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air quality





INTRODUCTION

Good air quality is fundamental to our well-being; the presence of air pollution can adversely affect our health. Surprisingly, outdoor air quality is a serious concern in Boulder County.

Boulder County, as part of the Denver Metropolitan Nonattainment/North Front Range Area, currently exceeds national air quality standards for ozone. High levels of ozone and the pollutants that form ozone cause poor air quality, which can lead to decreased lung function, exacerbated asthma, and breathing difficulty, particularly for sensitive populations, and may even lead to premature death and cardiovascular disease. In addition, smog impairs visibility, damages crops, and causes acid rain in Rocky Mountain National Park.

The two largest sources of ozone-forming pollutants in the nonattainment area are oil and gas production and vehicle emissions. This underscores the importance of regulating the oil and gas industry and reducing our vehicle emissions, since

these sources degrade our air quality and contribute to climate change.

Boulder County Public Health supports periodic air quality monitoring studies to better understand the impacts of local sources of air pollution. Using this data, Boulder County participates in the development of stringent local, state, and national air pollution control regulations. Finally, the county works with local government partners to build capacity to improve indoor air environments by reducing pollutants such as lead, radon, asbestos, and mold.

glossary

OZONE

Ozone is an invisible, odorless gas that can either protect us or harm us, depending on where it is found. Unlike the protective stratospheric ozone layer, ground-level ozone forms from air pollution just above the earth's surface and damages living tissue. Ozone is created by chemical reactions between nitrogen oxides and volatile organic compounds in the presence of sunlight.

SMOG

Smog is a mixture of harmful air pollutants dominated by ground-level ozone.



air quality goal

Ensure clean, clear, and healthy air for current and future generations.



COMMUNITY STRATEGIES

Support meeting federal outdoor air quality standards in Boulder County

- Urge the adoption of state and federal regulations and policies that reduce the impacts of oil and gas resource extraction; continue to strengthen and enforce county oil and gas regulations.
- Support the adoption of continuously increasing auto fuel efficiency standards by defending consistent and stringent federal fuel efficiency standards and by encouraging the state to adopt the Advanced Clean Car Standards.
- Promote the adoption of electric vehicles (EVs) and the installation of EV charging stations.
- Diagnose and investigate emission sources, such as oil and gas, and monitor air quality conditions and public health impacts.
- Inspect sources of pollution for compliance and support enforcement of air pollution requirements.
- Conduct voluntary programs to educate, empower, and mobilize action to reduce ozone-forming and greenhouse gas (GHG) emissions.
- Support the adoption of continuously increasing renewable energy standards.
- Actively participate in the development of protective state and federal air quality policies and plans.

SEE THE CLIMATE (PAGE 32), ENERGY & BUILDINGS (PAGE 76), AND TRANSPORTATION (PAGE 122) CHAPTERS FOR ADDITIONAL OUTDOOR AIR QUALITY IMPROVEMENT STRATEGIES RELATED TO GHG EMISSIONS.

**COMMUNITY STRATEGIES**

Empower residents to identify and maintain healthy indoor environments

- Promote radon testing, mitigation, and the use of proper methods to install radon reduction systems.
- Encourage adoption of radon reduction systems in new single- and multifamily homes through building codes.
- Encourage residents to work with state and local government partners to address indoor air quality issues associated with mold, moisture, radon, and asbestos.
- Conduct education and outreach to real estate professionals, builders, decision makers, and residents (particularly low-income) to increase radon awareness in Boulder County.





Oil and Gas Production

Oil and gas production statewide has quadrupled since 2012. Increasing intensity of oil and gas development has consequences for air quality, even in counties that do not host the majority of active wells. For example, nearly 50% of all Colorado wells and 90% of the state's oil and gas production are located in Weld County. However, organic compounds emissions from Weld County travel into Boulder County on prevailing winds.

Oil and gas production emissions represent one of the two largest sources of ozone-forming air pollution and a large source of toxic air pollution. A monitoring study funded by Boulder County shows that these emissions are adding to the high ozone levels in Boulder County.

The county has adopted stringent air quality measures applicable to oil and gas operations and continues to advocate for stronger state regulations. In the course of its voluntary inspection program, Boulder County Public Health found leaks at 65% of inspected oil and gas sites. These findings informed the Air Quality Control Commission's rulemaking process, yielding a new state regulation that requires more frequent leak inspections and covers additional pieces of equipment. The county also participated in a rulemaking at the Colorado Oil and Gas Conservation Commission that generated stronger leak detection and repair requirements for oil and gas pipelines. Research to understand the air quality impacts of oil and gas production continues to develop, and Boulder County supports those efforts with both funding and staff expertise.



CLEAN AIR CHALLENGE

Vehicle emissions are one of the two largest sources of ozone-forming air pollution in Boulder County. Since the summer of 2004, 1,700 people have participated in the Boulder County Clean Air Challenge contest, reducing driving by nearly one million vehicle miles and saving 50,000 gallons of gasoline.

In the coming years, Boulder County Public Health will update goals to focus on supporting fuel economy standards, EV adoption, and renewable energy adoption.



TAKE A RIDE

To help reduce the impact of vehicles on air quality, Boulder County offers a 60% discount on annual transit passes, called EcoPasses, for businesses and neighborhoods. The EcoPass provides unlimited rides on all local, express, and regional bus and light rail service operated by the Regional Transportation District (RTD). An employee with an EcoPass is nearly nine times more likely to commute by bus.

In 2018, Boulder County offered 70% reimbursement for RTD EcoPasses or MyRide cards to businesses in Lafayette that participate in the Lafayette Green Business program, a partnership between Boulder County's Partners for a Clean Environment (PACE) service and the City of Lafayette. This program was inspired by a winning submission from Boulder County's "No Fare Lafayette" transit promotion contest.



POLICY PRIORITIES

The following are environmental sustainability policy priorities adopted through Boulder County's legislative agenda:

POLICY

WHAT YOU NEED TO KNOW

Protect air quality

Boulder County, as part of the North Front Range Denver Metropolitan Nonattainment Area, currently exceeds national air quality standards for ozone. Poor air quality has significant public health and environmental impacts, from increasing doctor visits and hospital admissions to compromising

the unique value of our parks and open space lands through loss of visibility and impacts to wildlife. Boulder County supports state legislative, regulatory, and other efforts to ensure public and environmental health by reducing the emissions of harmful pollutants.

Support implementation of the Clean Air Act

The Clean Air Act is the law that defines the Environmental Protection Agency's (EPA) responsibilities for protecting and improving the nation's air quality and the stratospheric ozone layer, including important regulatory powers over GHG emissions and air pollution.

Boulder County supports enforcing the Clean Air Act and other regulations with the highest level of environmental protection to improve and maintain high standards of air quality and opposes any efforts to reduce the authority of the Clean Air Act or the EPA.



AIR QUALITY

POLICY

WHAT YOU NEED TO KNOW

Require residential radon mitigation systems

Including radon mitigation requirements in building codes and when homes are resold would help decrease potential health

risks associated with residential exposures to radon, which is the second leading cause of lung cancer in the United States.

Address the air quality impacts associated with oil and gas operations

Oil and gas operations can emit air toxins, nitrogen oxides, and volatile organic compounds emissions close to population centers. Boulder

County supports legislative and rule-making efforts to reduce the air quality impacts of oil and gas exploration and development.







Radon Reduction Roadmap

Radon is the second leading cause of lung cancer—second only to smoking. Each year, more than 20,000 people in the United States die from lung cancer caused by exposure to radon. Although most lung cancer deaths are attributable to tobacco usage, secondary causes of lung cancer are important because of the magnitude of lung cancer incidence and its poor survival rate.

More people die from lung cancer than colorectal, breast, and pancreatic cancers combined. From 2012–2014, nearly 7,000 people in Colorado were diagnosed with lung and bronchus cancers; almost 5,000 people (70%) died from it. Boulder County Public Health has created the Public Health Radon Reduction Roadmap (PHR3). PHR3 identified 37 strategies to reduce radon exposure, including education, policy recommendations for elected officials, programs, and

practices. The program deploys social mobilization practices across the Front Range with real estate professionals, home builders, building officials, home inspectors, elected officials, and others to create incentives and policies to reduce radon. As a result,

- One hundred fifty-six real estate professionals have pledged to be “Radon Aware.”
- Unincorporated Jefferson County and the City of Boulder have adopted Radon-Resistant New Construction building codes.
- Measuring and Mitigating Radon in Colorado, a radon technical guidance document for Colorado building practices, was created to educate building professionals and local building officials regarding best practices for reducing radon exposure in residential and commercial buildings.

The Roadmap identified 37 strategies to reduce radon exposure.





TAKE ACTION

Improving Air Quality

Our cars, lawn and garden equipment, and other products (e.g., paints and cleaners) produce ozone pollution. The fewer ozone-causing emissions produced on hot, still summer days, the better. Residents can help take care of our air by

- ☐ choosing low-polluting travel options rather than driving alone, for example, walking, biking, telecommuting, or riding the bus
- ☐ fueling vehicles in the evening so fume vapors can't "cook" into ozone
- ☐ keeping cars tuned—routine maintenance helps cars run efficiently
- ☐ keeping tires inflated—it reduces pollution and saves you money
- ☐ avoiding idling—restarting your engine uses as much fuel as about six seconds of idling
- ☐ using an electric-powered lawn mower or mowing in the evening if using a gas-powered mower
- ☐ choosing an electric car, and even better if you power your home with solar





RESOURCES

More Information

Clean Air Challenge

[bouldercounty.org/
environment/air/
clean-air-challenge](https://bouldercounty.org/environment/air/clean-air-challenge)

Radon Aware Initiative

[bouldercounty.org/
environment/
healthy-home/phr3](https://bouldercounty.org/environment/healthy-home/phr3)

