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## California's Diesel Regulations Are Hot Air

Henry I. Miller and James E. Enstrom 06.09.10, 6:00 PM ET

If you were strapped for cash and lived in North Dakota, would you spend money on hurricane insurance? That would be no dumber than the regulations of the [California Air Resources Board](#), designed to reduce the form of "air pollution" known as diesel particulate matter. The scientific rationale for these enormously expensive regulations and the process by which they were enacted are dubious, and their costs impose a huge economic burden on the state. And since California is often regarded as a bellwether of environmental regulation, these rules could presage a disturbing national trend.

In July 2007 and December 2008 CARB, which is part of the California Environmental Protection Agency, approved wide-ranging regulation of off-road diesel vehicles and equipment ("Off-Road Rule") and on-road diesel vehicles ("Truck Rule"). These rules, which are being phased in over several years, apply to virtually all diesel engines in California. It is estimated that the cost of full implementation to the affected industries, primarily construction and trucking, will exceed \$10 billion. This will further burden the state's ailing economy, which already faces a \$20 billion-plus budget deficit, 12.5% unemployment and confiscatory taxes.

Given their astronomical costs and ripple effects--including the likelihood that other states will emulate California--it is essential to know how sound the rationale is for these regulations.

Consider the definition of "pollution." Pollution is the introduction of harmful substances or products into the environment. So is CARB's target indeed harmful? That is the \$10 billion question.

The primary evidence for harm is the small but statistically significant association found in a few national epidemiologic studies between total mortality and fine particulate air pollution (technically known as PM2.5, the very small-particulate soot that originates from diesel engines, forest fires, other sources of combustion and dust). Failing to appreciate the critical distinction between *association* and *causation*, CARB assumed that PM2.5 exposure *causes* higher mortality and leapt to the conclusion that 18,000 premature deaths per year in California are

associated with PM2.5 exposure, with 3,500 of these due to diesel particle matter. This is the primary rationale for reducing PM2.5 exposure.

However, both the data used by CARB to make its decisions and the integrity of its procedures are suspect. Several major studies fail to support a relationship between PM2.5 and total mortality (also known as premature deaths) in California. For example, a 2000 Health Effects Institute re-analysis of the 1995 American Cancer Society Cancer Prevention Study showed nationwide variation in PM2.5 mortality risk during 1982 through 1989, with little or no excess risk apparent in the western United States, including in California. In addition, a large 2005 UCLA study found no relationship between PM2.5 and total deaths in the California Cancer Prevention Study from 1983 to 2002; and a 2008 Johns Hopkins University study showed nationwide variation in PM2.5 mortality risk from 2000 to 2005 in U.S. Medicare enrollees, with no excess risk in California, Oregon or Washington.

Furthermore, key CARB research staff and CARB-funded scientists withheld or obfuscated epidemiologic findings that conflicted with their preconceived conclusions about PM2.5 health effects. In spite of the above null epidemiologic evidence and almost 150 pages of critical comments submitted to CARB in July 2008, the October 2008 Final CARB Staff Report (the "Tran Report," named after lead staffer Hien Tran) still claimed that PM2.5 and diesel particulate matter were responsible for the above-mentioned number of premature deaths, and in December 2008 CARB members unanimously approved the draconian Truck Rule.

Subsequently, the Truck Rule has come under intense scrutiny, with serious scientific, legal and economic objections raised in various forums. Notably, it was revealed that Tran lied about his academic credentials and that CARB chair Mary Nichols failed to inform all board members of this material misrepresentation prior to their vote. As a result, in November 2009 CARB member John Telles [requested](#) that the Truck Rule be set aside and asked for a reexamination of the science underlying CARB's actions.

At a February 2010 CARB symposium on the relationship between PM2.5 and premature deaths, many respected experts on PM2.5 expressed [serious reservations](#) about epidemiology, statistics, toxicology, economics, risk-benefit and access to data. All of these concerns are relevant to the validity of alleged PM2.5 health effects and to the justification for the CARB diesel regulations. In addition, the lead CARB-funded scientist, Michael Jerrett of the University of California, Berkeley, revealed that his detailed analysis of the American Cancer Society Cancer Prevention Study showed no relationship between PM2.5 and total deaths in California during 1982 to 2000. In other words, his results agreed with the null findings in the other studies cited above.

Thus, extensive evidence from several independent sources fails to demonstrate that PM2.5 causes premature deaths in California. In addition, PM2.5 levels in the state are currently the lowest ever recorded, and as of 2005 California had the sixth highest life expectancy and the fourth lowest age-adjusted total death rate in the U.S.

Given CARB's procedural irregularities, the lack of evidence that PM2.5 actually inflicts significant harm on Californians, and the huge financial burden that the regulations impose on the state's industries--one that will ultimately be passed along to consumers--CARB should suspend the rules and request a competent, independent reassessment of their scientific rationale. Otherwise, like vapor from a tailpipe, billions of dollars will vanish into thin air.

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