



U.S. Chamber of Commerce

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EPA's Proposed Air Quality Standards Will Cause Permitting Gridlock Across Our Economy

November 2023

Topline Summary:

This U.S. Chamber of Commerce report highlights how the Environmental Protection Agency's (EPA) proposed fine particulate matter (PM_{2.5}) air quality standards will cause permitting gridlock across our economy. Moreover, the Chamber analysis reveals that the EPA ignored the 2023 wildfires in its proposed rule, as this season's wildfires alone would increase the number of counties impacted by 50%, consequently imposing strict new penalties on American businesses—large and small—and their communities.

From requiring small businesses like restaurants to install costly equipment, homeowners to replace wood fireplaces with natural gas logs, and states to pave unpaved roads, this rule will impact many sectors of our economy. Our report indicates that EPA's discretionary rule would lower PM_{2.5} standards to a level that threatens investment in manufacturing and critical infrastructure projects, even those made possible by the Infrastructure Investment and Jobs Act, the Chips and Science Act, and the Inflation Reduction Act.

The new report identifies potential impacts of placing as much as 30% of all counties in permitting gridlock, including:

- Block permitting of new manufacturing facilities and associated good-paying jobs, pushing investment overseas.
- Prevent building roads, bridges, and other infrastructure funded by the bipartisan infrastructure bill to ease congestion.
- Require mitigation from homeowners, restaurants, and small businesses putting burdens on all Americans.
- Place burden on the private sector despite fires being the main PM_{2.5} emissions source.

Background

Earlier this year, the EPA announced its "Reconsideration of the National Ambient Air Quality Standards for Particulate Matter" (Proposed Rule) that would revise the National Ambient Air Quality Standards (NAAQS) for PM_{2.5}.¹ The current annual standard is 12.0 µg/m³; however, the EPA proposed lowering the standard down to the range of 9.0 to 10.0 µg/m³ and is considering even stricter limits. Setting the standards is just the first step in the process – as any tightening of the standards requires the EPA to identify the areas, designated as nonattainment areas, whose PM_{2.5} levels would be greater than the newly tightened standards.

As part of this first step, not only are the areas of the country identified that do not meet the tighter standards, but nearby areas contributing to those violations would also be identified. EPA would work with states to designate these nonattainment areas within one year of EPA finalizing any new standards and would likely use the air monitoring data through the end of 2023, a high wildfire year, to do so. The

¹Reconsideration of the National Ambient Air Quality Standards for Particulate Matter, 88 Fed. Reg. 5558, January 27, 2023.

primary PM_{2.5} standard is set based on air quality data from the three most recent years of monitoring data available at the time, which would include 2021, 2022, and 2023.

Calculation of Values EPA Would Use to Identify Nonattainment Areas

To estimate for this report the number of counties in nonattainment with the different PM_{2.5} standard levels that EPA proposed, data from air monitors was used to replicate the calculations that states and EPA would be expected to use. Part of this calculation process is to determine the 3-year design value for different areas of the country based on three years of air monitoring data.

To estimate the annual 2023 PM_{2.5} design value (data from 2021, 2022, and 2023), observational data through the end of September 2023 was used and supplemented with 2022 calendar year data for dates that have not yet occurred or where missing data was identified. This allows the capture of most wildfire impacts seen in the second (April-June) and third (July-September) quarters of 2023. The monitor-level annual mean values for 2023 were then generated and combined with existing annual mean values from 2021 and 2022, resulting in an estimate for the 3-year design value for 2021-2023. All calculations made were consistent with EPA methods of PM_{2.5} design value calculation.²

Comparing Results Across EPA Regions and Core-Based Statistical Areas (CBSA)

Once monitor-level annual mean values were calculated for 2023, results were aggregated to the EPA regional level to show the PM_{2.5} emissions trends reflective of the recent fire seasons across different parts of the country and internationally. This comparison shows how ambient PM_{2.5} levels changed for each of the five years including the design value years (2019-2021) that EPA used in the Proposed Rule and the estimated (2021-2023) design values that would be used for nonattainment designations.

Figure 1 charts the average annual mean PM_{2.5} across all monitors within each EPA region across each of the five years referenced above and demonstrates the impact of elevated levels of wildfire smoke on PM_{2.5} concentrations in 2023. Across most of the eastern U.S. (EPA Regions 1-8), the relative trends show a significant increase in the annual mean values from 2019 to 2023. This annual increase also yields a higher 3-year design value for most of the country, except for the western U.S. (EPA Regions 9 and 10). In the western U.S., the values decrease compared to 2020, which was a record-breaking year for wildfires in those EPA regions. These higher PM_{2.5} observations from the 2023 wildfire season will have profound implications for nonattainment designations if EPA were to finalize a tighter PM_{2.5} NAAQS, making it incrementally more stringent. More counties would be designated as nonattainment than what was presented by EPA in the Proposed Rule.

² 40 CFR 50.7

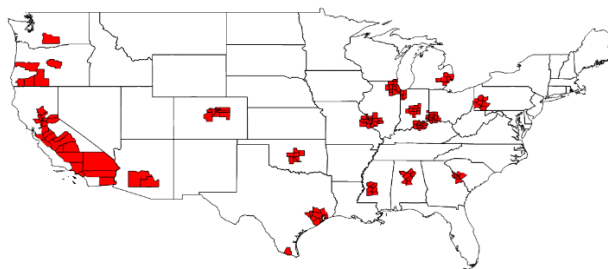
Annual Mean PM-2.5 Values (ug/m3)						
EPA Region	2019	2020	2021	2022	2023	5-Year Trend
1	5.9	6.2	6.7	5.9	6.9 - 7.0	
2	7.1	6.9	7.5	6.7	8.0 - 8.2	
3	7.8	7.1	8.4	7.5	9.0 - 9.2	
4	7.8	7.6	8.4	7.9	8.9 - 9.1	
5	8.2	7.8	8.9	7.9	10.2 - 10.3	
6	8.1	8.2	8.6	8.3	8.7 - 8.8	
7	7.5	7.4	8.5	7.2	8.8 - 9.1	
8	5.2	6.2	7.6	5.9	6.8 - 7.0	
9	6.9	10.7	9.1	7.8	7.1 - 7.3	
10	7.7	10.1	8.3	8.8	8.7 - 9.2	

Used for 2021 DV
Used for 2023 DV

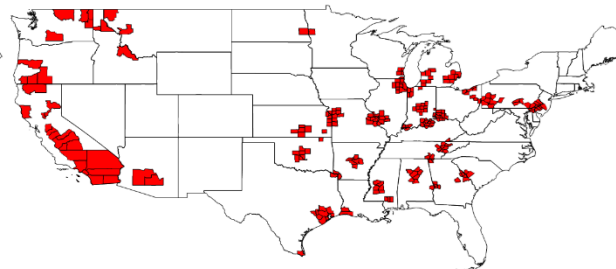
Figure 1. Average annual mean PM_{2.5} value trends (µg/m³) by EPA Region for 2019-2023.

The 2023 wildfire emissions significantly raised the ambient concentrations of PM_{2.5}, by as much as 2-3 µg/m³ throughout most of the country. Looking at just the counties that have ambient monitors, the increase in the number of counties that would be designated as nonattainment can be seen in Figure 2 below.

Annual PM_{2.5} DV > 10.0 µg/m³



Monitored County/CBSA Level (2019-21 DV)
[167 counties]



Monitored County/CBSA Level (2021-23 DV)
[255 counties]

Note: If EPA were to lower the annual PM_{2.5} NAAQS to levels as low as 9.0 µg/m³, the resulting 2023 design values demonstrate that the number of nonattainment counties in the continental U.S. would increase by 183 counties from 386 to 569 counties, which is an increase of 47% compared to the count of nonattainment counties using 2021 design values. If EPA were to lower the annual PM_{2.5} NAAQS to levels as low as 10.0 µg/m³, the resulting 2023 design values would increase the number of nonattainment areas by 88 counties from 167 to 255 counties, which is an increase of 53%.

Annual PM_{2.5} DV > 9.0 µg/m³

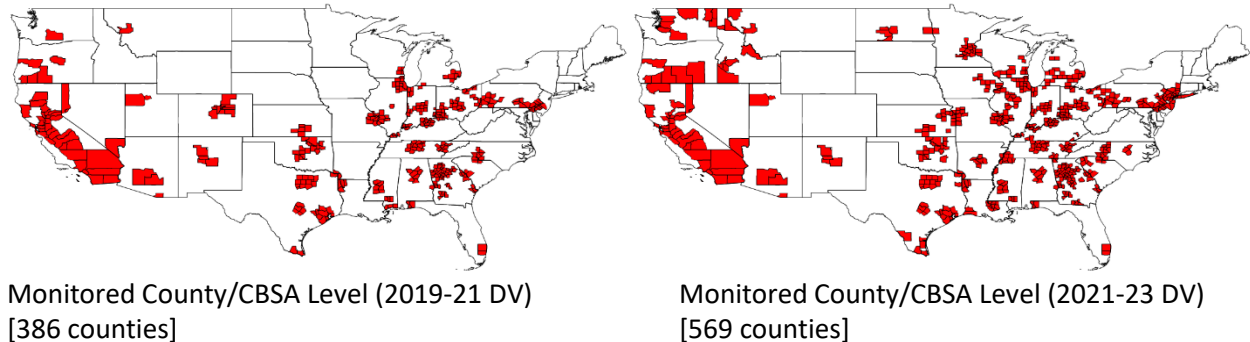


Figure 2. Nonattainment areas increase by approximately 50% due to the 2023 wildfires

Headroom, Permitting, and New Build Challenges

By applying EPA's methodology for designating areas adjacent to the monitored counties that would violate the standards, the universe of counties that would be in violation of tighter standards would be further expanded. All of these nonattainment counties, including monitored and adjacent counties, would be subject to stringent new permitting requirements across the economy from manufacturing, transportation infrastructure, to small businesses. Due to the recent wildfires, the economic impacts would be felt across a much larger geographic area than was estimated by EPA in the Proposed Rule.

Permitting gridlock would be exacerbated by the larger role that non-point PM_{2.5} emissions from fires would play as the standards approach background levels. By tightening the standards, the margin or headroom between background PM_{2.5} concentrations and the NAAQS standard levels would shrink, leaving little space for economic growth. It would couple increasingly higher compliance costs with incrementally smaller emissions reductions.

Current tools to address the PM_{2.5} NAAQS would be pushed to their limits at the levels that EPA proposed. A review of the emissions control strategies that EPA evaluated in the Proposed Rule demonstrates the impact on homeowners, businesses, and governments. For instance, one option is to require homeowners to changeout existing wood-burning fireplaces with natural gas fireplaces. A second option would require small businesses such as restaurants to install costly emissions controls. A third option would require state and local governments to embark on massive road paving programs to reduce dust from unpaved roads and road shoulders. But, with the limited resources available to state and local governments, as well as the control scenarios' significant impact on homeowners and small businesses, it is a big gamble that these could be implemented. This means the agency would likely have to seriously consider costly control strategies on industrial facilities that are already well controlled.

Falling back on prescriptive national or regional regulatory programs to implement tighter PM_{2.5} NAAQS standards would be costly and risks blunting investment and job growth. Major new manufacturing projects, including new or planned facilities and modifications to existing facilities, would be required to meet increasingly costly permitting requirements at the Lowest Achievable Emission Rate (LAER). Emissions offsets would also be required in an increasingly larger area, not only for directly emitted particulate matter, but also for pollutants that can create particulate matter in the atmosphere (e.g., nitrogen dioxide and sulfur dioxide). An immediate impact of a lower PM_{2.5} NAAQS is that new or expanded manufacturing and other industrial projects may become too costly in areas defined as nonattainment and either not be pursued, or projects may be relocated to attainment areas. Based on these new projections, a larger swath of the country would be impacted. It would increase costs and worsen inflationary impacts of doing business in the U.S. threatening close to \$200 billion in economic activity and putting at risk 1 million jobs according to Oxford Economics.³

The areas in violation of the standards would not be the only areas that would experience permitting gridlock. If a tighter standard were finalized, there would be large regions of the country that would barely be meeting the standard but would still be impacted as they would have limited headroom for economic growth. Figure 3 presents the U.S. counties that would be in nonattainment or have limited headroom if the NAAQS were lowered to 9.0 µg/m³ using the 2021-23 annual PM_{2.5} design values.

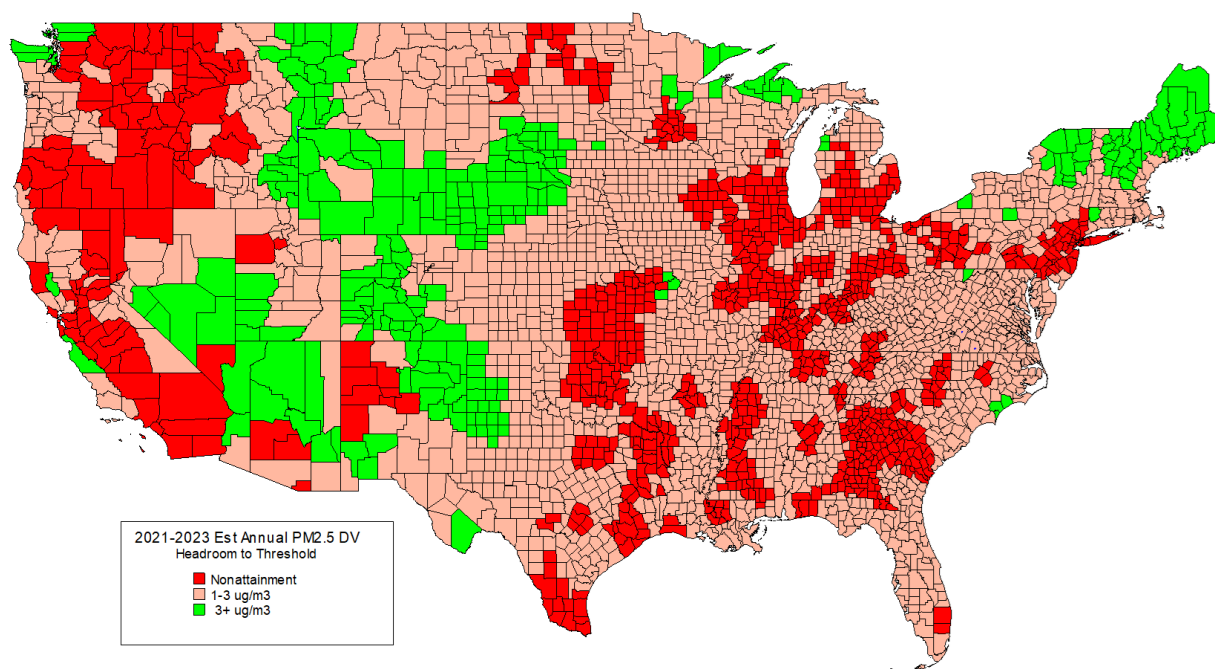


Figure 3. County-based headroom calculations for a NAAQS standard at 9.0 µg/m³.

Red areas represent counties that would fail to meet a lower standard at 9.0 µg/m³. The counties in light red would fall 1-3 µg/m³ just below 9.0 µg/m³, but also bump into the same permitting restrictions.

³ See U.S. Air Quality Standards and the Manufacturing Sector (April 2023), available at https://documents.nam.org/COMM/NAM_Air_Quality_Standards_Analysis_Web_Version.pdf.

They would also face restrictions on development as they would have little headroom to build new infrastructure, expand manufacturing, and stimulate economic growth. This is in part because states would be required to perform air dispersion modeling for significant new manufacturing and infrastructure projects in these light red areas to understand their potential impact on air quality. Dispersion models are designed to over-estimate actual concentrations and for many PM_{2.5} sources tend to predict the highest project impacts at the fence line. The result is that these counties too would face tighter permitting requirements. Counties in green would be more than 3 µg/m³ below the standard and would be less likely to be in jeopardy.

Conclusions

Since the CAA's inception in 1970, the U.S. has reduced air pollution by almost 80%—with a 42% reduction since 2000—moving concentrations of PM_{2.5} closer to background levels. A proposed NAAQS of 10.0 µg/m³ or lower would have significant adverse economic impacts across most of the United States. Additional reductions of PM_{2.5} are becoming incrementally more difficult to attain and 2023 wildfire emissions are expected to increase the number of counties in nonattainment by as much as 50 percent.

We strongly urge the Administration to suspend this discretionary rule and urgently consider the unintended consequences and unnecessary burdens this rule would place on all Americans sector despite fires being the main PM_{2.5} source.