



SOOT AND SMOG IN MICHIGAN

What is Soot?

- Known by scientists as particulate matter, soot is a complex mixture of extremely small particles and liquid droplets, made up of acid, organic chemicals, metals, sand soil or dust particles. Coal-fired power plants are a major source of soot, as are diesel trucks and wood-burning stoves.
- Soot particles are tiny—30 times smaller than a human hair—so small that they get deep into the lungs and can cause lung and heart problems, contributing to heart attacks, strokes and asthma attacks.

What is Smog?

- The term “smog” was first used in London during the early 1900’s to describe the combination of smoke and fog. What we typically call “smog” today is a mixture of pollutants but is primarily made up of ground-level ozone. Ozone is an air pollutant that forms in the atmosphere when hydrocarbon vapors react with nitrogen oxides in the presence of sunlight.
- Smog is made up of a combination of air pollutants that can harm health, harm the environment, and cause property damage. Smog causes health problems such as difficulty in breathing, asthma, reduced resistance to lung infections and colds, and eye irritation.

How Do They Harm the Body?

- Soot particles lodge deep inside the lungs and heart. Soot is loaded with toxic chemicals such as lead, mercury, arsenic and other cancer-causing carcinogens.
- When a person inhales ozone, it oxidizes, or reacts chemically with the body’s internal tissues. This causes inflammation, like a sunburn inside the lungs. At the levels typically found during the summer months, smog is a powerful respiratory irritant.

Soot and Smog in Michigan

- Michigan currently gets more than 50 percent of its electricity from coal, a leading producer of soot, and a major contributor to smog on warm days. In fact, Michigan ranks 5th in the nation in premature deaths, hospital admissions, and heart attacks attributed to coal-fired power plant pollution. These health impacts cost Michiganders more than \$1.5 billion per year in health-related damages. We can do better.
- Smog is getting worse in communities across Michigan. According to 2014 data, over 20 Michigan counties received a failing grade for their smog levels, putting the health of nearly 6.5 million Michiganders at risk.
- Although soot levels have been improving over the last few decades, 1.8 million Michiganders still live in areas that have unacceptable levels of particulate matter pollution.

A Healthier and Cleaner Future is Possible

Soot and smog pose health risks for millions of Michiganders. Transitioning to clean energy sources and being more energy efficient will reduce pollution and give Michigan cleaner and healthier air, improving health outcomes and saving us money on health care.

Here are two ways we can get there:

1. Tell your Michigan legislators that we can and should think of ways to increase the amount of renewable energy and energy efficiency we use in our state. After all, our energy policy can protect our health.
2. The EPA Clean Power Plan will reduce dangerous pollution that causes asthma attacks, as well as heart disease, cancer and premature death. Ask Governor Snyder to support the Clean Power Plan so that we can smooth our transition to clean, renewable energy.

SOURCES:

- US Environmental Protection Agency
- “Public Health Impacts of Old Coal-Fired Power Plants in Michigan,” prepared by Environmental Health & Engineering, Inc. for Michigan Environmental Council, 2011
- The American Lung Association’s 2014 “State of the Air” Report



ABOUT MI AIR, MI HEALTH

The MI Air, MI Health Coalition works to ensure that all Michigan communities have clean, healthy air. We organize health professionals to advocate for policies that improve outdoor air quality, and improve a range of health impacts caused by unhealthy outdoor air and climate change, and reduce the healthcare costs we bear because of unhealthy outdoor air.

OUR MISSION

MI Air, MI Health is committed to ensuring healthy air for Michigan communities by assessing the health effects of air quality and advocating for the development, implementation, and enforcement of policies to address these issues, recognizing that clean air contributes to a healthy economy.

To learn more, contact Rory Neuner, MI Air, MI Health Coordinator at rory@miairmihealth.org.



miairmihealth.org



facebook.com/MIAirMIHealth



twitter.com/MIAirMIHealth