

# A!ert

dvrpc | April 2013

*Alert is a monthly update on transportation and air quality planning activities in the Delaware Valley.*



## Air Quality News

### Study Shows that Ground-Level Ozone Falling Faster than Model Predicted

A new study published by researchers at Rice University, in the journal *Atmospheric Environment*, suggests that a common air quality model, known as the Community Multiscale Air Quality (CMAQ) model underestimated the degree to which nitrogen oxide (NO<sub>x</sub>) reductions, implemented between 2002 and 2006, would impact the levels of ground-level ozone by 20 to 60 percent. According to the paper's lead author, Daniel Cohan, "the models have been underpredicting how much benefit we get from controlling NO<sub>x</sub> emissions."

In 2002, the U.S. Environmental Protection Agency (EPA), implemented a cap-and-trade program, known as the NO<sub>x</sub> SIP Call. The goal of this program was to reduce ozone-forming NO<sub>x</sub> emissions in the eastern U.S through emissions controls on power plants in midwest and eastern states. The CMAQ model predicted that the NO<sub>x</sub> SIP call would result in a drop in ozone concentrations by 4.6 parts per billion (ppb) in the affected regions of the country, while the observed drop was as large as 8ppb. Cohan noted that "faster-than-expected reductions in NO<sub>x</sub> may explain some of the difference in observed ozone values but that some of the gap may result from inaccuracies in how the model represents the chemistry and transport of air pollutants." Cohan attributes this gap to the fact that ozone formation from volatile organic compounds (VOCs) and NO<sub>x</sub> is not linear chemistry. This could mean that at some concentration of NO<sub>x</sub> in the air, ozone formation occurs at a faster rate than it forms when NO<sub>x</sub> is below the critical concentration. Observations of real world ozone concentrations and NO<sub>x</sub> emissions over the last decade can help recalibrate air quality models.

In a related article, published in the *Journal of Air and Waste Management*, Cohan credits the fact that many regions across the nation, including the Philadelphia region, have met the 1997 ozone standards due to federal efforts to reduce NO<sub>x</sub> emissions from power plants and the transportation sector. Evidence presented in this second article shows that federal efforts to control NO<sub>x</sub> emissions and reduce ozone transport are critical to helping regions attain the ozone standard. Cohan points out that before federal efforts to reduce ozone forming NO<sub>x</sub> emissions, such as the NO<sub>x</sub> SIP call, individual state efforts to reduce ozone levels were less effective.

These findings are particularly important as the EPA continues to face challenges to regulations, such as the Cross State Air Pollution Rule, that will further reduce interstate transport of ozone-forming pollutants in efforts



## Save the Date

**Monday,  
April 15, 2013**

**Philadelphia Diesel  
Difference Working Group  
10:00 am**

*Location of Meeting:  
DVRPC Conference Center  
8<sup>th</sup> Floor  
6<sup>th</sup> and Race Streets  
Philadelphia, PA*

**Saturday,  
April 20, 2013**

**Clean Air Council 5K for  
Clean Air**

*Location of Event  
Martin Luther King Dr.  
(behind the Philadelphia  
Museum of Art)*

*Register at:  
[www.5krunforcleanair.org](http://www.5krunforcleanair.org)*

to help regions attain the 2008 air quality standard for ozone, as well as stricter standards that may be implemented in the future.

For more information on Dr. Cohan's research on air quality science and policy, please visit: <https://news.rice.edu>

## Air Quality Regulations

### U.S. Supreme Court Rejects Challenge to Nitrogen Dioxide Rule

On Monday April 1, 2013, the U.S. Supreme Court rejected a challenge to the U.S. EPA's Nitrogen Dioxide standard. The U.S. EPA established a one-hour standard for nitrogen dioxide (NO<sub>2</sub>) in 2010. The standard was set at 100 parts per billion and monitors were required to be established at near-road locations to identify "worst case" scenarios for this pollutant. The standard was challenged by the American Petroleum Institute and upheld by the District Court of Appeals in July 2012.

The Court held that NO<sub>2</sub> poses a real health risk and the EPA was acting within the authority of the Clean Air Act when setting the standard. The NO<sub>2</sub> monitoring network is required to be in place by January 2014 and the EPA will collect three years of monitoring data before designating non-attainment areas.

For more information on the Supreme Court ruling on the *American Petroleum Institute v. EPA*, please visit: [www.supremecourtus.gov](http://www.supremecourtus.gov).



## Air Quality Partnership

### Help the Air Quality Partnership win the EPA's EnviroFlash Challenge

EnviroFlash is an email alert system operated by the U.S. EPA, Air Now, and partner agencies across the nation that provides daily air quality forecasts for ozone and fine particle pollution. The EnviroFlash system allows users to sign-up for email notifications of when the Air Quality Index (AQI) reaches Code Orange or worse levels. Users can also opt to receive the air quality forecast every day if they are interested.

The EnviroFlash system is free and sign-up is easy. Users can join the system by entering an email address and zip code (so the system knows what forecast to send you) at [www.airqualitypartnership.org](http://www.airqualitypartnership.org). The forecasts for the DVRPC region are provided by the New Jersey Department of Environmental Protection and Penn State University through a grant from the Pennsylvania Department of Environmental Protection.

The alerts are important for people with cardiac or respiratory disorders, senior citizens, and households with children. These groups are especially susceptible to the effects of air pollution and by being aware of air quality conditions, they can take steps to reduce air pollution levels and protect their health.

The EPA is running the EnviroFlash challenge from April 8 through May 31, 2013. Agencies that show the greatest number or greatest percentage of new subscribers will be recognized with a plaque and an announcement on the Air Now website.

Please encourage your employees, associates, and stakeholders to utilize the EnviroFlash system and help the Air Quality Partnership win the 2013 EnviroFlash Challenge by signing up at [www.airqualitypartnership.org](http://www.airqualitypartnership.org).



DVRPC, 8th Floor  
190 N. Independence Mall West  
Philadelphia, PA 19106-1520  
Phone: 215.592.1800 | Fax: 215.592.9125 | Web: [www.dvrpc.org](http://www.dvrpc.org)