

***Claim: Carbon pollution is a health hazard***

***REBUTTAL***

*The term “carbon pollution” is a deliberate, ambiguous, disingenuous term, designed to mislead people into thinking carbon dioxide is pollution. It is used by the environmentalists to confuse the environmental impacts of CO<sub>2</sub> emissions with the impact of the emissions of unwanted waste products of combustion. The burning of carbon-based fuels (fossil fuels – coal, oil, natural gas – and biofuels and biomass) converts the carbon in the fuels to carbon dioxide (CO<sub>2</sub>), which is an odorless invisible gas that is plant food and it is essential to life on the planet.*

*Because the burning of the fuel is never 100% efficient, trace amounts of pollutants including unburnt carbon are produced in the form of fine particulates (soot), hydrocarbon gases and carbon monoxide. In addition, trace amounts of sulfur oxides, nitrogen oxides and other pollutant constituents can be produced. In the US, all mobile and industrial stationary combustion sources must have emission control systems that remove the particulates and gaseous pollutants so that the emissions are in compliance with EPA’s emission standards. The ambient air pollutant concentrations have been decreasing for decades and are going to keep decreasing for the foreseeable future because of existing non-GHG-related regulations.*

---

To ensure that the air is safe to breathe, the Clean Air Act (CAA) requires the EPA to set National Ambient Air Quality Standards (NAAQS) for the most harmful ubiquitous air pollutants. The NAAQS are set at levels requisite to protect human health and welfare with an adequate margin of safety. These ubiquitous pollutants are called the Criteria Air Pollutants and include: fine particulates (PM<sub>2.5</sub>), larger particulates (PM<sub>10</sub>), carbon monoxide, sulfur oxides, nitrogen oxides, lead, and ozone (O<sub>3</sub>). The CAA also required States to develop plans to manage the emissions and concentrations of these pollutants so that the NAAQS are attained in every part of the US.

As a result, most areas of the US attain the NAAQS for all the pollutants most of the time. The ambient concentrations have been decreasing for decades (see **EPA** charts below) and are going to keep decreasing for the foreseeable future because of existing regulations. For the few areas of the US that are in violation of a NAAQS, the States have (or are in the process of) developed plans to attain them in the near future.

It needs to be noted that the current healthy air quality in the US has been achieved with existing regulations that have nothing to do with climate or CO<sub>2</sub> regulations.

The Obama EPA and the enviros have claimed that the co-benefits of CO<sub>2</sub> reductions justify the enactment of CO<sub>2</sub>-reduction regulations. These co-benefits assume that deaths and other

health effects due to exposures of PM<sub>2.5</sub> and O<sub>3</sub> will be avoided. This assumption is erroneous because the relationships that EPA uses to calculate the purported health effects are based on epidemiology studies that used flawed statistical methods. When the proper methods are used, no causal relationship is found between either PM<sub>2.5</sub> or O<sub>3</sub> and premature mortality or other serious health effects at levels currently measured in the US. (See references).

The enviros also claim that rising temperatures caused by increasing CO<sub>2</sub> levels will exacerbate PM<sub>2.5</sub> and O<sub>3</sub> air pollution. This claim is flawed for a number of reasons.

First, as detailed elsewhere, there is no convincing evidence that increasing CO<sub>2</sub> levels has caused global temperatures to rise.

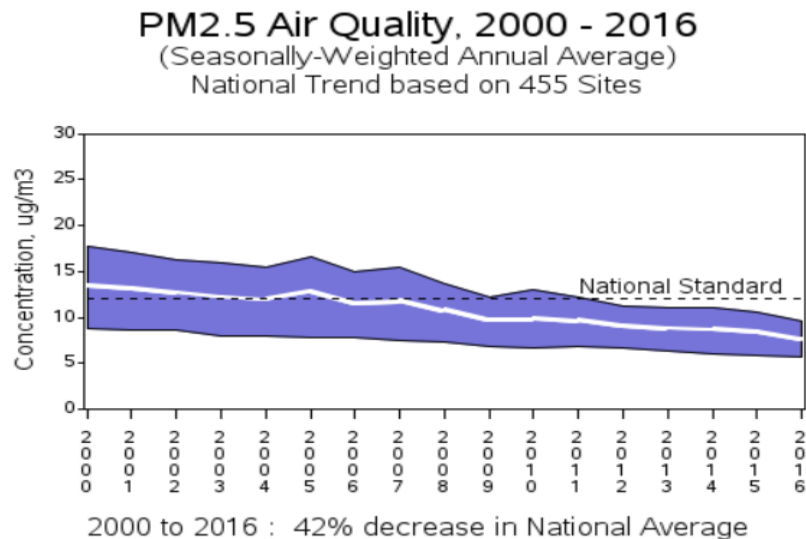
Second, there is no consistency between EPA models that increasing temperatures will cause increased PM<sub>2.5</sub>, which is purported to cause most of the health effects and mortality to increase.

Although there is general agreement that higher temperatures will cause increased O<sub>3</sub> formation, that only occurs if emissions of O<sub>3</sub> precursors remain unchanged. The reality in the US is that O<sub>3</sub> precursors have been, and will continue to be, decreasing for the foreseeable future.

In addition, if for any reason concentrations of any Criteria Pollutant ever went up anywhere in the Country, the CAA provides mechanisms that are in place requiring the States to revise their plans to offset any increases.

Finally, as discussed above, the basic premise that PM<sub>2.5</sub> O<sub>3</sub> are causing serious health effects in the US at current levels is false.

The following tracking of criteria pollutants versus the national standards is from the EPA.







Cox, LA Jr, Popken DA. Has reducing PM2.5 and ozone caused reduced mortality rates in the United States? *Annals of Epidemiology*. 2015 Mar;25(3):162-73.

Young, SS, Smith, RL and Lopiano, KK. Air quality and acute deaths in California, 2000-2012. *Regulatory Toxicology and Pharmacology*. 2017 Jun; 88:173. doi: 10.1016/j.yrtph.2017.06.003.

Enstrom, JE. Fine particulate matter and total mortality in cancer prevention study cohort reanalysis. *Dose-Response: An International Journal*. 2017 Ja-Mar. DOI 10.1177/1559325817693345.

The EPA charts came from <https://www.epa.gov/air-trends>

**Authors:**

Dr. George T. Wolff  
Atmospheric Scientist  
Former Chair EPA's Clean Air Scientific Advisory Committee  
Ph.D., Environmental Sciences, Rutgers University  
M.S., Meteorology, New York University  
B.S., Chemical Engineering, New Jersey Institute of Technology

John Dale Dunn, M.D., J.D.  
Emergency physician in Brownwood, Texas.  
Board-certified in emergency medicine and legal medicine and has been an inactive attorney for 35 years.  
Conducted research, scholarship, and advocacy on environmental science and policy issues for 25 years.  
Areas of professional and scholarly interest include human toxicology and epidemiology, scientific legal evidentiary issues, ethics, and research methodology.