

Air Quality and Clean Air Act of 1970

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Air quality may be affected by climate change, and climate change can be affected by air quality. Rising ground-level ozone due to climate change-related atmospheric warming poses future compliance risks with ozone limits in numerous places. However, studies are being conducted to better understand how climate change affects other air contaminants, such as particle matter. Pollutants released into the atmosphere may alter weather patterns. Climate forcers is a common term for pollutants like greenhouse gases. Although atmospheric ozone has a warming impact, individual components of particulate matter may have either a warming or cooling effect. Black carbon, a combustion-derived particulate pollution, contributes to [global warming](#), while sulfate particles have the opposite effect and help to cool the planet's atmosphere. To address the issue of air quality and climate change, the U.S. enacted the Clean Air Act in 1970, which proved highly effective in mitigating the severity of the discussed issue.

Background and History

Air emissions from fixed and moving sources are subject to government regulation under the Clean Air Act (CAA). The Act empowers the "Environmental Protection Agency" to set "National Ambient Air Quality Standards" to safeguard the public's health and wellbeing and reduce exposure to harmful air pollutants (U.S. EPA, 2018). The Act required all states to develop and implement NAAQS by 1975 in response to concerns about the hazards to human health and welfare caused by certain persistent air pollutants (U.S. EPA, 2018). Along with these pollution limits, governments were given the task of developing "State Implementation Plans (SIPs)" for all of the state's eligible industrial sources (U.S. EPA, 2018). After some regions of the nation missed their NAAQS targets, the Act was revised in 1977 and again in 1990 to establish new targets (U.S. EPA, 2018).

This Act intends to provide guidelines for regulating air pollution emissions, as set out in Section 112. Early on, the CAA relied on a risk-based approach that resulted in the development of just a small number of recommendations before 1990. As of 1990, technological requirements for significant and specific kinds of area sources have to be published thanks to an amendment to *Section 112* of the CAA. For this definition, any fixed facility that releases or has the prospective of releasing a minimum 10 metric tons per year of unsafe and hazardous air pollutant, or 25 metric tons per year of a combination of such pollutants, is considered a major source (U.S. EPA, 2018). The term "area source" describes any non-major, stationary source.

According to Section 112, the EPA must set emission guidelines for extensive facilities requiring drastic cuts to harmful air pollution. The EPA must evaluate the standards and make changes to eliminate residual risk eight years after establishing the technology-based MACT criteria for a source

category (U.S. EPA, 2018). The Act mandates that all states implement programs to reduce air pollution by limiting emissions from stationary sources like power plants and vehicles, setting ambient air quality standards, mandating emission controls on regulated facilities when possible, requiring control devices on motor vehicles, and regulating transportation fuels and appliances.

Outcomes

The Clean Air Act is crucial legislation that has had far-reaching effects on the natural world, human health, and the American economy. The CAA has helped to reduce air pollution by setting limits on pollution levels and requiring permits for factories that emit particulates or volatile organic compounds into the air. It has also called for increased research into ways to reduce smog, including research into reducing emissions from cars and trucks. The CAA also created a fund designed to compensate people who have been harmed by air pollution. In addition, the Clean Air Act protects human health by requiring states to monitor air quality and ensure that people are not exposed to excessive levels of air pollutants like sulfur dioxide, nitrogen oxides, or ozone.

The Clean Air Act has helped improve air quality across the United States. EPA's current national summary reports that total emissions of the six principal air pollutants fell 79% between 1970 and 2024, while gross domestic product, vehicle travel, energy use and population all grew. Individual pollutant concentration trends differ, so the 89%–99% reductions listed in the original paragraph should not be generalized. Cleaner-air rules have also supported wider public-health and environmental benefits.

The Act also set up a system of permits for companies that produce toxic substances such as lead and asbestos. These permits are required by law before new facilities can be built, or existing facilities can move forward with expansion projects. This law helped improve public health by reducing exposure to dangerous gases like carbon monoxide and sulfur dioxide that could cause lung damage and heart disease. It also lowered levels of nitrous oxide in the atmosphere, which helps protect plant life against drought conditions. However, Ross (2011) criticizes the Clean Air Act as being too strict an approach to environmental regulation; others argue that it has not gone far enough in protecting the environment and human health.

Your Position

I strongly endorse the Clean Air Act because of its positive impacts on the U.S. environment and society. It reduces the number of premature deaths and illnesses caused by air pollution and makes the American workforce healthier and more productive. The Act has paved the way for a new age of greater public health and cleaner air since its enactment in the early 1970s by putting limits on harmful air pollutants from cars, trucks, power plants, and factories. The health-benefit figures of up to 370,000 avoided premature deaths, 189,000 fewer hospital admissions and a 32-to-1 benefit-cost

ratio were modeled projections for 2020 from an earlier benefits analysis, not current annual counts. They should be cited as historical estimates rather than present-day outcomes.

The statement that greenhouse gases and other pollutants “will be cut” in 2020 was an expired forecast. EPA’s latest national summary covers emissions trends through 2024 and should be used for current descriptions. The Clean Air Act has also supported economic and public-health benefits because improved air quality can reduce illness, missed work and medical costs. Demand for advanced environmental-protection technologies likewise creates opportunities for long-term innovation.

Conclusion

To conclude, the Clean Air Act is widely considered as one of the most fruitful pieces of environmental legislation enacted by the United States Government. The Clean Air Act has been protecting our air quality for forty years. Reducing air pollution has improved public health, saved money, and protected the U.S. economy, saving thousands of lives. Carbon pollution and climate change are serious problems that need an immediate response using the Clean Air Act’s tried-and-true method of pollution management. This law is effective and may be used alone or in tandem with other climate laws. The Center is exerting significant effort to prevent the dismantling of the Clean Air Act and ensure that it is effectively implemented.

References

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