Air Pollution in Pennsylvania

In Pennsylvania, air pollution has a serious impact on public health. A 2020 study by Dedoussi et al. reported that around 5,000 people died prematurely due to air pollution-related illnesses in 2018 in the state. Earlier in 2019, a collaborative report from the American Thoracic Society and New York University's Marron Institute for Urban Management evaluated that the Pittsburgh region had the fourth most air-pollution related deaths of any metro area in the country.

A combination of industrialization and natural factors have defined Pennsylvania's environmental challenges. One paradigm is the city of Pittsburgh. Situated on the intersection between the Allegheny, Monongahela, and Ohio Rivers, Pittsburgh turned into an attractive location for settlement, trade, and industry. Adding to the city's appeal was the discovery of the Pittsburgh coal seam. Pittsburgh developed into industrial metropolis in the late 19th and early 20th century. The city's industrial boom, marked with the proliferation of new steel mills, iron factories, homes, railroads, and steamships, also led to the city's reputation, nationally and internationally, for its dirt and filth. Even more unique, Pittsburgh's air problem was only intensified by its natural surroundings.

Pittsburgh was not the only region heavily affected by industrialization. Along the Monongahela River southwest of Pittsburgh lies Donora. In this town, a nationally notorious air disaster occurred in October 1948, causing half of the town's 14,000 residents to become ill and nearly 40 people to die. Even though the cause of this disaster was disputed, it motivated scientists and policymakers to focus on the association between air pollution and health outcomes more seriously. In the 1970s, the federal government started to take legislative action to regulate air pollution through the Clean Air and Water Act. In fact, the 1948 Donora Smog incident played an indirect role in establishing the US Environmental Protection Agency.

With the environmental list movement, citizens joined scientists and politicians, investing in efforts to control air pollution. In Pittsburgh alone, thousands of civic and social reformers in the 20th century urged coal burners to tend their boilers more carefully, hoping that the actions might result in less smoke. This social organization catalyzed the establishment of the Air and Waste Management Association. With serious effort in Pittsburgh and across the state of Pennsylvania, studies observed a decrease in the average exposure of the general public to particulate matter between the early 2000s and 2019.

Still, the challenge is far from over. Ozone, which can cause asthma, especially in children, remains a struggle for many areas of Pennsylvania which have failed to comply with the National Ambient Air Quality Standard. Mercury emissions from coal-burning power plants have adversely affected soils and streams. The passion to protect the environment continues to be

shared amongst not only legislators. businesses, non-profits, and activists but also individual citizens.

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Information gathered from Dedoussi et. al.'s "Premature mortality related to United States cross-state air pollution" in *Nature*, 578, 261-265(2020); *Devastation and Renewal: An Environmental History of Pittsburgh and Its Region (Pittsburgh Hist Urban Environ)* by Joel A. Tarr; "Major Natural Resource Issues Facing Pennsylvania," Pennsylvania Envirothon (https://www.envirothonpa.org/documents/1-MajorNaturalResourceIssues.pdf); Ryan Deto's "Study estimates Pittsburgh ranks 4th in air pollution-related deaths nationally" in Pittsburgh City Paper (https://www.pghcitypaper.com/pittsburgh/study-estimates-pittsburgh-ranks-4th-in-air-pollution-related-deaths-nationally/Content?oid=15182486); "Donora, Pennsylvania" in Lynne Page Snyder's *Pollution A to Z (Vol. 1)*, and "Air Pollution in Pennsylvania", America's Health Rankings (https://www.americashealthrankings.org/explore/annual/measure/air/state/PA).