizens on the basis of robust science.

In response to petitions asking EPA to reconsider the Endangerment Finding, EPA determined that the evidence presented did not support the Petitioners' contentions that the science underlying the Endangerment Finding was flawed, misinterpreted, or inappropriately applied by EPA.

Alleged factual mistakes in the IPCC report are rare and do not alter the core findings.

EPA could only confirm two factual mistakes in the 3,000 page report: an error in the percentage of the Netherlands that is below sea level and an error in the year Himalayan glaciers are likely to have melted entirely. These two errors (neither of which EPA cited or relied upon) do not in any way change the key scientific conclusions underlying the Endangerment Finding.

Allegations that "Climategate" undermined the credibility of climate science have been thoroughly rejected by multiple investigations.

EPA's close examination of the e-mails written by a group of climate scientists that were hacked and published ("Climategate") unveiled no evidence of scientific misconduct or misleading data manipulation on the part of the researchers.

The same conclusion was reached by the U.K. House of Commons Science and Technology Committee, the University of East Anglia, and Pennsylvania State University based on their own independent investigations. Petitioners' arguments are based on a few carefully selected quotes from the thousands of e-mails, taken out of context.

Allegations that EPA improperly relied on major scientific assessments of climate change research would have EPA ignore an extensive body of peer reviewed science.

The Agency's reliance on peer-reviewed syntheses of climate research allow EPA to benefit from the insight and analysis provided by the thousands of climate scientists involved in these rigorous assessments.

EPA's analyses of threats to human health and welfare commonly rely on such reports by expert collaborations such as the National Academies of Sciences, and it is normal and entirely proper for the United States government to rely upon the foremost scientific authorities, whether they are employed by the federal government or other institution.

Petitioners consistently fail to address the breadth and depth of the evidence supporting the Endangerment Finding, and the mutually reinforcing data sets that compellingly demonstrate that climate change is occurring, is caused by human-generated increases in atmospheric greenhouse gas concentrations, and will endanger the public health and welfare of current and future generations.

Support for EPA

Sixteen states (California, Connecticut, Delaware, Illinois, Iowa, Maine, Maryland, Massachusetts, Minnesota, New Hampshire, New Mexico, New York, Oregon, Rhode Island, Vermont, and Washington) have intervened to support EPA's efforts to carry out the mandate of the Clean Air Act:

- **to rigorously examine the scientific evidence** of the threat to human health and welfare posed by greenhouse gas pollution; and
- **to reduce that pollution** when endangerment is found.

Environmental Defense Fund and other allies have also intervened in defense of EPA's actions to carry out the law on the basis of science.