Group Against Smog and Pollution

We work to improve air quality to ensure human, environmental, and economic health.
What do we know?

Pittsburgh ranks as one of the top 10 most polluted cities in the nation in regard to year-round particle pollution.

Allegheny County ranks in the top 2% of counties in the U.S. for cancer risk from air pollution.

From 2014-2016, four regional air monitors registered particulate matter (PM2.5) concentrations worse than 90% of the U.S.

In 2016, seven out of 10 monitors in the Pittsburgh region had PM2.5 levels in the worst 25% in the nation.
Why do we care?

Air pollution makes people sick, shortens lives, and negatively impacts quality of life.

People and companies may not want to move to a region with poor air quality?

Young people may not want to stay in a city, find a job, raise a family that has poor air quality?
Air Pollution is a Significant U.S. Public Health Concern
Environmental Health Scientists Continue to Study Air Pollution and Human Health

2,894 Publications on “Air Pollution and Human Health” in PubMed since 2016

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<th>Topic Area</th>
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Carbon Monoxide

Lead

Nitrogen Dioxide

Ozone

Particulate Matter

Sulfur Dioxide
What is particulate matter (PM)?
HUMAN HAIR
50-70 μm (microns) in diameter

PM2.5
Combustion particles, organic compounds, metals, etc.
< 2.5 μm (microns) in diameter

PM10
Dust, pollen, mold, etc.
< 10 μm (microns) in diameter

90 μm (microns) in diameter
FINE BEACH SAND

Image courtesy of the U.S. EPA
Health impacts of particulate matter

- Size ~ < 10 μm
  - Coarse particles
  - Upper respiratory tract

- Size ~ < 2.5 μm
  - Fine particles
  - Lower respiratory tract

- Size ~ < 1 μm
  - Inhaleable particles
  - Alveoli

- Size ~ < 0.1 μm
  - Ultrafine particles
  - Bloodstream / whole body
Sources of particulate matter
Ozone

Depending on the molecule’s elevation, it can either be crucial in preventing skin cancer or it can exacerbate asthma, reduce respiratory efficiency, and scar lung tissue.
OZONE FORMATION

Point Sources

Oil and Gas

Area Sources

Biogenic Sources

Non-Road Engines

On-Road Vehicles

Off-Road Engines

Volatile Organic Compounds (VOC) + Oxides of Nitrogen (NOx) = Ozone

Optimum conditions for the formation of ozone include high temperatures and low winds. Sections are not to scale and are for illustrative purposes only.
Ground level ozone
Sulfur Dioxide

- Sulfur dioxide is a gas. It is invisible and has a nasty, sharp smell. It reacts easily with other substances to form harmful compounds, such as sulfuric acid, sulfurous acid and sulfate particles.

- Sulfur dioxide affects human health when it is breathed in. It irritates the nose, throat, and airways to cause coughing, wheezing, shortness of breath, or a tight feeling around the chest.
Top Air Toxics in our region

- Diesel particulate matter
- Formaldehyde
- Benzene (including benzene from gasoline)
- Coke oven emissions
- Carbon tetrachloride
- Acetaldehyde
- Arsenic compounds (inorganic, including arsine)
- Chromium compounds
- 1, 3-Butadiene
Air pollution & your lungs
Asthma
Air pollution and cardiovascular health
Cancer
Brain Health
Especially vulnerable
Our Air Ranks in the Dirtiest 7.2% of U.S. Cities

Select a city from the dropdown on the right to compare our air.

PITTSBURGH 7.2%  
CLEANEST (100%)  
NEW YORK, NY 46.9%  
DIRTIEST (0%)

Inform yourself. Know the sources of pollution near you. Learn when air pollution meetings and hearings are taking place and attend.
• McConway and Torley Foundry in Lawrenceville

• The facility is a synthetic minor source of carbon monoxide (CO) and a minor source of many other things.

• Fence-line monitor in place since April 2011 – Lawrenceville Air Toxic Metals Study. ACHD has committed to keeping that monitor up.

• Facility received operating permit in late 2018
Lawrenceville Toxic Metals Study
MANGANESE
Individual Sampling Results (ng/m³)

- Mn (ng/m³)
- Mn 12-mo avg
The Pressure Chemical Co. is located at 3419 Smallman St., Pittsburgh, Allegheny County and is a synthetic minor source of volatile organic compounds (VOC) and hazardous air pollutants (HAPs) and a minor source of all other criteria pollutants.

A renewal of their permit is out for public comment until March 26, 2019. GASP is reviewing.
Meet Allegheny County’s

**Pressure Chemical Company**

Pressure Chemical Company is the eighth-most toxic active air polluter in Allegheny County (originally tenth-most toxic, this facility moved up the list with the closure of the Koppers Inc. Clairton Tar Plant in late 2016). There are 167,600 residents within three miles of this chemical manufacturer, which is located in Lawrenceville, one of the most densely populated neighborhoods in Pittsburgh.
Sunoco

- Title V permit renewal date is 12/30/2015.
- ACHD says Title V permit currently in draft.

The facility is a major source of Volatile Organic Compounds (VOCs) and a minor source of Particulate matter (PM), Particulate Matter < 10 microns in diameter (PM-10), Sulfur Dioxide (SO2), Nitrogen Oxides (NOX), Carbon Monoxide (CO) and Hazardous Air Pollutants (HAPs) as defined in section 2101.20 of Article XXI.
Diesel Particulate Matter is one of the greatest inhaled air toxics cancer risk in the region.
What is the Pennsylvania law?

► On-road diesel vehicles can only idle 5 minutes in an hour.

► Buses can idle for up to 15 minutes during a 60-minute period but only when passengers are aboard.

► Owners and operators of locations where these vehicles load or unload must erect and maintain idling restriction signs.

Report excessive idling to PA Department of Environmental Protection and/or police.
Why cleaning up diesel is critical

• Many health impacts associated with exposure to diesel emissions
• Occupational exposure
• Like an asphalt road, the black carbon found in diesel exhaust absorbs sunlight and heats up the atmosphere.
Pittsburgh Clean Construction Diesel Operations legislation

- Legislation amended and passed in July 2016
- Went into affect October 1, 2016.
- First city project to include clean construction specs. will break ground in May in Duck Hollow
Regulatory Agencies

Environmental Protection Agency (EPA)

• Implement Clean Air Act through Rulemaking
• Set standards for Air Quality
• Funds States/Locals to implement Rules & Meet Standards
• Responsible for technology to measure pollution
Allegheny County Health Department
Air Program (and PA Department of Environmental Protection in counties outside of Allegheny & Philadelphia)

• Measure Air Quality
• Regulate and Permit Pollution Sources
• Implement Federal Rules
• Develop Plans to Meet NAAQS
• Track Emissions
Figure 4 Air Monitoring Network Map
Having a bad air day?

Download and use the Smell PGH app, created by Carnegie Mellon University’s CREATE Lab, which allows you to report foul odors directly to the Allegheny County Health Department (ACHD)

or

Call Allegheny County Health Department (ACHD) every time you smell a foul odor or when you see thick smoke coming from industry.

(412) 687-ACHD or on-line:
https://www.alleghenycounty.us/Health-Department/Programs/Air-Quality/Report-an-Air-Quality-Complaint-Form.aspx
This is a message from Allegheny Alerts.

Wednesday, March 13, has been projected to be a poor air dispersion day across Allegheny County. Poor air dispersion traps pollutants close to the surface. There is the potential for higher than normal readings for both SO2 and PM 2.5, which can affect sensitive populations, especially those with respiratory conditions. For more information on its impact on your health, visit: http://bit.ly/2su7Gzj
The H$_2$S standard has been violated on average more than fifty times a year, over the past six years, at the Liberty Borough monitor in the Mon Valley.

Sign our petition calling on the Allegheny County Health Department to enforce the repeatedly-violated hydrogen sulfide standard: http://gasp-pgh.org/petition-achieve-the-hydrogen-sulfide-standard/
Citizen Science – air monitoring

Flow makes air quality data personal

We hear about entire cities having a pollution problem. But in reality what you breathe can change dramatically simply from one street to the next. Flow is the intelligent device that fits into your daily life and helps you make the best air quality choices for yourself, your family, your community.
Make your voice heard

- Write letters to the editor
- Speak at public hearings – including Board of Health mtgs.
- Discuss with your city/county council person, state/federal representative, etc.
- Discuss with your friends and family
- Talk with your physician
- Do your part to reduce your own emissions
- Become a member of GASP
Get Involved and Learn More

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