STATE OF GLOBAL AIR /2020

United States

Air pollution was the 12th leading risk factor for premature death in the United States in 2019, accounting for 2% of all deaths (more than 60,000). Considered separately, ambient particulate matter ($PM_{2.5}$) ranked as the 16th leading risk factor, while household air pollution (HAP) and ozone were not in the top 20 risk factors.
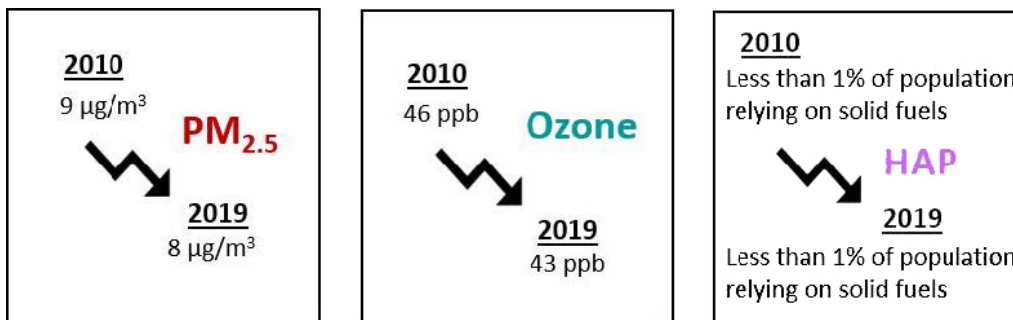
Key Statistics at a Glance

60,000 deaths due to air pollution in 2019.

Nearly 4% of infant deaths attributable to air pollution.

8 μg/m³ population-weighted annual average $PM_{2.5}$ concentration.*
Nearly 48,000 deaths attributable to exposure to outdoor PM2.5.

43 ppb average seasonal population-weighted ozone.
Nearly 13,000 deaths attributable to exposure to ozone.

Key Exposure Facts

5% of the U.S. population lives in areas where $PM_{2.5}$ levels are above the WHO guideline for healthy air (10 μg/m³). **

- Between 2010 and 2019, exposures to $PM_{2.5}$, household air pollution, and ozone all declined.

- There are more than 1,600 stations reporting $PM_{2.5}$ concentrations in the U.S.

- Among the 34 countries in the High-Income region, the U.S. ranks 25th in $PM_{2.5}$ exposure.

How Have Pollutant Exposures Changed Between 2010 and 2019?

2010
9 μg/m³
PM2.5
2019
8 μg/m³

2010
46 ppb
Ozone
2019
43 ppb

2010
Less than 1% of population relying on solid fuels
HAP
2019
Less than 1% of population relying on solid fuels

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* Please note that $PM_{2.5}$ concentrations reported here are estimated using a combination of satellite data, ground air quality monitoring data, and chemical transport models. These estimates can be more uncertain in regions where ground monitoring data are limited or not available. In the United States, the best estimate of the annual average exposure is 7.7 μg/m³, but it may range from 7.6 μg/m³ to 7.8 μg/m³.
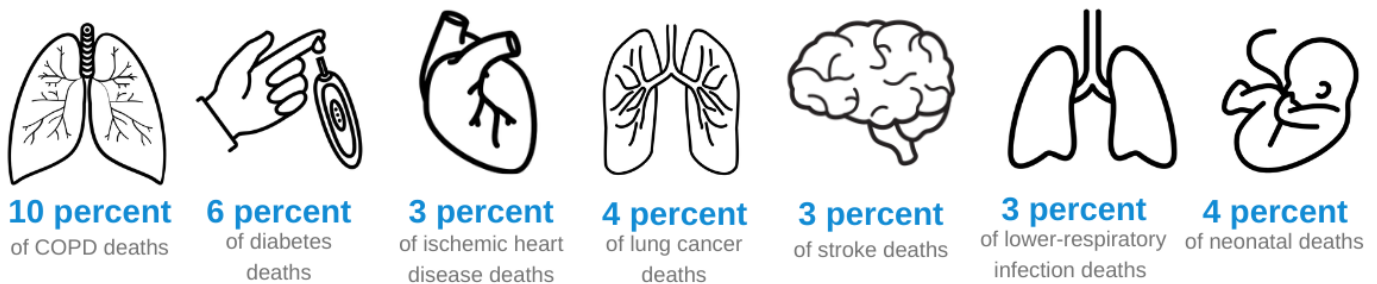
** WHO provides an Air Quality Guideline of 10 μg/m³ for $PM_{2.5}$ to minimize health risks to populations, as well as three interim targets (15 μg/m³, 25 μg/m³, and 35 μg/m³) as incremental steps toward the progressive reduction of air pollution.

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Air Pollution Accounts for a Substantial Percentage of Global Deaths from Specific Causes.

Air pollution exposures, including exposure to outdoor $PM_{2.5}$ and HAP, have been linked to increased hospitalizations, disability, and early death from respiratory diseases, heart disease, stroke, lung cancer, and diabetes, as well as communicable diseases like pneumonia. Exposure to ozone is linked to chronic obstructive pulmonary disease (COPD), and in children, especially those under the age of 5, increases susceptibility to lower-respiratory tract infections. Exposure to $PM_{2.5}$ also puts mothers at risk of delivering babies too early and smaller than normal, and such babies are more susceptible to dying from a range of diseases.

Percentage of Deaths (by Cause) Attributed to Air Pollution in the United States in 2019

10 percent of COPD deaths   **6 percent** of diabetes deaths   **3 percent** of ischemic heart disease deaths   **4 percent** of lung cancer deaths   **3 percent** of stroke deaths   **3 percent** of lower-respiratory infection deaths   **4 percent** of neonatal deaths

Key Health Facts

- Air pollution is the 12th leading risk factor for premature death in the United States. Leading causes of death in the United States include ischemic heart disease, lung cancer, COPD, Alzheimer's disease, and ischemic stroke, while leading risk factors include tobacco, high blood pressure, poor diet, and high BMI.

- There are 11 deaths per 100,000 people attributable to air pollution in the United States compared with 86 deaths globally, adjusted for differences in age.

- 2% of total air pollution-attributable deaths in the United States are in children under 5, and 2% are in people over 70.

FOR MORE INFORMATION:

For the full report and additional data, please visit www.stateofglobalair.org.

ADDITIONAL RESOURCES:

To access real-time air quality index values for cities around the world, visit AQICN.

For open-access, real-time air quality data, visit OpenAQ.

For information on air pollution and lung health, visit American Lung Association.

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For more details, please visit:
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The State of Global Air website is a collaboration between the Health Effects Institute and the Institute for Health Metrics and Evaluation, with expert input from the University of British Columbia.