

October 12, 2023

Dr. Howard Shelanski, Director
Office of Information and Regulatory Affairs (OIRA)
Office of Management and Budget
Executive Office of The President
The White House
1600 Pennsylvania Ave NW
Washington, DC 20500

Ref: National Ambient Air Quality Standards for Particulate Matter
RIN 2060-AV52 (PM NAAQS)
Docket ID No. EPA-HQ-OAR-2015-0072

Dear Dr. Shelanski,

Thank you for the opportunity to provide comment. I am The Rev. Dr. Jessica Moerman, Vice President of Science and Policy at The Evangelical Environmental Network. I am a climate scientist by training, pastor of a local church. But most importantly I am a mother of young two boys.

I write to you from my capacity and experience in all three of these roles.

Soot, or PM_{2.5}, is one of the deadliest air pollutants and causes significant harm to the health of both children and adults. Soot is a leading factor in nine different causes of premature death in the United States including heart, lung, and kidney diseases,¹ and new medical research suggests that soot may play a role in the progression of dementia².

Pregnant people and babies are especially vulnerable. As evangelicals, we have a special care for children – both born and unborn. Medical research shows that PM_{2.5} exposure increases the likelihood of reproductive and developmental harm, including reduced fertility, preterm birth, stillbirth and low birth weight.

Being recently pregnant, these harms hit me at a personal level.

While pregnant with my oldest son, I lived in midtown Atlanta – within a quarter of mile of the 75/85 Downtown Connector – a more than 10-lane highway that cuts through the city and is filled with tractor trailers and other heavy duty trucks day and night.

I didn't appreciate it at the time, but I was exposing my unborn son – day and night – to harmful soot emissions.

My son recently received a diagnosis of ADHD, which has been impacting his ability to learn at school. Medical research shows that exposure to soot, such as that from traffic emissions, can contribute to ADHD.

¹ Benjamin Bowe, MPH^{1,2}; Yan Xie, MPH^{1,2,3}; Yan Yan, MD, PhD^{1,4}; et al., Burden of Cause-Specific Mortality Associated With PM_{2.5} Air Pollution in the United States, *JAMA Netw Open*. 2019;2(11): e1915834.

² Qian Di, Yan Wang, Antonella Zanobetti, Yun Wang, Petros Koutrakis, Christine Choirat, Francesca Dominici, Joel D. Schwartz (2017) "Air Pollution and Mortality in the Entire Medicare Population" *New England Journal of Medicine* doi: [10.1056/NEJMoa1702747](https://doi.org/10.1056/NEJMoa1702747)

Like every parent, I want my children to reach their full God-given potential and the truth is heavy duty vehicle pollution robs children of this. I can't help but feel like I failed my son. But safeguarding our children from PM2.5 pollution is beyond the control of one person, one parent.

Recent medical research³ also finds that that toddlers exposed to particulate matter score lower on IQ tests—losing as many as 2.63 points on those exams for every 2 micrograms per cubic meter of pollution exposure.

This study also found that children of pregnant women, like me, who were exposed to air pollution from fossil fuel exhaust and particulate matter in utero are more likely to experience behavioral problems and poor cognitive performance.

As an evangelical pastor, I take seriously what the bible says in Proverbs 13:22: that it's our duty to leave a good inheritance to future generations. Asthma, cognitive decline, and an unsafe climate is no inheritance to leave to our children.

We need the strongest standards possible to defend the health and lives of our children.

As a climate scientist, I know we have no time to wait to act on climate change.

Those primary sources of soot – the combustion of fossil fuels – is also the primary source of greenhouse gases responsibility for global warming and climate-fueled extreme weather.

To keep our climate as safe as possible for our children and other vulnerable people, including people of color who are disproportionately exposed, we need strong soot standards to truly defend our lives and health from the burden of air pollution and help address climate change.

Our children, both unborn and born, are precious and must be defended from the threats posed by soot. That's why we're calling on the Administration to follow the advice of EPA's own Clean Air Scientific Advisory Committee (CASAC), the World Health Organization, and the latest medical research by setting stronger standards for both 24-hour and yearlong exposure to this deadly pollution. Based on their research, the WHO has updated their guidelines to state that the annual average concentrations of PM_{2.5} should not exceed an average of 5 µg/m³, and 24-hour exposure should not exceed 15 µg/m³ on more than 3-4 days per year.^[vii] The proposed EPA *National Ambient Air Quality Standards for Particulate Matter* are approximately double these WHO recommendations.

While EPA estimates 4,500 lives would be saved with a reduction to its proposed yearly level of 9 µg/m³, one medical research paper estimates 19,000 lives/year would be saved⁴ by lowering the standard just one more microgram to 8 ug/m³. Other research reports that for every 1 ug/m³ PM_{2.5} reduction nationwide, approximately 12,000 lives/year could be saved. This means that the difference between the EPA's proposed yearly levels and the WHO's suggested yearly levels represents 48,000 American lives.

³ Ni, Yu *et al.* (2022) Associations of Pre- and Postnatal Air Pollution Exposures with Child Behavioral Problems and Cognitive Performance: A U.S. Multi-Cohort Study. *Environmental Health Perspectives*. <https://doi.org/10.1289/EHP10248>

⁴ Industrial Economics, Incorporated. (2022) Analysis of PM2.5-Related Health Burdens Under Current and Alternative NAAQS. Retrieved: <https://globalcleanair.org/files/2022/05/Analysis-of-PM2.5-Related-Health-Burdens-Under-Current-and-Alternative-NAAQS.pdf>

While the proposed rule is a good start, it must be strengthened. Specifically, I urge you to further strengthen the rule by setting the annual exposure standard no higher than 8 micrograms per cubic meter and the 24-hour exposure standard no higher than 25 micrograms per cubic meter.

Our children and family deserve clean air. I am grateful to the Administration for recognizing this urgent health need with its proposed soot rule. I urge the Administration to strengthen the rule by following the recommendations from EPA's own scientific advisory panel and to quickly finalize this proposal as swiftly as possible to ensure that all God's children can breathe clean air.

Sincerely,

A handwritten signature in black ink, appearing to read 'Jessica Moerman', with a stylized, flowing script.

Rev. Dr. Jessica Moerman
President/CEO
Evangelical Environmental Network