

A!ert

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



Air Quality Regulations

Volkswagen May Not Have Technology to Solve Emissions Control Problems and Still Meet Fuel Economy Targets for Light-duty Diesel Passenger Vehicles

In March 2016, the U.S. District Court in San Francisco extended a court-ordered deadline for Volkswagen to fix the emissions control software on its diesel fueled passenger cars in the American market. Volkswagen was given until April 21, 2016 to correct software that allowed over 600,000 Audi, Porsche, and Volkswagen vehicles sold in the U.S. to deceive vehicle emissions tests. The software detected when the vehicle's emissions were being tested and activated emissions control measures that aren't operable under regular highway driving conditions.

Industry experts feel that fixing the emissions control software will impact vehicle performance and fuel economy and that a cost-effective fix to this issue simply doesn't exist. If Volkswagen is unable to address both the emissions and performance issues on these vehicles, the company may need to buy back the affected vehicles.

At the heart of the issue are Clean Air Act requirements that require limits on the emissions of nitrogen oxides (a contributor to ozone pollution) and fine particle pollution (PM_{2.5}). Measures that control output of nitrogen oxides increase the production of PM_{2.5} which is removed by filters. Those filters require regeneration by injecting fuel into the filter and burning off the particles. This process increases fuel consumption and impacts vehicle performance, as well as increases wear and tear on the vehicle's emissions control system. Other vehicle manufacturers selling diesel passenger vehicles in the U.S. address these issues with more expensive emissions control devices than were implemented by Volkswagen.

The issue will likely be If Volkswagen fails to meet the April 21, 2016 deadline to present a plan to address the emissions control devices and does not reach an agreement with the federal government, customers, and dealers. Volkswagen is also facing lawsuits from vehicle owners in the U.S. and Germany.

Volkswagen executives claim that the emissions control software was manipulated by low-level engineers working independently of company policy. This is a claim rejected by industry experts and may lead to criminal prosecution if it can be demonstrated that the software was installed with the intent of circumventing Clean Air Act regulations.

For more information on the EPA's case against Volkswagen, please visit: www.epa.gov/vw.



Save the Date

**Saturday,
April 16, 2016**

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

*Location of Event:
Eakins Oval
Philadelphia Museum of Art*

*Register at:
www.5krunforcleanair.org*

**Thursday,
April 21, 2016**

**DVRPC 2016 Competitive
CMAQ Program
for Pennsylvania
Application Period Closes**

*For More Information Visit:
www.dvrpc.org/CMAQ*



Air Quality Information

Rising Levels of Atmospheric Nitrogen Threaten Plant Diversity

According to a new study led by University of Colorado Boulder (CU-Boulder) researchers, rising levels of atmospheric nitrogen pollution threaten plant diversity across a widespread portion of the U.S. The findings, which were published in the journal *Proceedings of the National Academy of Sciences*, are the first to examine ecosystem-specific vulnerabilities to atmospheric nitrogen pollution on a continental scale.

Nitrogen plays an important role in biological processes and makes up a key element of fertilizer, but previous research has shown that it is possible for plants to get too much of a good thing. Global emissions of nitrogen to the atmosphere have tripled in the last century due to fossil fuel combustion for transportation and energy generation, fertilizer applications for agriculture, and industrial processes. Elevated levels of nitrogen have been shown to cause environmental damage, including decreased plant species richness, and contribute to the formation of ground-level ozone which poses a serious health risk to people.

The study examined more than 15,000 forest, woodland, shrubland and grassland sites across the country, measuring the threshold at which nitrogen inputs become harmful to plants while also taking other environmental factors, such as climate and soil conditions, into account.

In all, 24 percent of the sites surveyed were at or above levels that result in plant species losses, with grassland regions (especially those with acidic soil) being most vulnerable. Groundcover plant species in forested regions with neutral pH soil were found to be the least vulnerable.

The findings may have wide-ranging implications for future air quality standards and biodiversity conservation efforts. Air pollution, along with habitat loss, is a major factor implicated in the loss of plant diversity across the U.S.

“The numerous plant species that live in an ecosystem are a bit like rivets on an airplane,” said Samuel Simkin, a post-doctoral research associate in the Institute of Arctic and Alpine Research (INSTAAR) at CU-Boulder and lead author of the new study. “You might be able to lose a few without issue, but losing too many can be disastrous. It’s hard to determine where that tipping point is.”

“Plant species diversity acts as an ecological buffer against events such as drought,” said William Bowman, a professor in the Department of Ecology and Evolutionary Biology at CU-Boulder and a co-author of the study. “If we see a reduction in plant species in some ecosystems as a result of atmospheric nitrogen, that might lead to unintended consequences and affect communities adversely.”

The National Ambient Air Quality Standards (NAAQS) have a primary standard that protect human health and a secondary standard that protect public welfare such as crops and vegetation. These findings may support stricter secondary standards for ground-level ozone and nitrogen dioxide to protect crops, wild plant diversity, and ecosystem integrity.

For more information on the CU-Boulder study, please visit:

<http://www.colorado.edu/news/releases/2016/03/28>

Grant Opportunities to Improve Air Quality Closing in April

Applications for two funding programs to reduce air pollution from transportation sources close in April. The U.S. Environmental Protection Agency (EPA) has made available up to \$2.7 million in Region III (which includes Pennsylvania) and \$1.8 million in Region II (which includes New Jersey) to establish clean diesel projects aimed at reducing emissions from the nation’s existing fleet of diesel engines. Requests for Diesel Emission Reduction Act funding are due on April 26, 2016. Visit www.epa.gov/cleandiesel for more information.

DVRPC has made \$20 million available for transportation projects that reduce congestion and improve air quality in Pennsylvania through the regional Congestion Mitigation and Air Quality (CMAQ) Program. CMAQ applications are due on April 21, 2016. Visit www.dvrpc.org/cmaq for more information.



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