

EPA finalizes stronger standards for harmful soot pollution, significantly increasing health and clean air protections for families, workers, and communities

Stronger standard will yield up to \$46B in net health benefits, save lives, and build healthier communities, while supporting economic growth across America

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WASHINGTON — The Biden-Harris Administration on Wednesday finalized a significantly stronger air quality standard that will better protect America’s families, workers, and communities from the dangerous and costly health effects of fine particle pollution, also known as soot. By strengthening the annual health-based national ambient air quality standard for fine particulate matter (PM_{2.5}) from a level of 12 micrograms per cubic meter to 9 micrograms per cubic meter, the U.S. Environmental Protection Agency’s updated standard will save lives — preventing up to 4,500 premature deaths and 290,000 lost workdays, yielding up to \$46 billion in net health benefits in 2032. For every \$1 spent from this action, there could be as much as \$77 in human health benefits in 2032.

Today’s action is based on the best available science, as required by the Clean Air Act, and sets an air quality level that EPA will help states and Tribal Nations achieve over the coming years — including through complementary EPA standards to reduce pollution from power plants, vehicles, and industrial facilities, paired with historic investments under President Biden’s Inflation Reduction Act and the Bipartisan Infrastructure Law. These actions bolster the U.S. economy by deploying billions of dollars and creating good-paying jobs across the transition to cleaner technologies. This strategy will make Americans healthier and more productive, while underpinning a manufacturing resurgence in America. Since 2000, PM_{2.5} concentrations in the outdoor air have decreased by 42% while the U.S. Gross Domestic Product increased by 52% during that time.

“This final air quality standard will save lives and make all people healthier, especially within America’s most vulnerable and overburdened communities,” **said EPA Administrator Michael S. Regan**. “Cleaner air means that our children have

brighter futures, and people can live more productive and active lives, improving our ability to grow and develop as a nation. EPA looks forward to continuing our decades of success in working with states, counties, Tribes, and industry to ensure this critical health standard is implemented effectively to improve the long-term health and productivity of our nation.”

Along with strengthening the primary annual PM_{2.5} standard, EPA is modifying the PM_{2.5} monitoring network design criteria to include a factor that accounts for proximity of populations at increased risk of PM_{2.5}-related health effects to sources of air pollution. This will advance environmental justice by ensuring localized data collection in overburdened areas to inform future NAAQS reviews.

Particle pollution is of great concern to those with heart or lung disease and other vulnerable communities, including children, older adults, and people with health conditions like asthma, as well as already overburdened communities, including many communities of color and low-income communities throughout the United States. Strengthening the Clean Air Act standard for fine particle pollution improves air quality nationally for everyone, ensuring that communities that are overburdened by pollution are not left behind.

“The Biden administration is taking life-saving action to protect people and rein in deadly pollution,” **said Abigail Dillen, President of Earthjustice.** “The science is crystal clear. Soot, otherwise known as fine particle pollution, is a killer. It is driving heart disease, our asthma epidemic, and other serious illnesses. The people who suffer most are children and older Americans who live in communities of color and low-income communities. This federal standard will ensure that states respond to the ongoing public health and environmental justice crisis, saving thousands of lives and avoiding 800,000 asthma symptom cases every year.”

“Administrator Regan and President Biden deserve thanks for taking this vital step to curb soot pollution - a dangerous and even deadly pollutant that has taken an oversized toll on underrepresented and overburdened communities less equipped to deal with its severe health impacts,” **said Dr. Doris Browne, 118th President of the National Medical Association.** “This new standard of 9 micrograms per cubic meter will save lives based on scientific evidence. That is the bottom line. And as a physician, an advocate for clean air, and the past president of the National Medical Association representing physicians, our ultimate goal is health equity.”

“President Biden and EPA Administrator Regan’s new soot pollution limits will save thousands of lives and slash air pollution for people across the country, especially those disproportionately impacted by deadly particle pollution,” **said Margie Alt, Director of the Climate Action Campaign.** “This standard makes meaningful progress toward protecting our health and addressing the administration’s environmental justice commitments.”

“Particle pollution is a killer. In the United States alone, it cuts thousands of lives short, taking a staggering toll. Children’s bodies are uniquely vulnerable to the harms of soot pollution,” **said Dominique Browning, Director and Co-Founder of Moms Clean Air Force.**¹ “Moms Clean Air Force commends EPA for taking a significant step forward in strengthening the annual standard for particle pollution, also known as soot, to 9 micrograms per cubic meter from its current level at 12. EPA’s new national health standard for particle pollution is the first improvement in over a decade. Soot is associated with increased infant mortality, hospital admissions for heart and lung diseases, cancer, and increased asthma severity. EPA’s finalized protection is an important step towards cleaner, healthier air for all children.”

“I applaud U.S. EPA Administrator Michael Regan for today’s action to reduce fine particle pollution and protect communities. These standards will build upon the significant progress already made in improving air quality throughout New York and help prevent the many serious health effects plaguing our most at-risk populations,” **said New York State Department of Environmental Conservation Commissioner Basil Seggos.** “Last year, historic smoke plumes from wildfires across Canada increased New Yorkers’ awareness of how fine particulate pollution from natural and man-made sources affects the air we breathe, particularly for the most vulnerable among us.”²

In June 2021, EPA announced it would reconsider the December 2020 decision to retain the 2012 standards because the available scientific evidence and technical information indicated that the standards may not be adequate to protect public health and welfare. EPA considered the available science and technical information, as well as the recommendations of the independent advisors comprising the Clean Air Scientific Advisory Committee and CASAC PM expert panel when making the decision on whether to strengthen the PM standards.

Based on the scientific evidence, technical information, recommendations from CASAC, and public comments on the 2023 proposed standards, EPA has set two primary standards for PM_{2.5}, which work together to protect public health: the annual standard, which EPA has revised, and a 24-hour standard, which the agency retained. EPA also retained the current primary 24-hour standard for PM₁₀, which provides protection against coarse particles. EPA is also not changing the secondary (welfare-based) standards for fine particles and coarse particles at this time.

A broad and growing body of science links particle pollution to a range of serious and sometimes deadly illnesses. Many studies show that these microscopic fine particles can penetrate deep into the lungs and that long- and short-term exposure can lead to asthma attacks, missed days of school or work, heart attacks, expensive emergency room visits and premature death.

Due to the efforts that states, Tribes, industry, communities, and EPA have already taken to reduce dangerous pollution in communities across the country, 99% of U.S. counties are projected to meet the more protective standard in 2032, likely the earliest year that states would need to meet the revised standard. That's even before accounting for additional actions on the horizon to implement the Bipartisan Infrastructure Law and Inflation Reduction Act investments and to update source-specific emission standards.

Most Counties with Monitors Already Meet the Strengthened Particle Pollution Standard

(Based on 2020-2022 Air Monitoring Data)

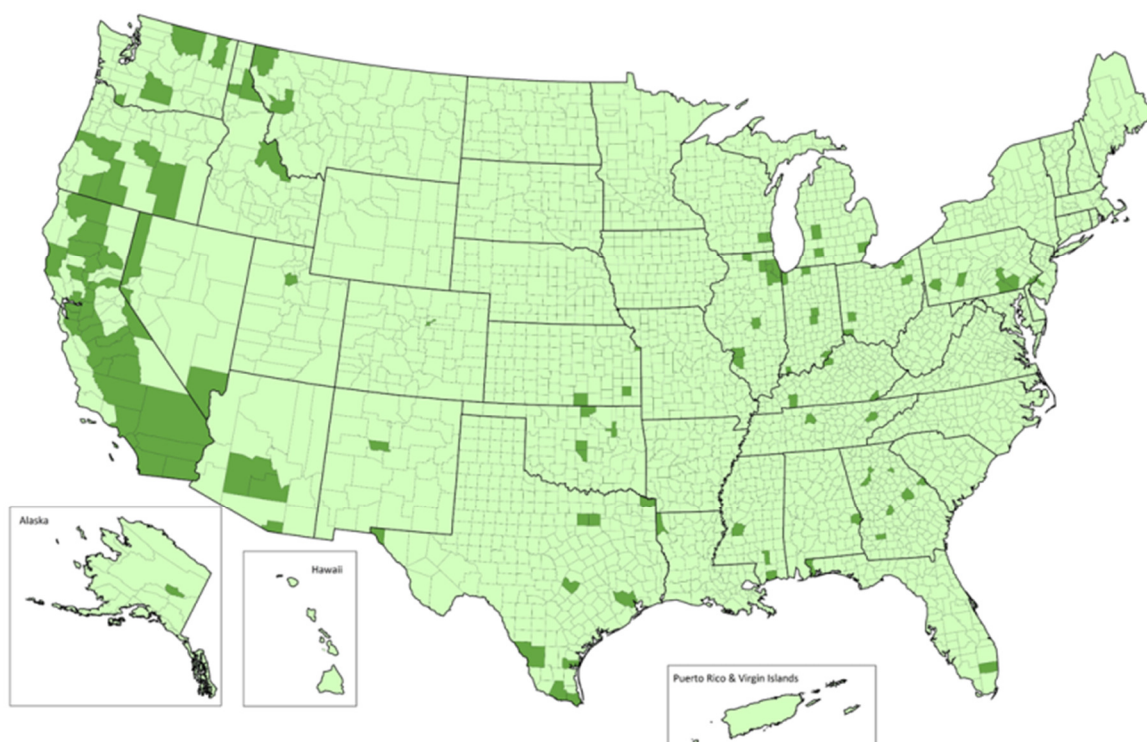


Figure 1: Based on 2020-2022 air monitoring data, the dark green areas on the map indicate counties that do not meet the annual PM2.5 standard of 9 ug/m3. [View the data \(pdf\)](#). (courtesy U.S. EPA)

Note: The map above reflects monitored counties with complete monitoring data. Future final designations of attainment/nonattainment will not be based on these data, but likely on monitoring data collected between 2022 and 2024. Of the 119 counties with 2020-2022 design values above 9 ug/m3, 59 counties are totally or partially contained in nonattainment areas for current PM2.5 standards. In years 2021 and 2022, EPA is aware that some states have already identified possible exceptional events that may have impacted air quality in the U.S. and may be relevant to designations decisions. (This information is provided for illustrative purposes only and is not intended to predict the outcome of any forthcoming designations process.)

[See projected progress in 2032.](#)

EPA is also revising the Air Quality Index to improve public communications about the health risks from PM_{2.5} exposures.

Some PM is emitted directly from combustion sources, construction sites, industrial processes, and older diesel engines, while other particles are formed in the atmosphere in complex chemical reactions with other pollutants such as sulfur dioxide and nitrogen oxides that are emitted from power plants, gasoline and diesel engines, and certain industrial processes. Particle pollution from industrial processes and other sources is controllable, with readily available and cost-effective technologies to manage emissions, and EPA will build on decades of experience in providing flexible options to states and Tribes across the implementation process.

EPA carefully considered extensive public input as it determined the final standards. The agency held a virtual public hearing and received about 700,000 written comments before finalizing today's updated air quality standards.

See more information on today's final standards at [Final Reconsideration of the National Ambient Air Quality Standards for Particulate Matter](#).

¹An earlier version of this release misspelled Moms Clean Air Force. It is "Moms Clean Air Force" not "Mom's Clean Air Force."

²This release was updated to include a quote from New York State Department of Environmental Conservation Commissioner Basil Seggos.