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Alert

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

Air Quality Regulations

Study Shows that Improvements in U.S. Air Quality Are Slowing.

New research, published in the *Proceedings of the National Academy of Sciences* in May 2018, found that after decades of progress in improving air quality, reductions of two key air pollutants in the U.S. have slowed significantly in recent years. The unexpected finding indicates that it may be more difficult than previously expected for the nation to decrease ozone pollution.

"Although our air is healthier than it used to be in the 80s and 90s, air quality in the U.S. is not progressing as quickly as we thought," according to Helen Worden, co-author of the study with the National Center for Atmospheric Research,

Nitrogen oxides (NO_x) and carbon monoxide(CO) contribute to the formation of ground-level ozone, a pollutant that is harmful to human health and the environment. Levels of the pollutants have declined significantly since passage of the 1970 Clean Air Act, which spurred development of emission-reducing technologies, such as catalytic converters on automobiles and low NO_x burners at power plants.

The study analyzed extensive satellite and ground-based measurements of NO_x and CO. Researchers found that levels of pollutants that can contribute to the formation of ground-level ozone, or smog, have not declined as quickly as projected in U.S. Environmental Protection Agency (EPA) estimates.

EPA emission estimates are based on monitored readings and engineering calculations of pollutants emitted by vehicles, factories, or other sources.

To obtain a fuller picture of national pollution levels, the researchers turned to satellite instruments that measure levels of NO_x and CO. They analyzed these atmospheric observations with advanced computer simulations and statistical analyses, both to quantify pollutant concentrations and to map their concentrations across the contiguous U.S. The researchers then corroborated their findings with observations from air quality monitoring stations that measure local pollution levels.

The results showed that emission reductions slowed down dramatically in the five-year period from 2011 to 2015, compared to 2005 to 2009. Whereas NO_x concentrations dropped by seven percent annually from 2005 to 2009, they declined by just 1.7 percent annually from 2011 to 2015. Similarly, the study showed that reductions in CO levels have also declined much more slowly in recent years.

The research team originally thought that emissions from Asia could be playing a role in the higher than expected pollutant levels, but this was not supported by the data. The measurements showed that the

Save the Date

Monday-Sunday
June 18-24, 2018

Drexel University
Urban Health Institute

Location of Meeting:
Dornsife School of Public Health
Nesbitt Hall
3215 Market Street
Philadelphia, PA 19104

For more information, please visit: www.drexel.edu

Thursday-Friday
June 21-22, 2018

Eastern PA Freight Summit

Location of Meeting:
Lehigh University
Iacocca Hall
111 Research Drive,
Bethlehem, PA

For more information, please visit: http://lvpc.org/

reductions in the rate of air quality improvements was particularly pronounced in the eastern United States, which was just one of the signs that the pollutants were not coming from Asia.

The authors concluded that some of the reasons for the discrepancy in NO_x levels may be:

1. the declining relative contributions of gasoline cars to NO_x emissions, because of the improving effectiveness of three-way catalytic converters;
2. the increasing relative emissions of NO_x from such sources as industrial, residential, and commercial boilers and off-road vehicles; and
3. slower-than-expected reductions in emissions by heavy-duty diesel trucks that have newer (and still maturing) catalytic converter technologies.

The study concluded that the slowdown in CO emission reductions, which is largely emitted by cars, is likely due to the large gains that have already been achieved by equipping cars with three-way catalytic converters.

The study's finding may lead regulators to re-evaluate strategies to meet the more stringent 2015 ozone standards and re-invigorate efforts to reduce NO_x emissions from power generation and legacy on and off-road diesel equipment.

The research certainly has implications for State Implementation Plans (SIPs) ability to meet the new ozone standards since it is typical for SIPs to assume that currently approved regulations and strategies will be sufficient to meet the new ozone standards once those regulations are fully implemented.

For more information the National Center for Atmospheric Research on NO_x and CO pollution estimates, please visit: http://www.pnas.org/content/115/20/5099.

Air Quality Information

Pennsylvania Launches Implementation Plan for VW Mitigation Trust Funding Program

On May 10, 2018, Pennsylvania Governor Tom Wolf announced the roll out of a new grant and rebate program to improve air quality in Pennsylvania. The program is funded by the $118 million settlement between the Volkswagen (VW) Group of America and the U.S. Environmental Protection Agency (EPA). This is Pennsylvania's share of the penalties assessed to VW for cheating on EPA emissions tests.

The new initiative, called "Driving PA Forward," is aimed at permanently reducing nitrogen oxide emissions statewide by as much as 27,700 tons overall by accelerating the replacement of older, polluting diesel engines with cleaner technologies.

"Clean air is the cornerstone of a clean, healthy environment," said Governor Wolf. "When Volkswagen cheated on its emissions equipment, it undermined that cornerstone. Today, through our new Driving PA Forward initiative, we will begin to remedy that by driving the transition towards advanced zero-emission and low-emission vehicles, and accelerating the build-out of infrastructure necessary to support the next generation of transportation options."

Eight grant and rebate programs will be available over the next five years, with as much as $39 million available for disbursement in the first year of the program. The Pennsylvania Department of Environmental Protection (DEP) will be managing the grant and rebate program which will be rolled out throughout 2018.

According to the DEP, the first funding opportunities will be launched in the summer of 2018.

Eligible project types and funding program details are available at www.depgis.state.pa.us/DrivingPAForward/

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