

September 11, 2022

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: RIN: [2060-AV52](#)

CFR Citation: [40 CFR 50](#)

Docket Numbers: EPA-HQ-OAR-2015-0072; EPA-HQ-ORD-2014-0859

Title: Review of the National Ambient Air Quality Standards for Particulate Matter

Dear OIRA,

But let justice roll on like a river, righteousness like a never-failing stream! Amos 5:24 (NIV)

As evangelical Christians, we believe that all human life is sacred; that each person conceived is of equal and innate value and dignity, and that all human life is worthy of protection. At the Evangelical Environmental Network (EEN) we are pro-life from conception to natural death – a theology we share with the National Association of Evangelicals, but also one we share with Catholic social teaching and the guidance of Pope Francis in his encyclical letter, *Laudato si'* on care for our common home.

We believe that each child has the right to fulfill their God given potential,” what Jesus called the “abundant life” (John 10:10). Jesus was not just referring to a spiritual connection but to a holistic understanding of well-being, of body and soul together. Jesus was especially concerned about vulnerable populations being denied abundant life. “Jesus said, ‘Let the little children come to me, and do not hinder them, for the kingdom of heaven belongs to such as these’” (Matthew 19:14). Our commitment to Jesus Christ compels us to do all we can to defend children both born and unborn children from PM_{2.5}. It is a pro-life concern, plain and simple.

The Evangelical Environmental Network and its community strongly support the Review of the National Ambient Air Quality Standard for Particulate Matter referenced rule making, and we recommend the standard

CREATION CARE. IT'S A MATTER OF LIFE

be (1) science based; finalized at no higher than 8 $\mu\text{g}/\text{m}^3$ for annual $\text{PM}_{2.5}$ and 25 $\mu\text{g}/\text{m}^3$ for 24-hour $\text{PM}_{2.5}$; and (3) revising the form of the short-term standard to 99th percentile.

Air pollution negatively affects the U.S. economy, costing the U.S. roughly 5 percent of its yearly gross domestic product (GDP) in damages (\$790 billion in 2014). The highest costs come from early deaths, attributable to exposure to fine particulate matter ($\text{PM}_{2.5}$).ⁱ

However, $\text{PM}_{2.5}$ costs are not merely dollars and cents for the genuine costs include shorten human life from conception to early death. Medical research finds that pregnant women who were exposed to the highest levels of air pollution were nearly twice as likely as those exposed to the lowest levels to have intrauterine inflammation and it appears that the first trimester is the highest risk. These results held up even when researchers accounted for factors including smoking, age, obesity, and education levels.ⁱⁱ Translating into in more human terms --Intrauterine inflammation is one of the leading causes of premature birth, which occurs in one of every nine births in the United States and one in six African American births. The same research states premature birth may lead to lifelong developmental problems including autism spectrum disorders (ASD).ⁱⁱⁱ Additionally statistically thirty-five percent (35%) of pre-terms births result in death, costing the United States economy \$4.33 billion annually in 2025 dollars.^{iv}

$\text{PM}_{2.5}$ impacts don't stop at birth. Other research finds that early life exposure to particulate matter may influence the development of both allergy and neurodevelopmental disorders. There is convincing evidence to support the link between environmental $\text{PM}_{2.5}$ and allergic disorders.^v Another study found that the risk of ASD increased by 64% with exposure to 10 micrograms of $\text{PM}_{2.5}$ per cubic meter of air (mcg/m^3) during early childhood and by 31% during prenatal periods. During the prenatal period, the greatest risk was found during the third trimester. The results also suggested that $\text{PM}_{2.5}$ exposure could affect vulnerable populations even at low levels, below current regulations. The authors noted that there has been a steep rise in the prevalence of childhood diagnosis of ASD over the past several years, from 6.7 per 1,000 people in 2000 to 16.8 per 1,000 people in 2014.^{vi}

Not only are born and unborn children a vulnerable population group, so are people of color. Numerous studies present compelling evidence that historically disadvantaged groups, such as Black and Hispanic communities, are exposed to higher $\text{PM}_{2.5}$ concentrations than white and non-Hispanic populations.^{vii} contributing to increased risk of PM-related adverse health effects.

We could continue to present more research that supports our Biblical call for justice and righteousness at this letter's opening. However, our brief overview makes our point. The United States Environmental Protection Agency (U.S. EPA) must use the best available science to set ambient air quality standards that protect and defend human life and health.

Currently, the primary National Ambient Air Quality Standard (NAAQS) for annual mean PM_{2.5} concentrations is 12 µg/m³. EPA published its draft Policy Assessment (PA) for the Reconsideration of the National Ambient Air Quality Standards for Particulate Matter in October 2021, part of its periodic reevaluation of the health protectiveness of the current standard. The draft PA evaluates the policy implications of available scientific research on the health and welfare effects of ambient PM and considers whether the current standards provide adequate public health protection. As our understanding of air pollution and its impacts on human health have developed through peer-reviewed epidemiological and toxicological research, EPA has made PM standards more protective of public health over time. In the recent draft PA, EPA concludes that currently available scientific evidence provides support for tighter standards...^{viii}

The moral responsibility, the medical and scientific research, and the economics present a clear and compelling case for EPA to use this review to strengthen the standard to no higher than 8 µg/m³ for annual PM_{2.5} and 25 µg/m³ for 24-hour PM_{2.5} and revising the form of the short-term standard to 99th percentile.

Sincerely,



The Rev. Mitchell C. Hescox
President/C.E.O.

ⁱ Peter Tschofen, Inês L. Azevedo, Nicholas Z. Muller, Fine particulate matter damages and value added in the US economy, Proceedings of the National Academy of Sciences Oct 2019, 116 (40) 19857-19862; DOI: 10.1073/pnas.1905030116

ⁱⁱ Nachman RM, Mao G, Zhang X, Hong X, Chen Z, Soria CS, He H, Wang G, Caruso D, Pearson C, Biswal S, Zuckerman B, Wills-Karp M, Wang X. Intrauterine Inflammation and Maternal Exposure to Ambient PM_{2.5} during Preconception and Specific Periods of Pregnancy: The Boston Birth Cohort. Environ Health Perspect. 2016 Oct;124(10):1608-1615. doi: 10.1289/EHP243. Epub 2016 Apr 27. PMID: 27120296; PMCID: PMC5047781.

ⁱⁱⁱ Ibid.

^{iv} Leonardo Trasande, Patrick Malecha, and Teresa M. Attina, Particulate Matter Exposure and Preterm Birth: Estimates of U.S. Attributable Burden and Economic Costs, ENVIRONMENTAL HEALTH PERSPECTIVES, <http://dx.doi.org/10.1289/ehp.1510810>, March 2016

^v Chua Regena Xin Yi, Tay Michelle Jia Yu, Ooi Delicia Shu Qin, Siah Kewin Tien Ho, Tham Elizabeth Huiwen, Shek Lynette Pei-Chi, Meaney Michael J., Broekman Birit F. P., Loo Evelyn Xiu Ling, Understanding the Link Between Allergy and Neurodevelopmental Disorders: A Current Review of Factors and Mechanisms, Frontiers in Neurology, 11, <https://www.frontiersin.org/article/10.3389/fneur.2020.603571>, 10.3389/fneur.2020.603571, ISSN=1664-2295

^{vi} Cheng-Kuan Lin et al 2021 Environ. Res. Lett. 16 063003

^{vii} Colmer, J., Hardman, I., Shimshack, J., & Voorheis, J. (2020). Disparities in PM_{2.5} air pollution in the United States. Science, 369(6503), 575-578

Rosofsky, A., Levy, J. I., Zanolletti, A., Janulewicz, P., & Fabian, M. P. (2018). Temporal trends in air pollution exposure inequality in Massachusetts. Environmental research, 161, 76-86.

Tessum, C. W., Apte, J. S., Goodkind, A. L., Muller, N. Z., Mullins, K. A., Paolella, D. A., ... & Hill, J. D. (2019). Inequity in consumption of goods and services adds to racial–ethnic disparities in air pollution exposure. *Proceedings of the National Academy of Sciences*, 116(13), 6001-6006.

^{viii} Analysis of PM_{2.5}-Related Health Burdens Under Current and Alternative NAAQS, April 15, 2022, Environmental Defense Fund prepared by: Industrial Economics, Incorporated 2067 Massachusetts Avenue Cambridge, MA 02140.