

Reducing Diesel Emissions from California Construction Equipment

An Open Letter from California Health Experts

Dear California Air Resources Board Members and Staff,

As researchers, public health, and medical experts from across California and the nation, we are deeply concerned about the effect of diesel pollution on public health. We urge the California Air Resources Board to adopt a strong regulation to clean up one of the state's major sources of diesel pollution - construction equipment.

Diesel-powered construction equipment releases fine particulate matter, smog-forming pollutants, and toxic air contaminants into the air we all breathe.

- Particulate matter can penetrate deeply into the lungs, causing or aggravating a variety of respiratory and cardiovascular illnesses—and can even lead to premature death.¹⁻³ Construction equipment is one of the top sources of diesel particulate matter in California.
- Smog-forming pollutants can damage the respiratory tract, reduce lung function, exacerbate asthma, aggravate chronic lung diseases, and lead to premature death.⁴⁻⁶ As much as 10 to 20 percent of all summertime respiratory hospital visits and admissions are associated with smog.^{7,9}
- The state of California has classified diesel exhaust and more than 40 compounds in diesel exhaust as toxic air contaminants. Exposure to these chemicals can cause cancer, developmental harm to fetuses, and other serious health and reproductive problems.¹⁰⁻¹³

Together, these pollutants are taking a serious toll on California's public health. Much of this morbidity and mortality can be avoided by cleaning up construction equipment. While the US EPA has adopted more stringent standards for *new* construction engines, long lasting construction equipment operating today will continue to pollute for decades. This is too long to wait for those who live near or work on construction sites.

To protect the health of Californians, we urge the California Air Resources Board to adopt a strong regulation that requires cleaning up existing construction equipment through pollution control retrofits, cleaner fuels, and replacement of the oldest, most polluting equipment with cleaner alternatives.

Sincerely,

Professor Dean Baker, M.D. MPH
University of California, Irvine
Center for Occupational & Environmental Health (Director)

Professor John Balmes, M.D.
University of California San Francisco/
San Francisco General Hospital

Professor Curtis Eckhert, Ph.D.
University of California, Los Angeles
Environmental Health Sciences (Chair)

Professor Julia Faucett, RN, Ph.D., FAAN
University of California, San Francisco
School of Nursing

Professor Richard J. Jackson, M.D. MPH
University of California, Berkeley
School of Public Health

Professor Katherine Hammond, Ph.D.
University of California, Berkeley
School of Public Health

Professor Robert Harrison, M.D., MPH
University of California, San Francisco
School of Medicine, Division of Occupational and Environmental Medicine

Dr. Anthony Molina, M.D.
California State University, Fresno
University Health and Psychological Services (Staff Physician)

Dr. David Pepper, M.D., Ph.D.
San Francisco

Professor Kent E. Pinkerton, Ph.D.
University of California, Davis
Center for Health and the Environment (Chair)

Professor Robert Schiestl, Ph.D.
University of California, Los Angeles
Department of Pathology

Dr. John G. Telles, M.D.
St. Agnes Medical Center, Fresno
The Heart Group

Medical Associations

California Medical Association
California Nurses Association
Medical Advocates for Healthy Air, Fresno

** Organizational affiliations are for identification purposes only.*

References

1. Ostro B, Broadwin R, Green S, Feng, W-Y, Lipsett M. Fine Particulate Air Pollution and Mortality in Nine California Counties: Results from CALFINE. *Environ Health Perspect.* 2006 January; 114(1): 29–33.
2. Samet JM, Dominici F, Curriero FC, Coursac I, Zeger SL. Fine Particulate Air Pollution and Mortality in 20 U.S. Cities, 1987-1994. *N Eng J Med.* 2000 Dec 14; 343(24):1742-9.
3. Pope, C.A. 2000 III, Epidemiology of Fine Particulate Air Pollution and Human Health: Biological Mechanisms and Who's at Risk? *Environ Health Perspect* 108 (suppl 4):713-723.
4. Riedl M, Diaz-Sanchez C. Biology of diesel exhaust on respiratory function. *J Allergy Clin Immunol* 2005 February; 115(2):221-8.
5. Bell ML, Dominici F, Samet JM .A meta-analysis of time-series studies of ozone and mortality with comparison to the national morbidity, mortality, and air pollution study. *Epidemiology* 2005; 16:436-445.
6. Ito K, De Leon SF, Lippmann M. 2005. Associations between ozone and daily mortality: analysis and meta-analysis. *Epidemiology* 2005; 16 (4):446-57.
7. White, M.C., R.A. Etzel, W.D. Wilcox, C. Lloyd. "Exacerbations of Childhood Asthma and Ozone Pollution in Atlanta." *Environ Res* 1994; 65:56-68.
8. Weisel CP, Cody RP, Liroy PJ. Relationship Between Summertime Ambient Ozone Levels and Emergency Department Visits for Asthma in Central New Jersey. *Environ Health Perspect.* 1995 Mar; 103(Suppl 2): 97-102.
9. Thurston, G. D.; Ito, K.; Hayes, C. G.; Bates, D. V.; Lippmann, M. Respiratory hospital admissions and summertime haze air pollution in Toronto, Ontario: consideration of the role of acid aerosols. *Environ. Res* 1994; 65: 271-290.
10. California Air Resources Board (CARB). Proposed Identification of Diesel Exhaust as a Toxic Air Contaminant: Health Risk Assessment for Diesel Exhaust. 1998. Sacramento, CA: California Environmental Protection Agency, Office of Environmental Health Hazard Assessment.
11. Künzli N, McConnell R, Bates D, Bastain T, Hricko A, Lurmann F, Avol E, Gilliland F, Peters J. Breathless in Los Angeles: The Exhausting Search for Clean Air. *Am J Public Health* 2003 Sep; 93(9): 1494-1499.
12. Marozienne L, Grazuleviciene R. Maternal Exposure to Low-level Air Pollution and Pregnancy Outcomes: A Population-based Study. *Environ Health.* 2002; 1: 6.
13. Wilhelm M, Ritz B. Local Variations in CO and Particulate Air Pollution and Adverse Birth Outcomes in Los Angeles County, California, USA. *Environ Health Perspect.*2005 Sep; 113(9): 1212-1221.