

Will EPA Cuts Harm America's Air Quality?

The Narrative

"[L]awmakers must reject Trump's cuts to the EPA—for the sake of all Americans' health."¹

CHRISTINE TODD WHITMAN, FORMER EPA ADMINISTRATOR

"The brunt of these cuts will be borne by people's hearts and lungs and disproportionately effect [sic] those in the major metropolitan areas and those who are poor and can't fend for themselves."²

BILL BECKER,
NATIONAL ASSOCIATION
OF CLEAN AIR AGENCIES

"Turning back the clock to 1977 will not 'Make America Great Again.' It will 'Make America Gag Again.'"³

CONRAD SCHNEIDER, CLEAN AIR TASK FORCE

Reality

The U.S. has some of the cleanest air in the world, thanks to decades of steady progress that has persisted across Democratic and Republican administrations, as well as across EPA budget expansions and cuts. The EPA standard for fine particulate matter is more than twice as strict as Europe's. The agency's standard for ozone is so strict that some national parks exceed it and President Obama initially rejected it. While environmental activists will always demand larger budgets and tighter standards, Americans can rest assured that they will continue to benefit from outstanding air quality in the years to come.

Key Findings

- Emissions of major air pollutants were 71% lower in 2015 than in 1970; emissions of air toxics were 60% lower in 2011 than in 1990.
 - ◆ Emissions of fine particulate matter have declined 32% over the past 15 years, even as Canada and Europe failed to achieve reductions.
 - ◆ Atmospheric concentrations of fine particulate matter in the U.S. are on par with levels in New Zealand and Iceland but dramatically below levels in major developed economies like the United Kingdom, France, Germany, and Japan.
- Gains on every pollutant proceeded during the aggressive EPA budget and staff cuts of the Reagan administration and were generally as fast during the Reagan and Bush administrations as during the Clinton and Obama administrations.
 - ◆ Atmospheric ozone concentrations fell five times faster during the Reagan and George H. W. Bush administrations than during the Clinton administration; progress accelerated again during the George W. Bush administration.
 - ◆ Fine particulate matter emissions increased during the Clinton administration, before falling sharply during the George W. Bush administration; progress under George W. Bush was nearly twice as fast as under Obama.
- The EPA has repeatedly tightened its standards for acceptable air quality, creating the appearance of serious health risks even as pollution continues to decline.
 - ◆ The threshold for fine particulate matter has been tightened three times in the past 20 years, to a level more than twice as stringent as that in Europe.
 - ◆ The threshold for ozone has been tightened three times, to a level that some national parks cannot meet; yet environmentalists continue to demand that it be tightened further.

The nation's environmental quality has undergone rapid improvement for decades, as older facilities and vehicles are retired and replaced by more efficient ones that pollute less. Since 1980, atmospheric concentrations of lead have declined 99%; carbon monoxide and sulfur dioxide, each 84%; nitrogen dioxide, 60%; and ozone, 32%. Fine particulate matter ("PM2.5"), not even measured in the 1980s, has declined 37% since 2000.⁴

These declines were already under way at the time of the Clean Air Act's passage in 1970,⁵ but the legislation itself applies an ever-tightening ratchet that ensures each new generation of equipment is cleaner than the last and employs the best available technology. Alongside this legislative ratchet, environmentalists maintain a rhetorical one: any step that might further reduce emissions is regarded as common sense, while anything else represents a calamity. As *Science* recently described this perspective, "the goal for policymakers worldwide should be to push down levels as far as possible. When all the research is in, [University of Southern California neuroscientist Caleb] Finch says, 'I think [air pollution] will turn out to be just the same as tobacco—there's no safe threshold.'"⁶

Thus, the lower emphasis accorded to environmental protection by the Trump administration has triggered alarm. But the actions proposed—namely, reducing the EPA budget and reversing some actions taken by the Obama administration—will not undo past gains or even halt forward progress. Air quality

during the Trump administration will be the best on record in the United States and far better than levels recorded in many purportedly more enviro-conscious European countries.

How Clean Is America's Air?

Controls on two pollutants, PM2.5 and ozone, are responsible for nearly all the health benefits—such as reduced mortality, hospitalizations, and asthma attacks—that the EPA claims to deliver via its air regulations. PM2.5 accounts for more than 90% of the benefit claimed by the EPA from clean air regulations⁷—and, indeed, the majority of all benefits—claimed by federal regulators across agencies over the past decade.⁸

According to the World Health Organization, the average atmospheric concentration of PM2.5 across the United States is 8.3 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$), similar to the 7.6 $\mu\text{g}/\text{m}^3$ in Iceland and 8.0 $\mu\text{g}/\text{m}^3$ in New Zealand and far lower than levels in comparable major economies like France (12.1), the United Kingdom (12.2), Germany (13.5), and Japan (14.6).⁹ Only 10 American localities, with Fresno, California, the only city of significant size, have concentrations above the EPA-set target of 12 $\mu\text{g}/\text{m}^3$.¹⁰ None even approaches the European standard of 25 $\mu\text{g}/\text{m}^3$.¹¹

While PM2.5 emissions in the U.S. have declined rapidly since 2000, Canada reported no progress¹² and Europe reported a slight increase.¹³ London, Paris, Amsterdam, Frankfurt, and

On the Record

Clean air should be a priority for all Americans, but thankfully it has been achieved. Air pollution has declined more than 70% since the passage of the Clean Air Act in 1970; even this nation's most crowded cities enjoy air quality far superior to that of European capitals. This progress has continued across Democratic and Republican administrations, EPA expansions and EPA cuts, aggressive federal action and delegation to states, and it will continue under a Trump administration as well.

Oren Cass, Senior Fellow, Manhattan Institute

Berlin would all be among the dirtiest cities if they were in the United States; Brussels would be the dirtiest.¹⁴

Who Deserves Credit?

There is no correlation between the policy emphasis placed on environmental regulation by each presidential administration and the resulting declines in air pollution. Pollution has fallen without exception; emissions of large particulate matter fell fastest in the Reagan and George H. W. Bush years, volatile organic compounds under Clinton, fine particulate matter under George W. Bush, and sulfur and nitrogen dioxides under Obama.¹⁵ Ozone is not emitted directly but rather forms from chemical reactions in the atmosphere, but its atmospheric concentration fell fastest under Reagan and George H. W. Bush.¹⁶

In the first two years of the Reagan administration, the EPA's budget was cut by one-third and its staff by one-fifth. The agency pursued a "sweeping delegation of administrative and enforcement responsibilities to states without the resources to handle them," according to the *New York Times*. "Once noted for its efficiency and esprit, the agency is now demoralized and virtually inert."¹⁷ Yet emissions of every major air pollutant fell during Reagan's time in office.¹⁸ PM2.5 was not yet a focus of EPA regulation or monitoring. But during those first two years, ozone concentrations plummeted—at a rate more than 10 times faster than during the subsequent Clinton administration and three times faster than during the Obama administration.¹⁹

Further, the state delegation appears to have worked. *FiveThirtyEight* acknowledges that "there's not much evidence that Reagan and [EPA administrator] Gorsuch actually harmed the environment." One study that it cites "found that, by the mid-1980s, states were pushing each other toward improved environmental outcomes in a sort of intergovernmental game of one-upmanship." Another one concludes that "decentralization of enforcement didn't make environmental outcomes worse than they otherwise would have been."²⁰

Overall, during the Reagan-Bush years of 1981–92, ozone concentrations fell on average by 1.5% per year; by comparison, the average decline was 0.3% during the Clinton years. This was not because all the "easy" gains were gone. The annual rate of decline accelerated again to 1.1% during the George W. Bush years and further to 1.2% during the Obama years; however, even the Obama EPA did not match the Reagan-Bush pace.²¹

This story repeats itself with PM2.5, for which EPA records begin in 1990. Emissions actually climbed during the Clinton years, at an average annual rate of 1.3%, before falling by 3.2% per year under George W. Bush. That progress was almost twice as fast as the 1.8% average decline achieved during the Obama years.²²

A Permanent Crisis

The Trump administration's planned approach to environmental regulation and enforcement is likely to provide flexibility, reduce cost, and promote economic growth. There is no evidence,

however, that it will stall progress on overall emissions reductions, let alone reverse course and lead to increased pollution levels. Indeed, critics are rarely clear about the mechanism by which they believe disaster will strike: even if the EPA has fewer enforcement resources, it is difficult to envision major emitters violating federal law by shifting back to outdated technologies. Perhaps the EPA will slow its development of new regulations, but those on the books already ensure continued progress through the heightened demands that they impose on new sources of pollution.

Still, the sense remains that America's air is under attack—a sense fostered by endless proposals to continually tighten standards, which have the effect of making the status quo appear untenable. The demand for tighter standards has been especially popular with respect to ozone. In 1997, the Clinton administration tightened the threshold for ozone²³ from 125 parts per billion (ppb) to 84 ppb. In 2008, the Bush administration tightened this to 75 ppb; and in 2015, the Obama administration tightened it further still, to 70 ppb.²⁴ The result: the EPA can report a seemingly alarming fact that more than 100 million Americans live in counties whose air quality fails to meet its standard.²⁵ Indeed, some national parks fail to meet it.²⁶

But the problem is not with the quality of the air; it is with the goalposts. Joel Schwartz and Steven Hayward of the American Enterprise Institute illustrated the problem well in 2007: by 2006, nearly the entire nation had moved into compliance with the then-current standard. Shifting the standard to 70 ppb would have moved two-thirds of the nation's metropolitan areas from "in compliance" to "out of compliance."²⁷ That is exactly what the Obama administration ultimately did.

This remains an active battleground. The Trump administration has indicated that it may not defend the 70 ppb standard in litigation, prompting one Earthjustice attorney to warn that the administration "is taking the first step toward tearing down a crucial protection against dirty air."²⁸ But President Trump would only be following in the footsteps of President Obama, who, gearing up for his reelection campaign in 2011, rejected the 70 ppb standard. He allowed the new standard to be adopted only after his reelection.²⁹

Endnotes

- ¹ Christine Todd Whitman, "I Ran George W. Bush's EPA—and Trump's Cuts to the Agency Would Endanger Lives," *The Atlantic*, Mar. 31, 2017.
- ² Oliver Milman, "Conservatives Cheer EPA Cuts That Activists Fear 'Will Be Borne by Lungs,'" *The Guardian* (UK), Mar. 11, 2017.
- ³ Valerie Volcovici and Timothy Gardner, "EPA Hit Hardest as Trump Budget Targets Regulations," Reuters, Mar. 16, 2017.
- ⁴ "Air Quality—National Summary," U.S. Environmental Protection Agency.
- ⁵ Joel M. Schwartz and Steven F. Hayward, "Air Quality in America," American Enterprise Institute (Washington, D.C., AEI Press, 2007).
- ⁶ Emily Underwood, "The Polluted Brain," *Science*, Jan. 26, 2017.
- ⁷ "The Benefits and Costs of the Clean Air Act, 1970 to 1990," U.S. Environmental Protection Agency, October 1997 (table ES-4); "The Benefits and Costs of the Clean Air Act, 1990 to 2020," U.S. Environmental Protection Agency, April 2011 (table 5-6).
- ⁸ Susan E. Dudley, "OMB's Reported Benefits of Regulation: Too Good to Be True?" *Regulation*, Summer 2013.
- ⁹ "WHO Global Urban Ambient Air Pollution Database," World Health Organization, May 2016. See also "Particulate Matter (PM_{2.5}) Trends," U.S. Environmental Protection Agency. The average PM_{2.5} concentration across U.S. cities in the WHO database is 8.32 in 2016, whereas the EPA reports a national mean concentration in 2015 of 8.49. WHO data for the U.S. are used here for consistency in cross-national comparisons.
- ¹⁰ "NAAQS Table," U.S. Environmental Protection Agency.
- ¹¹ "Air Quality Standards," European Commission, updated June 8, 2016.
- ¹² "GEO-6: Regional Assessment for North America," U.N. Environment Programme, 2016 (figure 6.2.1.4(d)).
- ¹³ "GEO-6: Regional Assessment for the Pan-European Region," U.N. Environment Programme, 2016 (figure 6.2.3.2).
- ¹⁴ See n. 9; see also Michael Greenstone, "Pollution Around the World: A Matter of Choices," *New York Times*, Dec. 30, 2014.
- ¹⁵ "Air Pollutant Emissions Trend Data," U.S. Environmental Protection Agency. Emissions data exclude wildfires, consistent with figures used by the EPA in its own summary statistics.
- ¹⁶ "Ozone Trends," U.S. Environmental Protection Agency.
- ¹⁷ "Environmental Agency: Deep and Persisting Woes," *New York Times*, Mar. 6, 1983.
- ¹⁸ "Air Pollutant Emissions Trend Data."
- ¹⁹ "Ozone Trends."
- ²⁰ Maggie Koerth-Baker, "A Weaker EPA May Not Mean the Environment Goes to Hell," *FiveThirtyEight*, Apr. 4, 2017.
- ²¹ "Ozone Trends."
- ²² "Air Pollutant Emissions Trend Data."
- ²³ John H. Cushman, Jr., "Clinton Sharply Tightens Air Pollution Regulations Despite Concern Over Costs," *New York Times*, June 26, 1997.
- ²⁴ "Table of Historical Ozone National Ambient Air Quality Standards (NAAQS)," U.S. Environmental Protection Agency.
- ²⁵ "Air Quality—National Summary."
- ²⁶ "Ozone Standard Exceedances in National Parks," U.S. National Park Service, Dec. 8, 2016.
- ²⁷ Schwartz and Hayward, "Air Quality in America."
- ²⁸ Juliet Eilperin, "It's Not Just Climate: EPA Hints That It Could Roll Back Obama's Smog Rule," *Washington Post*, Apr. 7, 2017.
- ²⁹ John M. Broder, "Re-Election Strategy Is Tied to a Shift on Smog," *New York Times*, Nov. 16, 2011.