Written Testimony of Timothy Hunt for American Forest & Paper Association and American Wood Council before House Energy and Commerce Environment, Manufacturing, and Critical Materials Subcommittee
"Protecting American Manufacturing: Examining EPA's Proposed PM2.5 Rule."
(9/19/23)

Chairman Johnson and Ranking Member Tonko, and distinguished members of the Committee, my name is Timothy Hunt, and I am the Senior Director for Air Quality Programs at the American Forest & Paper Association and Vice President of Environment at the American Wood Council. Thank you for the opportunity to be heard on our concerns about EPA's PM NAAQS, its proposed rule to tighten the National Ambient Air Quality Standards for fine particulate matter.

I. Background

The American Forest & Paper Association (AF&PA) represents manufacturers of paper products made in the USA. Our forest products industry employs about 925,000 hard-working people, producing 5% of our nation's GDP. Paper products support sustainable living. Paper mills support the American workforce, produce carbon-neutral bioenergy, and support recycling.

The American Wood Council (AWC) represents 86 percent of the structural wood products industry and the more than 450,000 men and women working family-wage jobs in mills across the country. From dimension lumber to engineered wood products, we champion the development of data, technology, and standards to ensure the best use of wood products and recognition of their unique sustainability and carbon-reduction benefits.

AF&PA's sustainability initiative — *Better Practices, Better Planet 2030* — comprises one of the most extensive quantifiable sets of sustainability goals for a U.S. manufacturing industry and is the latest example of our members' proactive commitment to the long-term success of our industry, our communities and our environment. We have long been responsible stewards of our planet's resources.

AF&PA is pleased to report that our members achieved most of our 2020 sustainability goals, including reducing greenhouse gas emissions 24.1 percent during 2005-2020 and

improving purchased energy efficiency by 13.3 percent. Our 2030 goal to reduce greenhouse gas emissions by 50 percent is consistent with President Biden's 2030 economy-wide goal, and a leading example for the U.S. manufacturing sector. AF&PA recognizes the ongoing challenges of our changing climate, and our industry greenhouse gas (GHG) goals reflect our commitment to reducing emissions.

From the wood products side, our industry was the first to develop third-party verified Environmental Product Declarations (EPDs) describing the environmental performance of our products from cradle to grave. That data clearly demonstrates that wood products from our sustainably managed U.S. forests represent a proven pathway for decarbonizing the built environment, providing carbon storage benefits while displacing emissions from conventional carbon-intensive building materials. Moreover, wood products provide a host of other environmental and societal benefits, while providing critical, high-paying jobs in rural communities.

Forest products support sustainable living. Paper and wood products mills support the American workforce. And the paper and wood products industry works every day to be a good neighbor in communities large and small.

Our goal is sustainable regulation which stands the test of time. Sustainable regulations must satisfy legal requirements and support environmental and economic needs as well as social expectations. This is consistent with the dual purposes of the Clean Air Act to protect and enhance air quality so as to promote public health and welfare and the productive capacity of our nation.[1]

Historically, we generally have a very good working relationship with EPA. We appreciate when the Agency recognizes that, to achieve emissions reductions, EPA does the very important work to write the rules, but the regulated community does the work to reduce the emissions. I started my career at EPA so appreciate their needs when developing new policies. We all benefit when EPA crafts achievable rules that are based on the best available evidence and can be successfully implemented. For example, during the Obama-Biden Administration, EPA proposed an unachievable Boiler MACT rule, but EPA engaged stakeholders and carefully considered the data. The final rule was stringent and cost the paper industry alone over a billion dollars, but ultimately, we

[1] *See* Clean Air Act, Section 101(b)(1).

defended EPA's rule in court, and our industry could comply and go on to compete in our highly competitive global marketplace. Among other things, the Boiler MACT rule resulted in combustion upgrades and fuel switching that reduced PM, SO_2 and NOx emissions.

By contrast, the rulemaking process for PM NAAQS feels rushed by failing to consider how a lower NAAQS will create permitting gridlock that could threaten modernization projects, especially in areas with cleaner air, thwarting the President's promise to grow and reshore U.S. manufacturing jobs. Without a workable implementation plan, the proposed rule would act as a cap on U.S. manufacturing, pushing future investment and job-creation overseas.

We recognize that all Americans benefit when the EPA crafts achievable rules. We and many others have worked very hard to provide extensive information and analysis on the impacts of the proposed PM NAAQS and how EPA can address the concerns while still protecting air quality. We have met with EPA staff and management in the past year and began foreshadowing the permitting gridlock as early as 2014. We have been disappointed that EPA did not address the concerns when it had time prior to this reconsideration.

While AF&PA and AWC don't expect to agree with every action EPA takes, we do strive for open communication and transparency. Unfortunately, in this instance, EPA has not developed a comprehensive implementation plan. Therefore, EPA should not finalize the NAAQS, which is a discretionary action, until it develops a workable implementation plan that has been fully vetted with all stakeholders.

II. The Problems Posed by this PM NAAQS

A. Discretionary Rule, Close to Background Levels

First, ***EPA is taking a <u>discretionary</u> action – two years ahead of the normal statutory review cycle -- to tighten the NAAQS to <u>close to background levels</u>***. The result would be not only many more non-attainment areas, but also, ***even in cleaner attainment areas***, there often would be insufficient margin – or "permit headroom" – between the NAAQS standard and ambient background levels -- to get permits approved.

In determining whether revisions to the PM NAAQS are "appropriate," the EPA Administrator must consider costs and burdens to state, local, and tribal regulators and on stakeholders under section 109(d)(1) of the Clean Air Act.[2] These considerations apply to EPA's discretionary reconsideration of the Agency's 2020 decision to retain the current PM NAAQS. Based on both procedural and factual grounds, the Administrator must withdraw this reconsideration and proceed with the usual 5-year review process.

We believe the current NAAQS is requisite to protect public health with an ample margin of safety and there are no compelling new health effect findings from the 2020 record. Substantial uncertainties and limitations remain in the health effects evidence including possible confounding factors. Further health research and use of systematic review processes will help bring science to future NAAQS decisions.

B. No Implementation Plan

Second, ***to compound the problem, EPA has not developed an implementation plan that could mitigate the permit gridlock***. EPA understands that projected emissions are over-predicted in their air quality models, in the ambient monitoring values, and again in assessing concentrations which results in unrealistic assessments and can lead to "false positives" -- a finding that a project exceeds the allowed emissions increment when in fact, it is less impactful and could proceed. These inaccuracies mattered less with the headroom provided by the 12 ug/m3 standard, but permitting gridlock happens at 9.0 or 10.0 ug/m3. It's unfair that EPA is not fixing these known faults before changing the NAAQS.

Despite the consistent pleas from the manufacturing community, EPA has not provided an implementation plan to guide a realistic, achievable approach for meeting a new PM NAAQS. Despite years of advocacy, EPA still fails to provide realistic modelling or implementation tools, rationally address all PM emission sources (industrial and non-industrial), work cooperatively with states and other stakeholders on achievable and

[2] Section 109(d)(1) establishes a duty to complete a review at least every five years, whereas the "appropriate" language gives the Administrator discretion to decide whether or not to revise a NAAQS. As the Second Circuit held in *EDF v. Thomas*, 870 F.2d 892, 898 (2d Cir. 1989), "as may be appropriate" is "nonmandatory language." That language, according to the court, "clearly suggests that the Administrator must exercise judgment . . . to make some formal decision whether to revise the NAAQS, the content of that decision being within the Administrator's discretion . . . ."

efficient implementation, or avoid unintended outcomes, such as increasing greenhouse gases and lost opportunities to improve mill and energy efficiency that reduce emissions per ton of production.

C. Unintended Outcomes

Our partners in labor, including the United Steelworkers (USW), also are very concerned about how this rulemaking might offshore production and high paying jobs. USW's March 28, 2023, comments to EPA state that "our nation has one of the strongest environmental protection regimes for large industries, and we must not incentivize companies to offshore production due to requirements that have not been properly vetted." USW's letter concludes, "We strongly encourage EPA to defer NAAQS changes until a detailed implementation plan is vetted." We whole-heartedly agree with the United Steelworkers that EPA has the cart before the horse and needs a credible implementation plan in place before finalizing the PM NAAQS rule to avoid permitting gridlock.

D. Need for a Holistic Approach

The U.S. already has some of the best air quality in the world, far better than many of the nations with which we compete, such as in China, SE Asia and South America[3] (see appendix for chart, p. 16). Moreover, U.S. air quality is getting better every year as EPA has documented.[4] $PM_{2.5}$ emissions are down by 42% from 2000 and will continue to decline under existing programs as manufacturers improve operations and mobile source emissions continue to decline (see appendix for chart, p. 17).

Moreover, the dominant sources of pollution are much more diverse than in the past. Stationary sources, like manufacturing or power plants that already are well-controlled, only account for 16% of the total emissions since these facilities have made vast improvements in their emissions. Pulp, paper and wood product mills account for less than 1% of the total 2020 National Emissions Inventory primary $PM_{2.5}$ emissions.[5] In addition, paper industry SO_2 emissions, a precursor to PM, are down by 82 percent and

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[3] See WHO summary: https://www.who.int/data/gho/data/indicators/indicator-details/GHO/concentrations-of-fine-particulate-matter-(pm2-5)

[4] See EPA Air Trends Report: https://gispub.epa.gov/air/trendsreport/2022

[5] https://www.epa.gov/air-emissions-inventories/2020-nei-supporting-data-and-summaries

NOx, another precursor, is down 48% since 2000.[6] At wood product mills, energy intensity has improved significantly since the 2008-09 recession and is 14% below pre-recession levels. The ten-year trend in chemical releases has shown significant reductions, which includes formaldehyde and methanol.[7]

That is huge progress and reflects the industry's leadership on emission reductions and sustainability. In contrast, wildfires, road dust and other non-point fugitive sources make up over 70% of emissions yet receive little focus in emission reduction discussions (see appendix for chart, p. 18). We can't meet the nation's air quality objectives simply by focusing on stationary sources yet again.

Therefore, EPA should explore how to develop emission reduction strategies for other sources including non-traditional sources, such as wildfires and road dust. For example, better forest management practices including thinning and prescribed burns can reduce the chances of catastrophic fires and their accompanying emissions. Having healthy forests provides a vibrant resource for making the renewable, carbon neutral products American consumer demand, from paper and packaging that can be recycled multiple times to lumber and wood products that sequester carbon in the built environment.

E. Why Permit "Headroom" Is Important

What we call permit "headroom" is the difference between the NAAQS and ambient background concentrations.[8] Ambient background concentrations vary in time and space, due to the influence of manmade and natural sources nearby and far upwind, and due to local effects of geography and meteorology. Generally speaking, with the national annual average $PM_{2.5}$ level around 8 $\mu g/m^3$, there is about 4 $\mu g/m^3$ of "headroom" under the current 12.0 $\mu g/m^3$ standard. If the NAAQS is lowered to 9.0 or 10.0 $\mu g/m^3$ as EPA proposes, the typical headroom is only 1 or 2 $\mu g/m^3$. And projects at industrial facilities using the prescribed modeling guidelines that vastly overestimate true exposures (due to compounding conservative assumptions) typically simulate PM

[6] https://www.afandpa.org/priorities/energy-environment
[7] AWC Environment, Energy & Safety Report: Industry Progress Report December 2020

[8] Stella, G.: *Headroom for Development Under EPA's Proposed Reconsideration of the National Ambient Air Quality Standards for Particulate Matter*. A&WMA **EM Magazine** (May 2023).

levels between 1 and 3 μg/m^3 which may not result in a successful permit application. As illustrated in the appendix (p. 19), the PM "cup" when shrunk from 12 to 9 μg/m^3, does not have sufficient room for this added modeling "fizz" – there is no room left for economic development even though measured concentrations and actual exposures are likely to be below the standards.

F. Why this NAAQS Would Bring Permitting Gridlock

Industry relies on detailed EPA implementation guidelines so they can demonstrate compliance during the permitting process. Thus far, EPA has not developed rules on how the new standard would be implemented in the face of current unrealistic air modeling assumptions and limited "headroom" for permitting new projects. This uncertainty jeopardizes current and future investment projects: many projects in the pipeline will be unable to demonstrate compliance with the new rule if the lower standard becomes effective immediately. To avoid regulatory gridlock, EPA needs to wait to revise the NAAQS until it has developed comprehensive permitting guidance with stakeholder input.

As we see in the attached maps in the appendix (p. 20 – 24), new or expanded manufacturing projects will be stopped as it becomes too costly or unachievable to build in the pink areas. With a standard of 10.0 μg /m^3, areas with background as low as 7.0 μg /m^3 will <u>not</u> have enough "headroom" to accommodate the ambient concentration conservatively simulated for the project (typically around 3 μg /m^3). Three quarters of our pulp, paper and packaging mills and almost 90% of wood product mills fall into these areas, so it is a real problem. Thus, lowering the NAAQS as proposed could stifle mill modernization projects that otherwise reduce emissions while keeping the U.S. forest products industry globally competitive and supporting high-paying jobs, often in small, rural communities that particularly need economic opportunity.

We found alarming evidence of this impending gridlock due to lack of headroom when we reviewed recent PSD projects (see charts in appendix, p. 25 - 26). We examined about three dozen PSD projects from about a dozen industries that meet the current 12.0 μg/m^3 standard and thus were permitted. However, if the standard were lowered to 11.0 μg /m^3, then about one-third of the projects (12) would not "pass" and would not move forward. If the standard were lowered to 10.0 μg /m^3 (the upper end of EPA's proposed range), then fully <u>half</u> of the projects would fail. Some of these projects involve

hundreds of millions or even billions of dollars in capital investments that would result in hundreds or even thousands of new jobs, not to mention world-class facilities that could successfully compete in the long run against foreign competitors.

At 9.0 μg /m^3 (the lower end of EPA's proposed range), 80% of these projects would fail. At 8.0 μg /m3, all but four projects (about 89%) would fail. Permit applicants who could not successfully implement EPA's modeling tools and guidelines could not obtain permits for these new projects. In aggregate, these projects support tens of thousands of high-paying U.S. jobs, and tens of billions of dollars in new investments in the United States.

G. Catch-22 for Attainment Areas

Ironically, the forest products industry also faces an EPA Catch-22 <u>because</u> our mills often are located in <u>cleaner</u> attainment areas. Our mills and other manufacturing facilities in attainment areas face permit gridlock as soon as new NAAQS are issued. That is because, under EPA practice, new NAAQS traditionally are **<u>immediately effective</u>** and must be considered when undertaking modeling for a major facility modification – even before EPA formally designates which areas are in attainment or nonattainment. (This contrasts with the nonattainment areas that often have more time and might be able to purchase offsets to come into compliance.) The problem is compounded by EPA failing to provide implementation and modelling guidance until **<u>after</u>** lowering the NAAQS. *Thus, EPA should not finalize the PM NAAQS rule until it has developed a workable implementation plan.*

H. Foreshadowing the Crisis

The Prevention of Significant Deterioration (PSD) program is an outdated and inefficient regulatory approach that currently just doesn't work very well. For existing sources in areas meeting air quality standards, so called attainment areas, EPA's policy[9] is that a NAAQS, historically, is effective for PSD permitting ***immediately*** upon the effective date of a new or reviewed standard and must be considered when undertaking a major facility modification even before EPA has formally designated which areas are above or below the new or revised standard. Companies that are trying to modernize, grow, and produce products from renewable materials that our customers demand are impeded in these areas of cleaner air while areas with dirtier air, non-attainment areas, will not see

[9] Page, Stephen (EPA OAQPS): "Applicability of the Federal Prevention of Significant Deterioration Permit Requirements to New and Revised National Ambient Air Quality Standards," April 1, 2010. https://www.epa.gov/sites/default/files/2015-07/documents/psdnaaqs.pdf.

significant restrictions for several more years … and as much as a decade later. It doesn't make sense to discourage upgrading plants already subject to a myriad of other regulatory requirements, or to block beneficial projects already using best controls simply due to unrealistic air quality modeling and assumptions. Our country has made great strides in improving air quality, largely under other programs, and not PSD.

For a decade, AF&PA and AWC and other U.S. manufacturing sectors have been raising these concerns of disproportionate impacts in attainment areas with EPA -- with limited progress. We have been asking EPA to provide detailed implementation and modeling guidance at the same time as it revises a NAAQS. We have provided EPA extensive analysis and information highlighting solutions to the anticipated permitting gridlock. Unfortunately, EPA has not developed a workable implementation plan.

In fact, at this moment, manufacturing companies considering new projects must contemplate a revised standard proposed to be lowered in a range from 17% to 25% from the current level, with which they have to comply immediately upon the effective date, using emission measurement techniques that are known to be deficient for certain sources, and are simulated in conformance with air quality analysis regulations and policies that require accounting for background concentrations near the level of the revised standard that are known to have a substantial bias.

Accordingly, EPA should defer finalizing the PM NAAQS until it has developed an implementation plan.

III. Potential Solutions to Resolve Permit Gridlock

Let me give a few examples that we have been discussing with the Agency where the permitting program has diverged from reflecting real world conditions by ignoring true air quality impacts and offer solutions EPA should explore before finalizing the NAAQS.

A. Correcting Monitoring Bias

First, certain prevalent ambient air monitors using Federal Equivalent Methods (FEMs) measuring background concentrations, the starting point for assessing available "headroom," are known to over-estimate levels by as much as 2 $\mu g/m^3$ (see sample bar chart with emissions relative to design value, p. 27) EPA could address this FEM bias in its forthcoming "Appendix W" review expected to start later this fall or other appropriate

guidelines. In addition, more monitors could be deployed in more areas to better measure background levels, especially in the rural areas where forest product mills are located. The IRA provides funds for new monitors, but it generally takes three years to get enough data to use the new information in PSD permitting. Finally, states and permit applicants should be able to exclude the added emissions from exceptional events like wildfires from background monitors used in the PSD program. There already is a process for excluding exceptional events when states and EPA make designations for non-attainment. Even a few days (5 to 10) of high PM levels (>100 $\mu g/m^3$) as we saw earlier this year along the East Coast and in the Midwest or West, can raise the average for a monitor by 1 or 3 $\mu g/m^3$; the same range as many projects. Deferring the reconsideration of the NAAQS would allow time to use the best science for monitors that determine the all-important background starting point for PSD permitting.

B. Using Modern, Probabilistic Tools

Second, for almost a decade, EPA has recognized that modern, statistical tools known as probabilistic risk assessment (or PRA)[10] are widely available to robustly account for variability and uncertainty in modeling and decision-making. This paradigm is used for other EPA programs, not PSD permitting. Currently, projects must assume multiple worst-case scenarios that unrealistically estimate impacts beyond what would happen in the environment. For example, maximum emissions rates from multiple emission points are assumed and added together including infrequently used equipment like backup generators. Finally, the public's likelihood and duration of exposure is not assessed but rather arbitrary points near facility fence lines are selected where people do not reside or spend significant time. These "receptors" for PSD modeling may be in a swamp or river, or on railroads or highways where exposures are very short if at all. Returning to the usual 5-year NAAQS review cycle would allow EPA to account for variability in a more holistic way in the permitting program.

C. More Realistic Emissions Estimates

Third, there is strong evidence that current methods are over-predicting PM emissions for both wet stack emissions and condensable PM. For example, the National Council for

[10] Risk Assessment Forum White Paper: Probabilistic Risk Assessment Methods and Case Studies, EPA/100/R-14/004 July 2014; https://www.epa.gov/osa/risk-assessment-forum-white-paper-probabilistic-risk-assessment-methods-and-case-studies

Air and Stream Improvement (NCASI) has a CRADA with EPA to explore the bias in Method 202. The research which has been presented to EPA found that an 80% "correction" is needed to account for formation of ammonium sulfate when running M202 given the presence of sulfur dioxide and ammonia which are common in combustion sources.[11] Unfortunately, EPA has not yet acted on this new scientific information. When small amounts of modeled PM can determine if a project will "pass" or "fail," EPA needs to move forward with an appropriate correction. And this and the other improvements should happen before or at least simultaneously with any new NAAQS.

Overly conservative modeling analysis can lead to unverifiable and nonexistent concentration estimates that cause costly changes or cancellations of beneficial projects, even though real-world exposure of the general public at these locations is minimal, improbable, or practically impossible. In addition to the lost opportunity costs from cancelled projects, we estimate that capital costs would be $1 to 4 billion for the paper industry depending on the standard and what measures become necessary to help modeling estimates.[12] The ultimate reality is that energy efficiency and modernization projects that could reduce actual emissions, including greenhouse gases, are thwarted by how PSD is implemented.

D. The Critical Need for a Two-Year Effective Date

Even if EPA were to disregard all of the foregoing problems and proceed with a final NAAQS (without a workable implementation plan in place), at a bare minimum, EPA must allow a two-year effective date to address some of the major implementation challenges.

Emissions from projects must not cause or contribute to a violation of the NAAQS under section 165(a)(3) that is "in effect" at the time of the PSD permit. The *Murray Energy* case (936 F. 3d) prohibits EPA from grandfathering projects that have not received their PSD permits. However, EPA retains the authority to set a different effective date than 60 days from promulgation since that is not required by law. EPA does this in many other EPA programs and can do it for NAAQS and PSD applicability. Reopening and amending

[11] See NCASI Tech Bulletin 1079.
[12] See Attachment 2 to comments of the NAAQS regulatory Review & Rulemaking Coalition on EPA's Reconsideration of the National Ambient Air Quality Standard for Particulate Matter

pending applications would significantly delay the processing of dozens of permit applications under development and in review including some expecting Inflation Reduction Act or Build Back Better funds with limited air quality benefit and even unintended consequences of greater emissions including greenhouse gases. Two years is the least amount of time to allow transitioning as well as undertake the significant tasks of developing guidelines AND modernizing the modeling tools and permitting policies.

And two years would begin to align the PSD timing with the State Implementation Plan (SIP) and designation process. Areas of the country that exceed any NAAQS (non-attainment areas) get significantly more time to meet the new requirements than areas meeting air quality standards, sometimes more than a decade of extra time[13].

It is only fair that facilities in better air quality areas do not get punished with unreasonable timeframes and for EPA to establish a glidepath of at least two years to ease implementation concerns and help avoid permitting gridlock. Not only does it allow pending or anticipated projects to be built but it gives all stakeholders a chance to review, vet and update implementation protocols including modeling tools and permitting policies that work for the times with limited headroom.

IV. Conclusion

AF&PA and AWC believe that EPA should develop a workable implementation plan before taking final action on the PM NAAQS rule. This reconsideration of the PM standard is a discretionary action at a time of significant economic uncertainty, while the science also remains unclear and has not significantly changed since EPA established the current standard.

[13] The SIP Process generally follows these steps:

- First year - Air quality designation are made by states
- Second year – EPA reviews state submittals and makes non-attainment designations
- Year 4 (or 5) – states develop draft PM SIPs two years after designations to move non-attainment areas (NA) towards attainment and submit to EPA (States have three years for other CAPs)
- Year 5 – EPA approves SIP (or disapproves)
- Year 6 – Reasonably Available Control Measures required/applied in moderate NAs.
- Years 8 to 12 – Lowest Achievable Emissions Reduction (LAER) implemented at sources identified in SIP with timeframe determined if moderate (year 8) or severe NA (year 12).

Our shared goal should be sustainable regulation – regulation that addresses environmental and economic needs. I believe there is no better place for a robust manufacturing sector than the United States, which has highly productive workers, creative entrepreneurs and innovators, abundant resources, a strong free-market democracy, and regulatory agencies capable of leading the world on sustainable regulation.

Without a workable implementation plan, the PM NAAQS is not a sustainable regulation. And this is only the tip of the iceberg, which is the enormous cumulative regulatory challenge now facing the U.S. manufacturing sector. I have worked on regulatory policy for well over 30 years, and I have never seen a regulatory agenda that is so massive and so fraught with unintended outcomes as the current agenda. Many rulemakings blatantly disregard costs and other tradeoffs and otherwise stray beyond the bounds of the law.

Here are just a few of the problematic mega-rules that are imminent or already final:

- EPA's final Good Neighbor Plan will cost nearly a half a billion dollars largely for controls that have never been required for existing paper mill boilers yet not result in significant, downwind ozone air quality improvements and actually increase GHG emissions. **EPA should reconsider the final rule.**
- EPA's proposal to list PFOA/PFOS as hazardous substances claims Congress "prohibited" EPA from considering cost – contrary to the statutory standard that allows EPA to consider all factors "as may be appropriate."[14] We appreciate the importance of this issue, but respectfully, this is a rule where **EPA should carefully consider potential unintended outcomes**.
- EPA's final Human Health Water Quality Criteria for Washington State to our knowledge **cannot be attained by any regulated entity** in the state, whether industrial or municipal.
- The greenhouse gas rule for federal contractors by the Federal Acquisition Regulatory Council, if finalized as proposed, would trigger the major questions doctrine and be declared unlawful on many grounds, including that it would **violate**

[14] *See* CERCLA, Section 102(a).

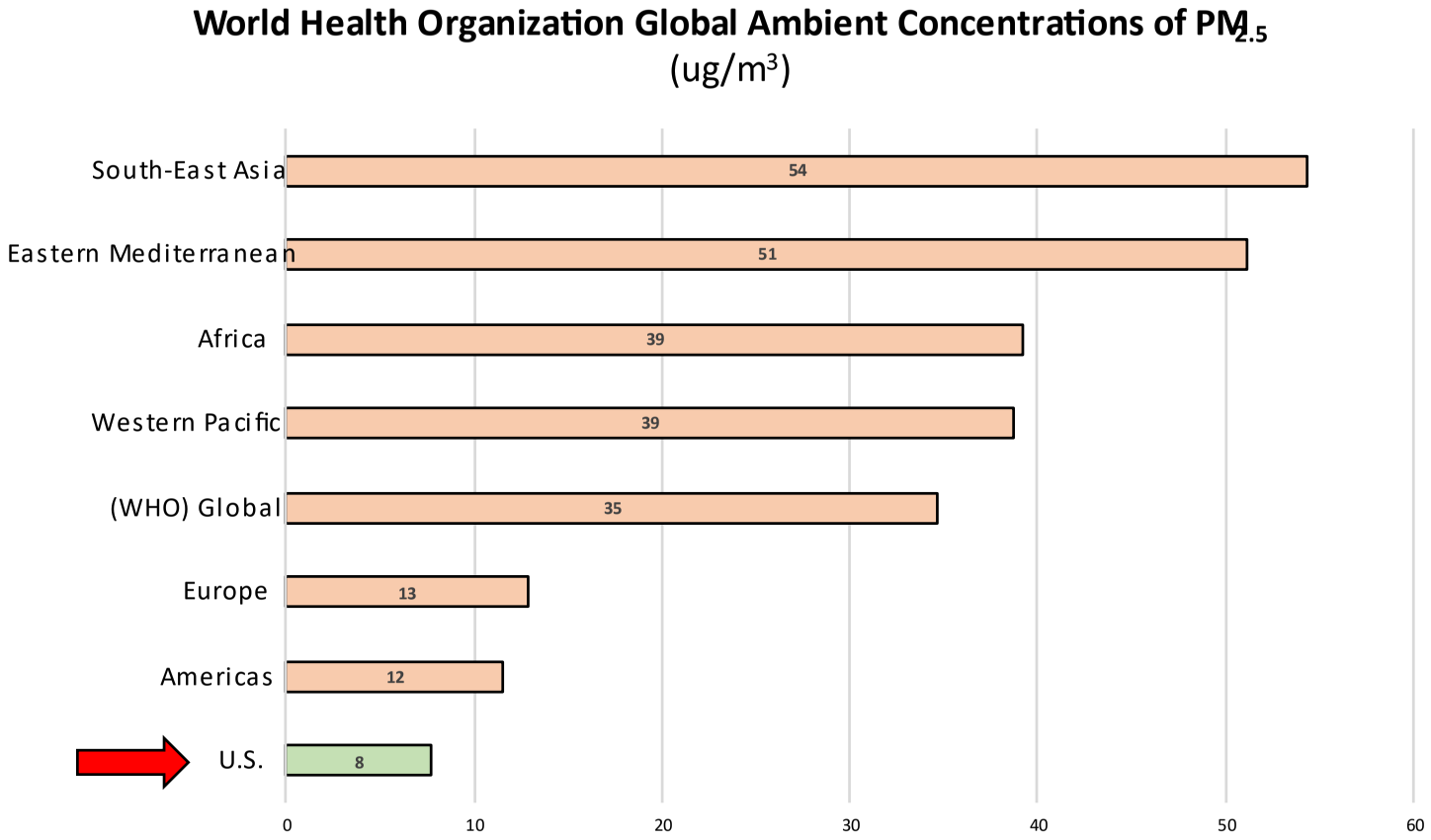
the U.S. Constitution. Among other things, the rule would violate the Private Nondelegation Doctrine and raise serious due process problems because it would out-source U.S. regulatory authority to international non-governmental organizations.

I am deeply concerned that an undisciplined regulatory deluge threatens high-paying union jobs in rural America just when our country is trying to encourage on-shoring of essential manufacturing industries, including our forest products industry. We must change this trajectory. It threatens U.S. manufacturing, including the U.S. forest products industry. Ultimately, this is a threat to the American worker – men and women with high-paying, high-skilled manufacturing jobs, both rural and urban, in red and blue states. There are proud, hardworking people who only ask for the right to compete.

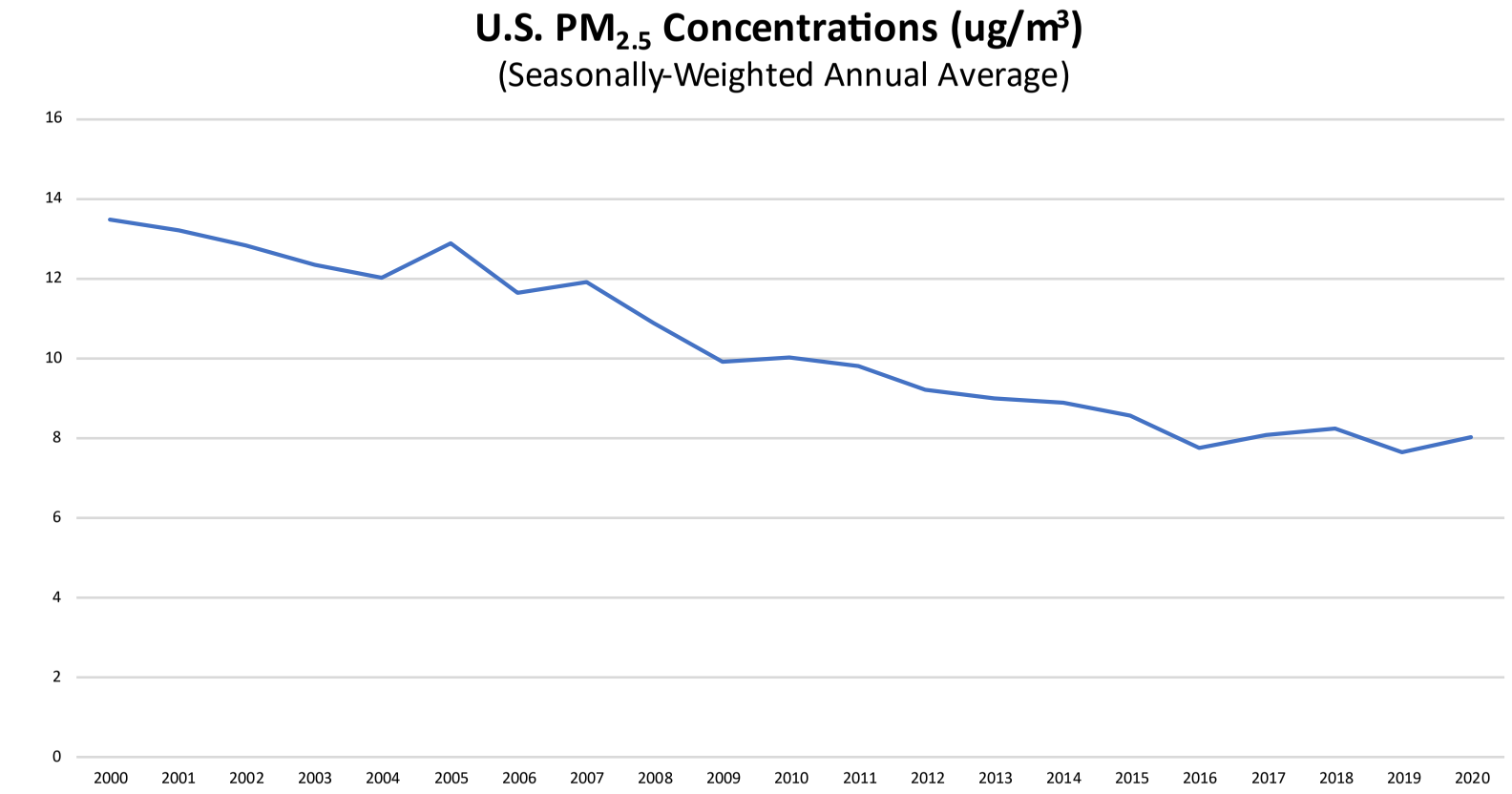
Our shared goal should be sustainable regulation – regulation that addresses environmental, health and economic needs. This requires bipartisan work. We must keep and create sustainable manufacturing jobs in America – they are critical now and for our country's future success. There is no better place for a robust manufacturing sector than the United States, which has highly productive workers, creative entrepreneurs and innovators, abundant resources, a strong free-market democracy, and regulatory agencies capable of leading the world on sustainable regulation.

Thank you again for the opportunity to be heard.

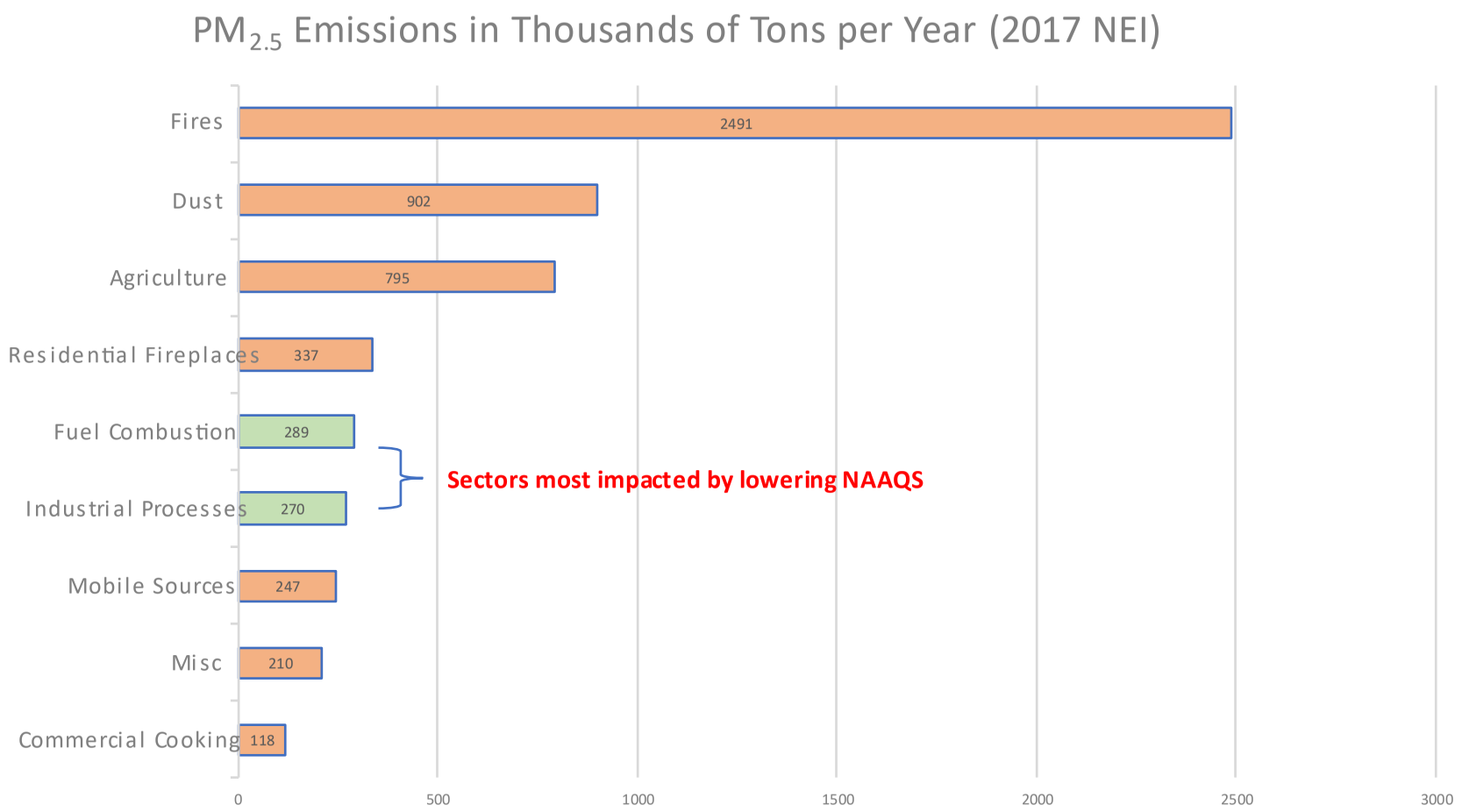
Appendices:



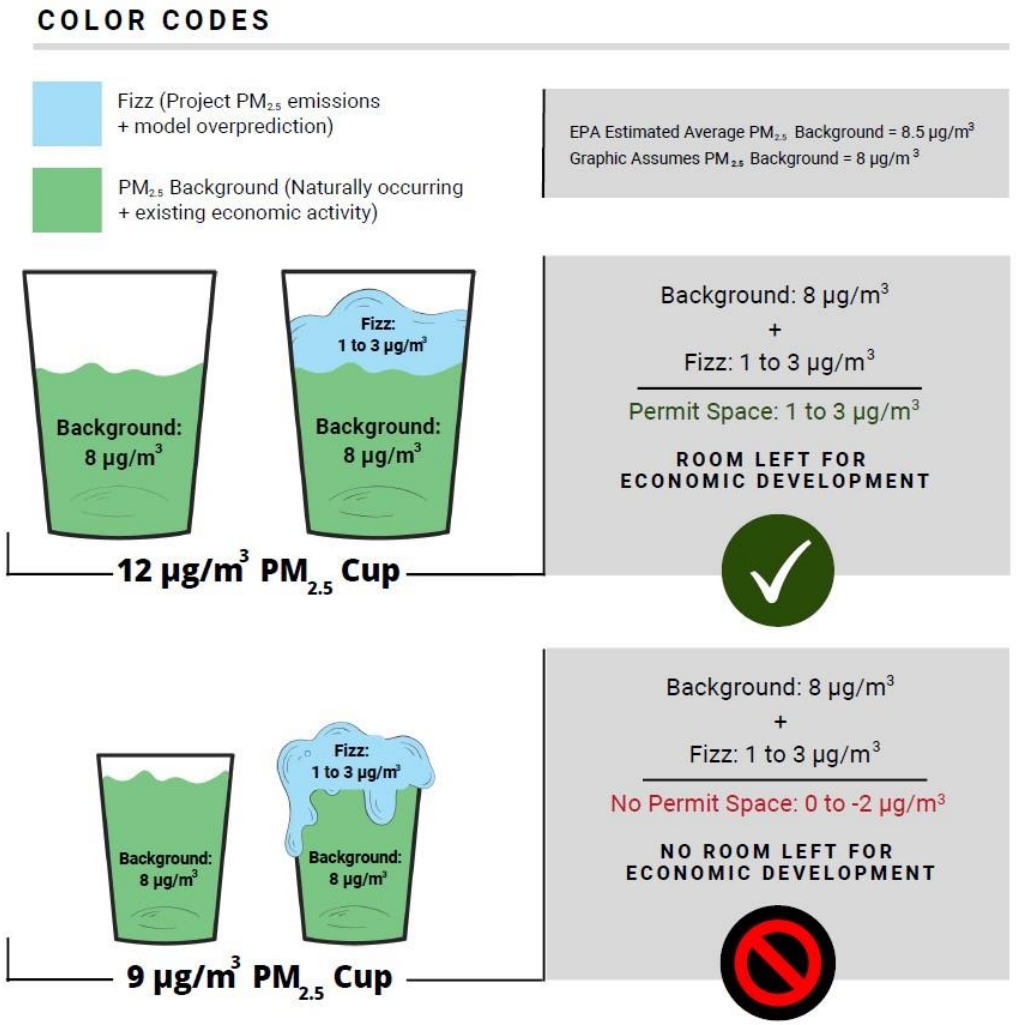
Source: World Health Organization (WHO), Global Health Observatory (GHO), Sustainable Development Goals (SDG) Indicator 11.6 .2:
SDG Indicator 11.6.2 Concentrations of fine particulate matter (PM2.5) (who.int)



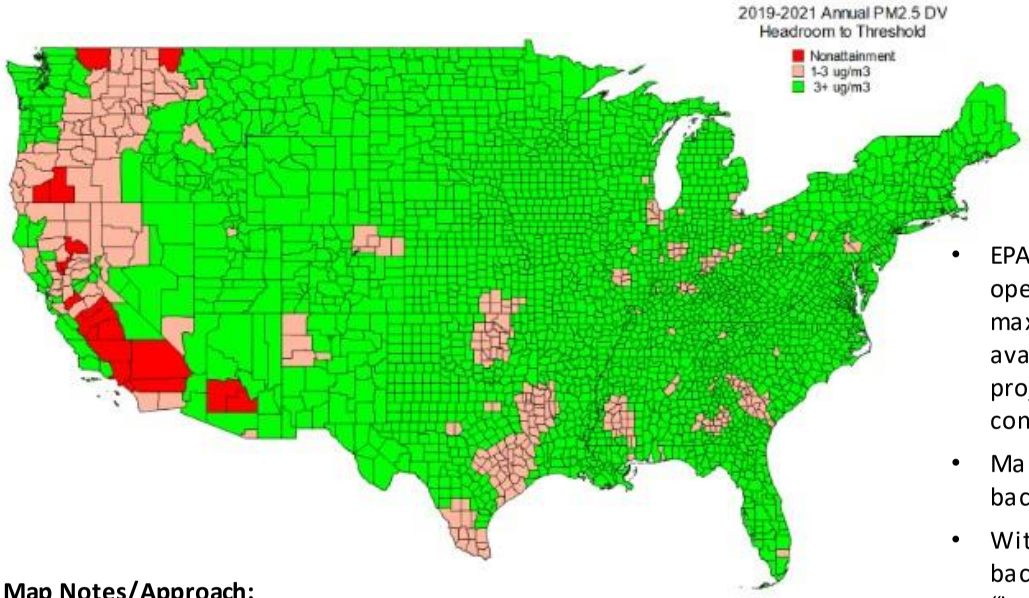
Source: U.S. EPA's Particulate Matter ($PM_{2.5}$) Trends: https://www.epa.gov/air-trends/particulate-matter-pm25-trends


PM2.5 Emissions in Thousands of Tons per Year (2017 NEI)
Fires
2491
Dust
902
Agriculture
795
Residential Fireplaces
337
Fuel Combustion
289
Industrial Processes
270
Sectors most impacted by lowering NAAQS
Mobile Sources
247
Misc
210
Commercial Cooking
118
0
500
1000
1500
2000
2500
3000

Modeling “Fizz” and Stringent PM2.5 NAAQS



Current $PM_{2.5}$ NAAQS (12 µg/m^3) leaves room for economic growth



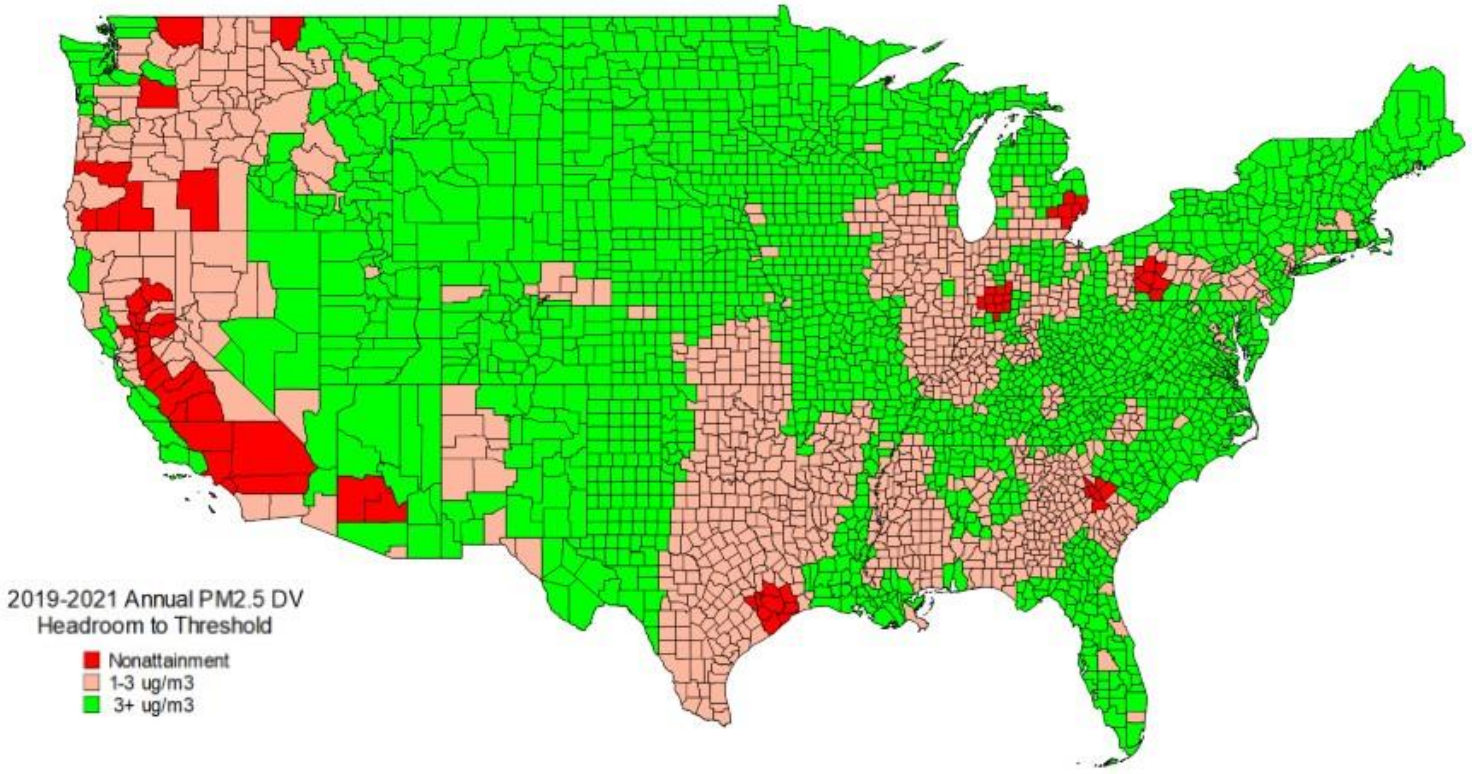
Map Notes/Approach:

- Used maximum $PM_{2.5}$ Design Values (DVs) for each monitored county
- Calculated non-monitored counties values using geospatial statistical interpolation ("kriging") "fills-in" estimates for locations between the monitors.
- Five (5) closest monitored values used to estimate non-monitored county values using inverse-distance weighted averaging method.

- Projects in non-attainment areas (red) will require LAER, offsets/alternatives NSR analysis, and SIPs with RACT.
- Before construction is permitted, new projects must use EPA models to show attainment with NAAQS.

- EPA's modeling guidelines represent continuous operation of all new and modified sources at the maximum allowable emission rate after best available controls and typically simulated a project's future annual $PM_{2.5}$ ambient contribution to be 1-3 ug/m^3.
- Many areas of the country (green) have background levels of 6 to 9 ug/m^3.
- With a standard of 12 ug/m^3, areas with background of 9 ug/m^3 or less will have enough "headroom" to accommodate the typical contribution from the project (e.g., 3 ug/m^3).
- **Currently:** Most projects can be built.

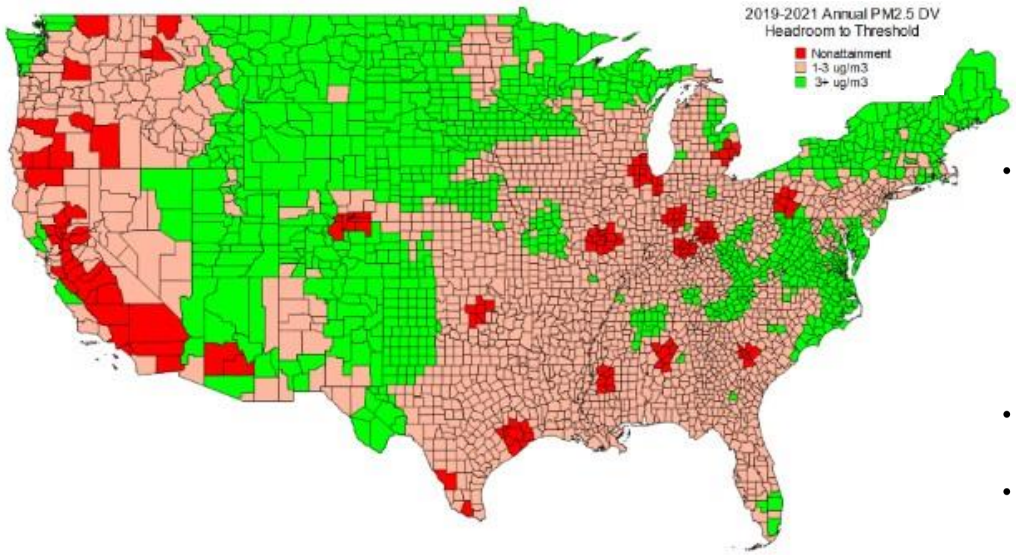
Headroom to 11 µg/m^3 with Current 2019-2021 DVs



Non-monitored county values are calculated using inverse distance weighting average of five closest monitored values

Immediate Impact of $PM_{2.5}$ NAAQS at 10.0 µg/m^3

New or expanded manufacturing projects may become too costly or unachievable in red/pink colored areas



Map Notes/Approach:

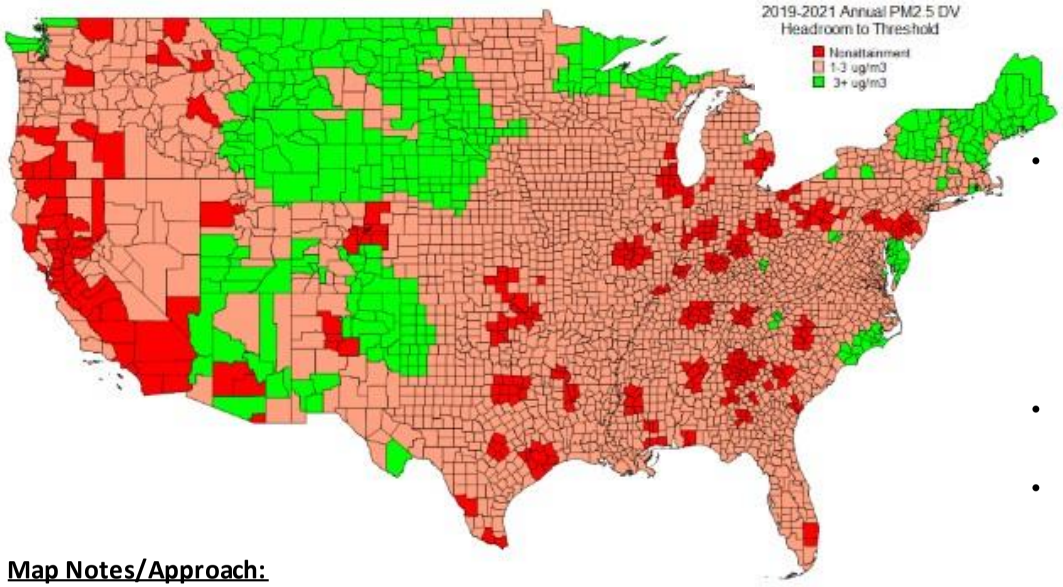
- Used maximum $PM_{2.5}$ Design Values (DVs) for each monitored county
- Calculated non-monitored counties values using geospatial statistical interpolation ("kriging") "fills-in" estimates for locations between the monitors.
- Five (5) closest monitored values used to estimate non-monitored county values using inverse-distance weighted averaging method.

- Before construction is permitted, new projects must use EPA models to show attainment with the NAAQS.

- EPA's modeling guidelines require assuming **continuous** operation of **all** new and modified sources at the **maximum** allowable emission rate using best available controls and typically simulate a project's future annual average $PM_{2.5}$ ambient concentration to be 1-3 ug/m3.
- Many $PM_{2.5}$ "attainment" areas have background levels of 6 to 9 ug/m^3.
- With a standard of 10 ug/m^3, areas with background as low as 7 ug/m^3 will not have enough "headroom" to accommodate the ambient concentration conservatively simulated for the project (e.g., 3 ug/m^3).
- **Impact:** A violation of the NAAQS is predicted which effectively stops the project.

Immediate Impact of $PM_{2.5}$ NAAQS at 9.0 µg/m^3

New or expanded manufacturing projects may become too costly or unachievable in red/pink colored ar

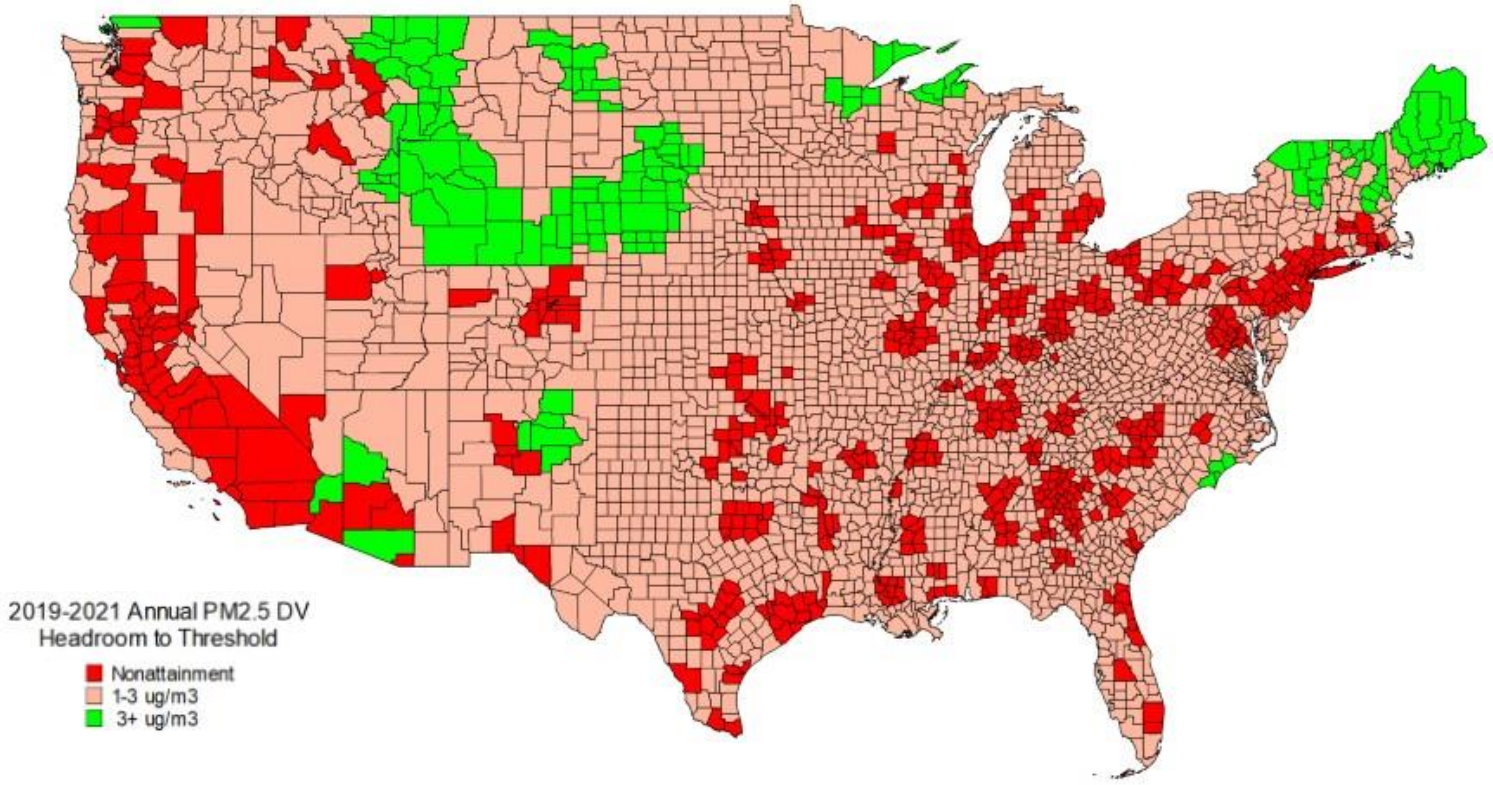


Map Notes/Approach:

- Used maximum $PM_{2.5}$ Design Values (DVs) for each monitored county
- Calculated non-monitored counties values using geospatial statistical interpolation ("kriging") "fills-in" estimates for locations between the monitors
- Five (5) closest monitored values used to estimate non-monitored county values using inverse-distance weighted averaging method.

- Before construction is permitted, new projects must use EPA models to show attainment with the NAAQS.
- EPA's modeling guidelines require assuming **continuous** operation of **all** new and modified sources at the **maximum** allowable emission rate using best available controls and typically simulate a project's future annual average $PM_{2.5}$ ambient concentration to be 1-3 ug/m3.
- Many $PM_{2.5}$ "attainment" areas have background levels of 6 to 9 ug/m^3.
- With a standard of 9 ug/m^3, areas with background as low as 6 ug/m^3 will not have enough "headroom" to accommodate the ambient concentration conservatively simulated for the project (e.g., 3 ug/m^3).
- **Impact:** Violation of the NAAQS is predicted which effectively stops the project.

Headroom to 8 µg/m^3 with Current 2019-2021 DVs



Non-monitored county values are calculated using inverse distance weighting average of five closest monitored values

Permit Gridlock from $PM_{2.5}$ Changes

34 PSD permits from 13 industries in 18 states

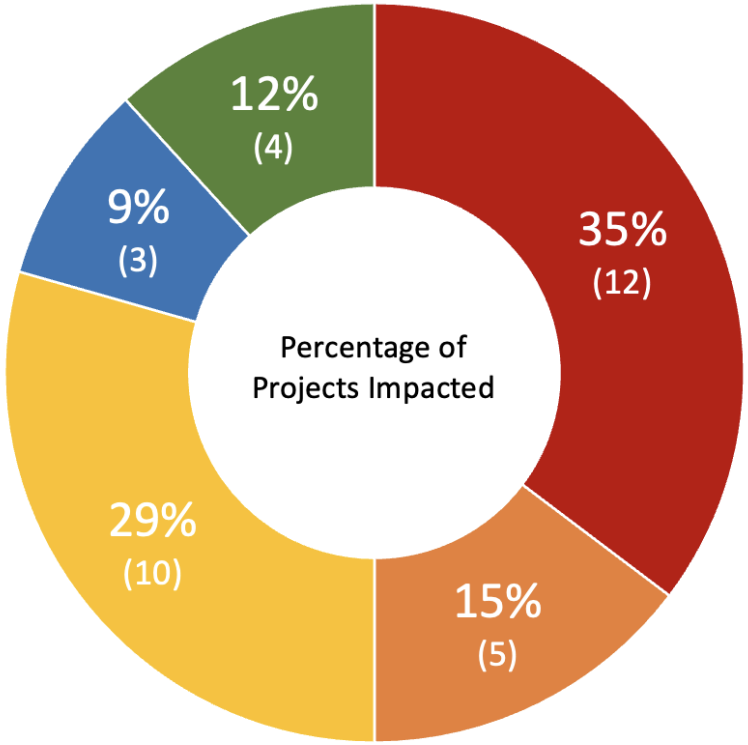
Annual Average PM2.5 (µg/m3)

- At 11 ug, 35% fail
- At 10 ug, 50% fail
- At 9 ug, 79% fail

EPA Preferred Range

- At 8 ug, 88% fail
- Less than 8ug

Massive investments and job losses at stake!



Recent PSD Permit Applications for PM2.5

Facility	State	Annual Average $PM_{2.5}$ (micrograms per cubic meter)		
		MDC (1)	Background (2)	Total (3)
Pulp & Paper Mill	Florida	6.0	5.9	11.9
Steel	Arkansas	2.5	9.4	11.9
Steel	Arkansas	4.4	7.3	11.7
Recycled Paper Mill	Oklahoma	3.4	8.2	11.6
Brick	Iowa	3.5	8.0	11.5
Steel	Illinois	3.7	7.8	11.5
Paper	Texas	2.8	8.5	11.3
Greenfield Paper Mill	Arkansas	3.1	8.2	11.3
Cement	Pennsylvania	2.2	9.0	11.2
Power	Wisconsin	3.9	7.3	11.2
Paper	Louisiana	3.7	7.4	11.1
Power	Pennsylvania	3.0	8.1	11.1
EV Batteries	Georgia	1.8	8.9	10.7
Cement	Georgia	2.3	8.3	10.6
Wood Products Panels	South Carolina	3.1	7.1	10.2
Steel	North Carolina	1.2	8.9	10.1
Lumber	Washington	6.0	4.0	10.0

Facility	State	Annual Average $PM_{2.5}$ (micrograms per cubic meter)		
		MDC (1)	Background (2)	Total (3)
Automotive EV & Battery	Georgia	2.5	7.3	9.8
Manufacturing	Washington	3.3	6.5	9.8
Aluminum	Kentucky	1.5	8.1	9.6
Steel	Kentucky	1.7	7.8	9.5
Paper	Texas	0.9	8.5	9.4
Gas-fired EGU	Georgia	0.9	8.4	9.3
Paper	Michigan	4.6	4.7	9.3
Steel	Kentucky	1.9	7.4	9.3
Feed & Grain	Idaho	4.3	4.9	9.2
Pharmaceutical	New York	0.4	8.7	9.1
Power	Wisconsin	1.3	7.6	8.9
Gas-fired EGU	Georgia	0.9	7.9	8.8
Gas-fired EGU	New York	1.8	6.5	8.3
Paper	Maine	3.5	4.0	7.5
Steel	Florida	0.9	6.5	7.4
Wood Products Panels	Michigan	1.4	5.6	7.0
LNG Storage	Massachusetts	1.6	5.1	6.7
Count		**34**	**34**	**34**
90 th Percentile		**4.4**	**8.8**	**11.6**
75 th Percentile		**3.5**	**8.3**	**11.2**
Average		**2.6**	**7.3**	**9.9**
Median		**2.5**	**7.7**	**9.9**
25 th Percentile		**1.5**	**6.5**	**9.2**
10 th Percentile		**0.9**	**5.0**	**7.7**

1. "MDC" denotes the **modeled design concentration** computed by AERMOD (i.e., the maximum 5-year average annual mean concentration) simulating cumulative impacts from applicant facility and nearby sources. Includes secondary $PM_{2.5}$ screening concentration from precursor emissions of NO_X and SO_2 estimated using EPA's MERPs and related guidance.
2. "Background" denotes the background concentration accounting for all sources not explicitly simulated in AERMOD, typically quantified as the design value (3-year average) from a representative (usually nearest) Federal Reference Method or Federal Equivalent Method ambient monitor. Color coding denotes relatively higher (hotter) and lower (cooler) background concentrations among sampled analyses.
3. "Total" denotes the sum of the MDC and background, which is compared to the level of the NAAQS to demonstrate that the total ambient $PM_{2.5}$ concentration simulated in the cumulative impact analysis would not exceed the standard. Color coding distinguishes total modeled annual average $PM_{2.5}$ concentrations from 13-12 (red), 10-11 (orange), 9-10 (yellow), 8-9 (blue), and less than 8 (green).

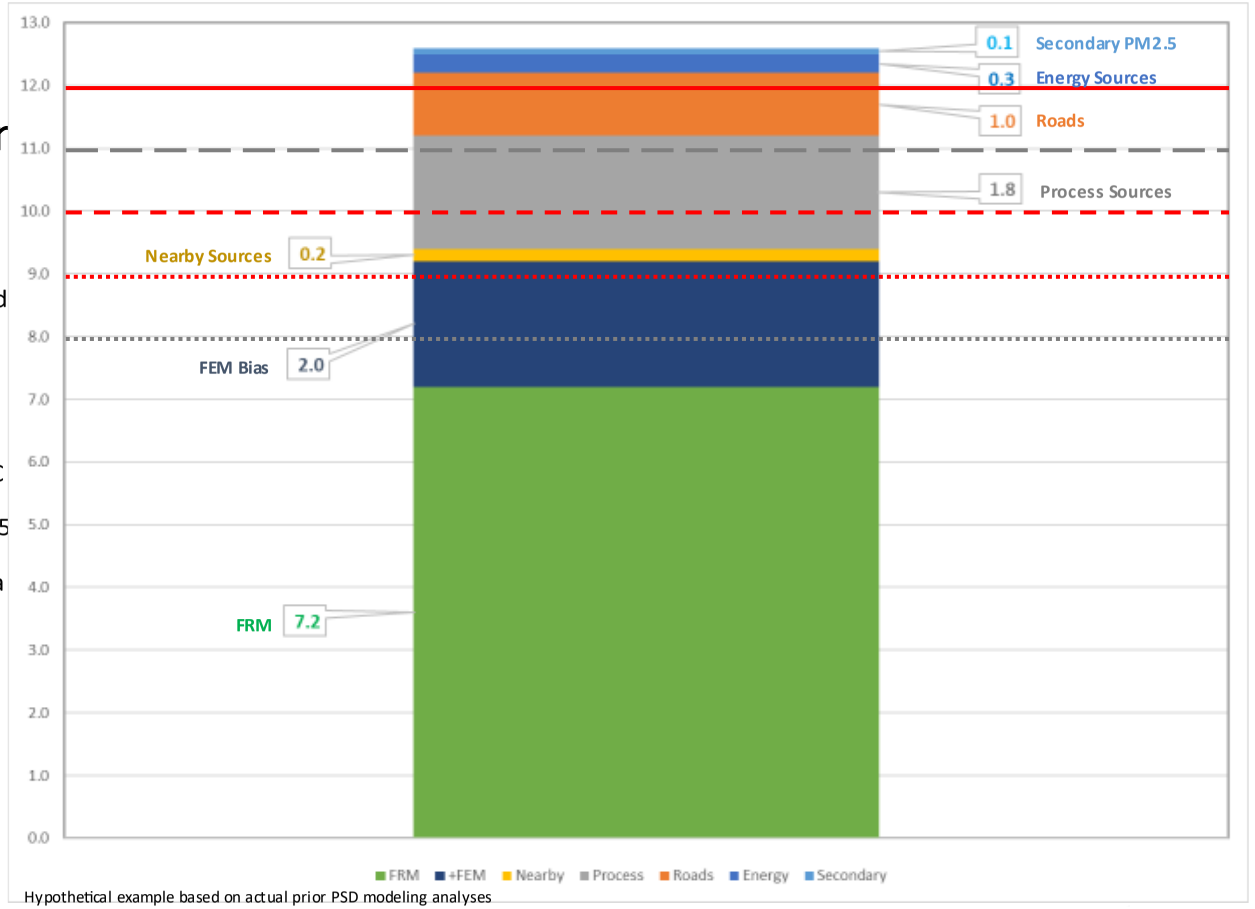
Permit applicants typically model 1 to 3 µg/m^3 (or more) for industrial/utility sources

The "typical project" will be challenged relative to a lower NAAQS

1

Sample Analysis of the Modeled Design Concentration)

- The annual background concentration itself (9.2 µg/m³) exceeds the proposed level of 9.0 µg/m³
  - Reported DV is from an FEM with suspected bias
  - Co-located FRM has a valid DV of 7.2 µg/m³, 2.0 µg/m³ lower
- Facility contributions to the MDC (3.2 µg/m³) are primarily process sources with relatively low PM2.5 emissions (~50 tpy as BACT), but relatively poor dispersion near a fenceline receptor
- Fugitive PM2.5 emissions from roadways (totaling ~2 tpy) contribute more (1.0 µg/m³) than well-controlled large industrial boilers (0.3 µg/m³)



Hypothetical example based on actual prior PSD modeling analyses