



Arizona State Senate Issue Brief

November 3, 2022

Note to Reader:

The Senate Research Staff provides nonpartisan, objective legislative research, policy analysis and related assistance to the members of the Arizona State Senate. The *Research Briefs* series is intended to introduce a reader to various legislatively related issues and provide useful resources to assist the reader in learning more on a given topic. Because of frequent legislative and executive activity, topics may undergo frequent changes. Nothing in the Brief should be used to draw conclusions on the legality of an issue.

THE CLEAN AIR ACT

INTRODUCTION

The Clean Air Act (CAA), originally signed into law in 1963, was substantially amended in 1970 and 1990. The 1970 CAA Amendments expanded the federal government's role in air pollution control shortly after the National Environmental Policy Act established the U.S. Environmental Protection Agency (EPA) to regulate air quality. The EPA establishes levels of National Ambient Air Quality Standards (NAAQS) for certain pollutants, including carbon monoxide, nitrogen oxides, lead, sulfur dioxides, ozone and particulates. The NAAQS prescribe two levels of standards for maximum amounts of pollutants in the air – *the primary standard* to protect human health and the *secondary standard* to prevent damage to the environment and property.¹ The EPA is required to review those standards every five years. (See table on page 5 for a list of NAAQS).

Most major U.S. metropolitan areas have been or are currently designated as *nonattainment areas* for one or more of the NAAQS, which means that the pollution levels exceed the amounts allowed by the EPA primary standards.² The 1970 CAA Amendments began the process of phasing out ozone depleting chemicals and required each state to create a state implementation plan (SIP), which must be submitted to the EPA for approval. The 1990 CAA Amendments address three major threats to the environment and human health including acid rain, urban air pollution and toxic air emissions.

The CAA also addresses the following: 1) greenhouse gases (GHGs); 2) hazardous air pollutants, which are released by chemical facilities including dry cleaners, printing plants and motor vehicles; and 3) reducing emissions from mobile sources by requiring cleaner fuel formulations, manufacturing cleaner running vehicles, requiring vehicle inspection and maintenance programs, and regulating off-highway vehicles.³ The U.S. Supreme Court found in *Massachusetts v. EPA* 549 U.S. 497 (2007) that GHGs meet the definition of air pollutants under the CAA and must be regulated if the gases may reasonably be anticipated to endanger public health or welfare; the EPA has the authority to regulate GHGs under Section 111 of the CAA.

¹ [EPA : NAAQs Implementations Process](#)

² [EPA Green Book](#)

³ [EPA: Summary of the CAA](#); [EPA: 1990 CAA Amendments Summary](#)

The CAA outlines the roles of federal and state governments in the enforcement of air quality regulations. The EPA regulates air quality by region and there are 10 regions throughout the United States. Each EPA Regional Office is responsible for the execution of EPA programs within its designated area.⁴

ARIZONA AND THE CAA

EPA Region 9 consists of Arizona, California, Nevada, Hawaii, the Pacific Islands and 148 Tribal Nations. Indian lands are regulated independently of the state.

The Governor has designated local councils of governments as the principal planning agencies for air quality issues. These agencies submit information to the EPA for approval and coordinate local entities to monitor and enforce air quality requirements. The Maricopa Association of Governments (MAG) oversees air quality issues in the Phoenix metropolitan area and the Pima Association of Governments (PAG) oversees air quality issues in the Tucson metropolitan area.⁵

STATE IMPLEMENTATION PLANS

A SIP establishes measures that will be used to reduce emissions and attain acceptable air quality standards. A separate SIP must be approved for each area designated as a nonattainment area. After the EPA approves a SIP, it becomes federally enforceable and proposed revisions must be approved by the EPA.⁶ The EPA relies on air quality monitors located throughout the area to measure pollution levels and determine whether pollution in the area is decreasing.⁷

If a nonattainment area comes into compliance with EPA primary standards, it is designated as a maintenance area, at which point the EPA must approve a maintenance plan that

provides for ongoing efforts to maintain compliance with air quality standards.

After a state submits a SIP, the EPA must review the SIP and make a finding. If the EPA makes a finding of failure or disapproval, the state has 18 months to correct the deficiency. The CAA outlines possible deficiencies that the EPA may find, including failure to submit a SIP or failure to implement any requirement of an approved SIP. If the state fails to timely correct a deficiency, the EPA is required to impose an offset sanction, which means that new or expanded sources will only be allowed if sufficient reductions are made.⁸ If the SIP is still not corrected 24 months after the finding, the EPA must impose either highway funding sanctions or offset sanctions. Highway sanctions only apply to NAAQS and not to other EPA standards such as GHGs.⁹

ARIZONA'S SIP

Since the mid 1970's, various parts of Arizona have been declared nonattainment areas by the EPA. These areas have not met EPA primary standards for air pollutants such as particulate matter, sulfur dioxide and carbon monoxide.¹⁰

The Arizona Department of Environmental Quality (ADEQ), MAG and PAG share the responsibility of completing Arizona's SIP requirements. The SIPs for Arizona's nonattainment areas cover a variety of air quality improvement measures, including: 1) vehicle emissions inspections requirements; 2) voluntary vehicle retrofit and retirement; 3) carpooling and public transportation improvements; 4) street sweepers; 5) cleaner burning fuels; 6) agricultural best management practices; 7) regulating emissions from industrial and commercial facilities; and 8) dust abatement measures.¹¹

⁴ [EPA: Regional and Geographic Offices](#)

⁵ [MAG: Regional Air Quality Planning; PAG: Air Quality](#)

⁶ [EPA: Basic Information about Air Quality SIPs](#)

⁷ [EPA: Air Data Basic Information](#)

⁸ [EPA: NAAQS Implementation Process](#)

⁹ [EPA: Processing SIP Submittals Memorandum](#)

¹⁰ [EPA: Nonattainment and Maintenance Area Dashboard](#)

¹¹ [EPA: Approved State-Wide Regulations in the Arizona SIP; ADEQ: Air Quality Division](#)

ARIZONA NONATTAINMENT AREAS

There are 16 nonattainment areas and 11 maintenance areas in Arizona. There are different levels of nonattainment (e.g. severe, serious, moderate) based on the extent to which the EPA standards are exceeded. Maricopa County's PM-10 nonattainment area in Phoenix is the only area in Arizona designated as *serious*.¹² PM-10, or particulate matter, is a criteria air pollutant between 2.5 and 10 micrometers in diameter. Examples include dust, soot and other tiny bits of solid materials that are released into and move around in the air.¹³ Although the EPA designated the area serious in 1996, Maricopa County has failed to meet the minimum standard for particulate matter since the CAA was amended in 1970.

As a result, Arizona was required to submit a revised SIP that includes measures to reduce emissions by five percent annually until attainment is met. MAG developed a revised SIP that included 53 control measures from the state, Maricopa County and local governments. ADEQ adopted and submitted the revised SIP to the EPA in 2012 and the EPA approved the revised SIP on May 30, 2014. In December 2021, the EPA officially amended Arizona's SIP by taking final action to approve an assortment of rules submitted by Arizona for various nonattainment areas.¹⁴

Recent Arizona Legislation

In response to the EPA requirement to reduce emissions by five percent each year in the Maricopa County PM-10 nonattainment area, MAG ran models for approximately 40 measures intended to reduce PM-10 emissions. In 2007, legislation was signed into law that implemented several of those measures, including leaf blower restrictions, road paving and stabilization requirements, restrictions on the use of off-highway vehicles, dust control requirements on

construction sites and no-burn restrictions for outdoor fires.¹⁵

[Laws 2011, Chapter 214](#) required ADEQ to develop and disseminate air quality dust forecasts for the Maricopa County PM-10 nonattainment area. The forecasts identify a low, moderate or high risk of dust generation for the next five days. Owners or operators of dust-generating activities in the area must actively control dust emissions during a high-risk day. [Laws 2018, Chapter 126](#) prohibited Stage II vapor recovery systems in ozone nonattainment areas designated as *moderate* or higher, which includes all Arizona nonattainment areas.

CLEAN POWER PLAN

According to the EPA, burning fossil fuels for electricity, heat and transportation generates the largest share of GHG emissions. Transportation accounts for 27 percent of greenhouse gas emissions, electricity production for 25 percent, industry for 24 percent, commercial and residential for 14 percent, agriculture for 11 percent and land use and forestry for 13 percent.¹⁶

In 2014, the EPA submitted a proposal, known as the Clean Power Plan, which aimed for a 30 percent nationwide reduction in carbon emissions from fossil fueled power plants by the 2030. The Clean Power Plan contained state-specific goals for carbon emissions reduction, including a reduction of 702 lbs/MWh for Arizona. Arizona's reduction is based on 2012 emission rates (1453 lbs/MWh) and applies to existing fossil fueled power plants, except plants operated on Indian lands which were addressed in a supplemental proposal.¹⁷

In 2010, the Legislature prohibited a state agency from adopting or enforcing a state or regional program to regulate GHG emissions without express legislative authorization.¹⁸

¹² [ADEQ: Air Quality, Nonattainment Areas](#)

¹³ [ADEQ: Particulate Matter \(PM10 and PM2.5\) Pollution](#)

¹⁴ [EPA CAA Final Action 2021](#)

¹⁵ [Laws 2007, Chapter 292](#)

¹⁶ [EPA: Sources of Greenhouse Gas Emissions](#)

¹⁷ [EPA: Clean Power Plan](#)

¹⁸ [Laws 2010, Chapter 152](#)

On February 9, 2016, the U.S. Supreme Court stayed implementation of the Clean Power Plan, reversing states' requirements to participate in the Clean Power Plan.¹⁹

On March 28, 2017, President Trump issued an [Executive Order](#) compelling immediate review of the Clean Power Plan and rescinding certain policies regarding GHG emissions and clean energy incentive programs.²⁰

In June 2019, the EPA replaced the Clean Power Plan with the Affordable Clean Energy (ACE) rule, which established emissions guidelines for states to use when developing plans to limit carbon dioxide at coal-fired electric utility generating units. The U.S. Court of Appeals for the D.C. Circuit vacated the ACE rule on January 19, 2021. The EPA no longer expects states to take action to develop and submit plans relating to GHG emissions from electric generating units.²¹

ADDITIONAL RESOURCES

- [The Plain English Guide to the Clean Air Act, EPA](#)
- Environmental Protection Agency
U.S. EPA Region 9
75 Hawthorne Street
San Francisco, CA, 94105
<http://www.epa.gov/>
- Arizona Department of Environmental Quality
Phoenix Main Office
1110 W. Washington St.
Phoenix, AZ 85007
<http://www.azdeq.gov/>
- Maricopa Association of Governments
302 N. 1st Avenue
Suite 300
Phoenix, Arizona 85003
<http://www.mag.maricopa.gov>
- Pima Association of Governments
177 N. Church Avenue, Suite 405
Tucson, Arizona 85701
<http://www.pagnet.org>
- Clean Air Act Amendments of 1990:
[Public Law 101-594](#)

¹⁹ [Supreme Court: Order in Pending Case;](#)
[EPA: Stationary Sources of Air Pollution](#)

²⁰ [Presidential Executive Order on Promoting Energy Independence and Economic Growth](#)

²¹ [EPA: ACE Rule;](#)
[EPA: Status of ACE Rule and Clean Power Plan;](#)
[Court of Appeals: American Lung Association et al. v. EPA](#)

NATIONAL AMBIENT AIR QUALITY STANDARDS (NAAQS)²²

Pollutant		Primary/ Secondary	Averaging Time	Level*	Form
Carbon Monoxide (CO)		primary	8 hours	9 ppm	not to be exceeded more than once per year
			1 hour	35 ppm	
Lead (Pb)		primary and secondary	Rolling 3-month average	0.15 µg/m ³	not to be exceeded
Nitrogen Dioxide (NO ₂)		primary	1 hour	100 ppb	98 th percentile of 1-hour daily maximum concentrations, averaged over 3 years
		primary and secondary	1 year	53 ppb	annual mean
Ozone (O ₃)		primary and secondary	8 hours	0.070 ppm	annual fourth-highest daily maximum 8-hour concentration, averaged over 3 years
Particle Pollution (PM)	PM _{2.5}	primary	1 year	12 µg/m ³	annual mean, averaged over 3 years
		secondary	1 year	15 µg/m ³	annual mean, averaged over 3 years
		primary and secondary	24 hours	35 µg/m ³	98 th percentile, averaged over 3 years
	PM ₁₀	primary and secondary	24 hours	150 µg/m ³	not to be exceeded more than once per year on average over 3 years
Sulfur Dioxide (SO ₂)		primary	1 hour	75 ppb	99 th percentile of 1-hour daily maximum concentrations, averaged over 3 years
		secondary	3 hours	0.5 ppm	not to be exceeded more than once per year

*Units of measure for the standards are parts per million (ppm), parts per billion (ppb) by volume, and micrograms per cubic meter of air (µg/m³).

Primary standards provide public health protection, including protecting the health of sensitive populations.

Secondary standards provide public welfare protection, including protection against decreased visibility and damage to animals, crops, vegetation and buildings.

²² [U.S. EPA NAAQs Table](#)