America's Skies Have Gotten Clearer, but Millions Still Breathe Unhealthy Air

By NADJA POPOVICH JUNE 19, 2019

When asked about climate change, President Trump often shifts the focus to America's "clean air."

"We have the cleanest air in the world in the United States and it's gotten better since I'm president," he said again this month while meeting with Prime Minister Leo Varadkar of Ireland.

America's air is much cleaner than it used to be, but it's still not "the cleanest." And recent data suggests that air pollution is ticking back up.

By one crucial metric, fine particulate pollution, the United States ranks 10th in air quality. New Zealand, Canada, Australia and several European countries can boast clearer skies.

This microscopic pollution – known as PM2.5 (because the airborne particles are less than 2.5 micrometers in diameter, or one-thirtieth the size of a human hair) – is a byproduct of burning and commonly comes from power plants, car exhaust and wildfires. It is particularly harmful to human health, causing asthma and respiratory inflammation and increasing the risk for lung cancer, heart attack and stroke.

But America's air wasn't always so clear. Particulate matter and other pollution have dramatically decreased over the past 40 years, in large part because of regulations put in place under the Clean Air Act of 1970 and its later updates, experts say.

That wide-ranging law gave the Environmental Protection Agency power to regulate pollution from stationary sources (like power plants, chemical factories and gas stations) and mobile ones (like cars, trucks and planes). It also established exposure limits for particulate matter and five other air pollutants hazardous to human health, which the E.P.A. is required to regularly review and update based on the latest science.

In 2009, the agency moved to regulate climate-warming greenhouse gases under the Clean Air Act.

Better air quality has saved lives, but millions of Americans still breathe unhealthy air.

These pollution reductions have had big public health benefits.

Deaths related to air pollution fell by about 30 percent between 1990 and 2010, according to a recent study, primarily because of reductions in particulate pollution. Other research suggests that cleaner air has extended American life expectancy by several months and improved children's health.

But, despite these gains, more than 110 million Americans still live in counties with unhealthy levels of pollution, according to the E.P.A. An estimated 100,000 Americans die prematurely each year of illnesses caused or exacerbated by polluted air.

"We've seen tremendous progress in reducing air pollution in the U.S.," said Paul Billings, a representative of the American Lung Association, which advocates for air quality improvements.

"Cars and trucks are much cleaner than they were, power plants are cleaner, industrial operations are cleaner," he said. "But cleaner air is not clean air."

Many parts of the country, particularly Los Angeles and California's Central Valley, continue to struggle with ground-level ozone, which forms when other pollutants react in the presence of sunlight and heat. This type of pollution, also known as smog, can damage the lungs and cause other serious health problems and death.

But even people living in areas that meet national standards for fine particulate matter and ozone may experience harm from air pollution. Scientists say there is no set limit below which exposure to these pollutants can truly be considered safe.

"There are still health effects at the lower levels of pollution," said Beate Ritz, a researcher at the University of California, Los Angeles, who studies the public health impacts of air pollution.

"It's the difference between having very acute, very bad effects where you might be hospitalized versus potentially having a lower IQ in your child," she said. Scientists are only beginning to understand the broad health impacts of breathing polluted air, she added.

Climate change could make air pollution worse.

A report issued this year by the American Lung Association found that air pollution was ticking back up across much of the country and warned that climate change could make it "harder to protect human health" in the future.

The report described increases in both short-term particulate pollution and ground-level ozone from 2015 to 2017, compared to the previous three-year period. Wildfires contributed to higher levels of PM2.5 pollution in the West, while the rise in ozone was attributed to warmer temperatures. (2015, 2016 and 2017 were the three warmest years on record, globally.)

"Under climate change, we expect air pollution to be worse," said Jason West, a professor of environmental science at the University of North Carolina, Chapel Hill. Ozone, for example, forms more readily in higher heat.

But he warned against interpreting the recent spikes in pollution as an indication of broader changes to the country's air quality trajectory. "We're only looking at a couple of years so far," he said.

The Trump administration is rolling back some air pollution rules.

At the same time, the Trump administration has taken steps to weaken air quality and climate regulations.

Two major actions include repealing the Obama-era Clean Power Plan, which sought to slash greenhouse gas emissions and lower pollution from power plants, and rolling back national auto emissions standards.

The E.P.A. has also proposed changing how it calculates the health risks of air pollution and which studies can be used to inform pollution standards.

Mr. Billings, of the American Lung Association, called climate change and deregulation dual threats to future air quality.

Instead of continuing the progress of the past decades, he said, "there's a fear we will see air pollution get worse."

Additional work by Jugal K. Patel.

Correction: June 20, 2019

An earlier version of a map with this article showed incorrect numbers for pollutants that exceed E.P.A. limits in some United States counties. The map showed the number of standards exceeded per county; it should have shown the number of individual pollutants.