Ozone Facts:
Asthma and Ozone – A Questionable Relationship

On October 1 2015, the Environmental Protection Agency (EPA) is set to unveil its new nationwide limit for ozone emissions. Under its proposals it will reduce the current .75 parts per billion level by up to 20 percent. The agency claims the new standard will "clean up our air, improve access to crucial air quality information, and protect those most at-risk; our children, our elderly, and people already suffering from lung diseases like asthma."

It is no surprise that asthma has been singled out. Along with other chronic respiratory diseases it has become an increasingly urgent health issue, with nearly 26 million sufferers nationally and rates continuing to rise.

Environmental advocates have accordingly counseled EPA to focus on the condition, and it has consequently become the Administration's preferred method of personalizing the ozone debate and the key justification for more stringent targets. EPA has claimed that the standard will help prevent as many as 4,300 asthma related premature deaths in a single year.

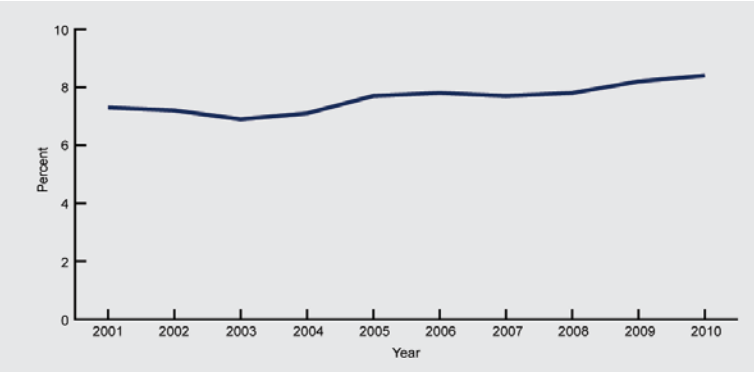
Regrettably, the science the agency has relied on to demonstrate the relationship between asthma and ozone is not clear cut. In fact, many academics and state regulators have questioned the health benefits that will result.

Asthma Rates Increasing, While Ozone is Decreasing

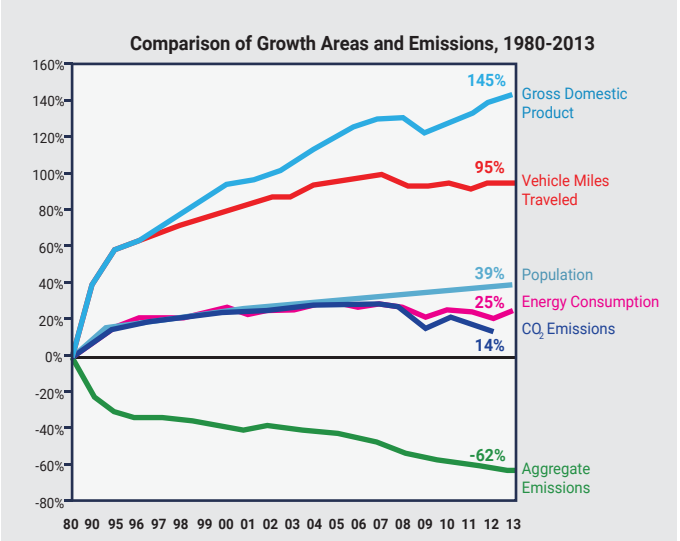
As a result of efforts across industry, ozone-forming emissions have been cut in half since 1980 and are expected to drop by another 36 percent in the next few years.

This is true for the total emissions of the six principal air pollutants, including ozone, which have dropped by 62 percent.

But there seems to be little linkage to asthma rates. According to Dr. Michael Honeycutt, toxicologist for Texas Commission on Environmental Quality, "if asthma were actually tied to ozone, you would expect to see the instances of asthma decreasing, not increasing. In fact, data from Texas hospitals show that asthma admissions are actually highest in the winter, when ozone levels are the lowest."



Source: CDC/NCHS, National Health Interview Survey.



Source: National Center for Health Statistics

Figures from the National Center for Health Statistics bear out this point, showing that between 2001 and 2010 the number of people with asthma in the U.S. increased from 7.3% to 8.4% – an extra 3.4 million sufferers in the space of a decade.

Put simply, the increase in asthma has occurred exactly while ozone levels have been declining.

Faulty Methodology the Cause of the Discrepancy

Dr. Honeycutt's explanation for the discrepancy is that EPA's methodology is flawed. In a June 2015 article he wrote, "There are much bigger factors than ozone, so if you don't control for those factors, then you can't make the claim that ozone is causing increased asthma attacks."

Tony Cox, editor-in-chief of the international journal, Risk Analysis, and member of the National Academy of Engineering, reached a similar conclusion. As he put it during recent testimony to Congress, the claimed benefits "are purely hypothetical results of models that the EPA itself recognizes are inaccurate."

Indeed, buried deep in its economic analysis EPA actually concedes that its methodology "is convenient for fitting the model, but is not accurate." This is why "these relatively large reductions in ozone levels have caused no detectable public health benefits."

States Skeptical of EPA Claims

State regulators from across the U.S. have also gone on the record to express their concern over the proposed rule.

Tom Easterly, Commissioner of the Indiana Department of Environment Management (May 2015) echoed Dr. Honeycutt's conclusion when he said "The significant improvement in measured ozone air quality over the past 40 years should have drastically reduced both the number and severity of asthma attacks. … But we can find no evidence that such a reduction has occurred."

Meanwhile in Ohio, Lt. Governor Mary Taylor (March 2015) pointed out that "we demand that our agencies justify their regulatory actions with science, and we do understand that the EPA's interpretation of the Clean Air Act is that decisions are to be based on health considerations only. Even under this standard, we believe the proposal fails to meet your criteria."

And in South Dakota, Governor Dennis Daugaard's March 2015 comments to EPA concluded, "The EPA states the proposal is based on protecting human health, but health benefits from a lower ozone standard are inconclusive. Nor has EPA taken into account the gains in human health and air quality experienced from regulations already in place. Lowering the standard now will only create regulatory uncertainty and hardship with questionable corresponding benefits to public health."

The Known Causes

As Congressman Loudermilk pointed out at a recent hearing, the list of potential causes of asthma is long and covers a wide variety of factors. For example, eighty percent of asthma sufferers have allergies to airborne materials including pollens, mold, dust mites and cockroach particles. In a November 2013 report the World Health Organization specifically noted that "the impact of outdoor air pollution (including ozone) appears to be smaller than that of allergens in respect of asthma."

It is also widely accepted that cigarette smokers are more likely to suffer from asthma, and similarly, that those exposed to smoke from tobacco, wood-burning appliances, fireplaces or other strong sensory agents such as perfumes and cleaning agents may also experience attacks. Indeed, new research reveals that many asthmatic inner-city children suffer from conditions inside their homes; cigarette smoke, dust mites, mold and even cooking smells can make them sicker than car exhaust or ragweed.

All of which points to the fact that EPA's proposed standards may do little or nothing to mitigate the occurrence of asthma. If the agency is motivated to tackle the rising asthma rate, it may want to focus on scientifically proven causal factors, instead of using dubious science to justify more stringent ozone standards.