



Healthier Air

Colorado's healthy air, clear streams and other natural resources are critical to the state's economy and identity; maintaining and improving air quality is important for protecting public health and the environment. Air pollution degrades visibility at national parks, wilderness areas and other scenic vistas in Colorado vital to tourism, recreation and the quality of life. Poor air quality has been shown to lead to decreased lung function, cardiac effects, susceptibility to infection, increased doctor and emergency room visits, and even premature death. People with pre-existing respiratory conditions are particularly susceptible.

National Ambient Air Quality Standards

Colorado's increasing population and growing industry with energy development sectors pose challenges to preserving and protecting air quality. The United States Environmental Protection Agency (EPA) establishes National Ambient Air Quality Standards (NAAQS) to protect public health and welfare. These standards have been more stringent over time as understanding about the effects from exposure to air pollutants has grown. These changes may make maintaining compliance more difficult, requiring Colorado to continually assess and implement plans to meet air quality health-based standards.

As of 2014, Colorado meets all NAAQS with the exception of ground-level ozone in the Denver metropolitan area and the North Front Range. Ground-level ozone is created through chemical reactions that occur between nitrogen oxide (NO_x) and volatile organic compound (VOC) when exposed to sunlight. Periodically, other areas of the state experience concentrations above the health-based standards.

STATEWIDE GOAL: Reduce emissions that contribute to ground-level ozone concentrations by decreasing nitrogen oxide (NO_x) and volatile organic compound (VOC) emissions statewide.

STATE STRATEGIES:

1. **Decrease NO_x emissions statewide through regulatory mechanisms, such as motor vehicle programs and standards, and various Clean Air Act emissions standards that target source categories ranging from engines and small equipment to power plant boilers and diesel generators resulting in a downward trend over the next 5 years.**

Baseline: 0.055 tons per capita in 2011

2. **Decrease VOC emissions statewide through regulatory mechanisms, such as robust oil and gas initiatives and state-only requirements, resulting in a downward trend over the next 5 years.**

Baseline: 0.248 tons per capita in 2011

Recycling

Recycling reduces energy use and prevents air pollution by reducing the need to burn fossil fuels such as gasoline, diesel and coal to extract, transport and process raw materials and preventing the disposal of materials. Collecting and processing materials that would otherwise be thrown away as trash and turning them into new products has many other benefits such as avoiding the waste of useful materials, reducing water pollution, creating “green” jobs, and preserving finite natural resources for future generations. On a state-by-state comparison, Colorado has historically had a below average recycling rate, leaving significant room for improvement.

The CDPHE Pollution Prevention Advisory Board has classified developing hub-and-spoke recycling infrastructure for rural areas as the Tier 1 priority for grants available to develop recycling, utilizing financial support from the Recycling Resource Economic Opportunity Fund. Many rural areas and small communities struggle to fund and sustain independent recycling programs. Hub-and-spoke infrastructure creates economies of scale that avoid community investment in duplicate recycling infrastructure and allows costs for equipment, personnel, processing, transportation and marketing to be shared. In addition, efforts are taking place to align hub and spoke waste disposal activities with the hub and spoke recycling activities. Alignment of waste disposal and recycling hub and spoke activities has the potential to reduce waste disposal while increasing material reuse. This in turn could capitalize on collaborative efforts resulting in reduced waste disposal and increase material reuse resulting in reduced air emissions.

Waste tires can pose a threat to public health and the environment. If waste tire piles catch fire, they produce air emissions that include hazardous substances.¹ Creating sustainable recycled tire end use markets makes waste tires more valuable, thus reducing Colorado’s stockpiles and discouraging disposal and illegal dumping. Every 100 tons of waste tires that are managed under new end use markets results in 24 fewer tons of pollutants emitted into Colorado’s air sheds.² Expanding and diversifying Colorado’s markets requires investment in new technologies, marketing and outreach of end use products, pilot projects and technical assistance.

STATEWIDE GOAL: Prevent air pollution by increasing Colorado’s recycling rate.

STATE STRATEGIES:

- 1. Engage stakeholders to apply for grant funds through the Recycling Resources Economic Opportunity (RREO) program and focus RREO grant projects on end-market development and infrastructure improvements.**

Objective 1: By 2019, the percent of total tons diverted from waste disposal by all registered recyclers and compost facilities statewide will exceed 50 percent.

Baseline: 41.7 percent of total tons diverted in 2012

Objective 2: By 2019, 15 projects will be funded annually by the RREO program.

Baseline: 9 projects in 2014

Objective 3: By 2017, at least four regional planning projects for recycling infrastructure expansion grant projects will be funded through the RREO program.

Baseline: 1 regional planning project in 2014

Objective 4: By 2019, create or expand local end markets for at least two additional recyclable materials as reported to the RREO program.

Baseline: 1 recyclable material in 2013

Coordinating Agency: CDPHE

2. Create statewide access to residential recycling by having at least one public drop-off center or curbside recycling in every municipality by utilizing a hub-and-spoke collection infrastructure.

Objective 1: By 2019, 267 municipalities will have access to residential recycling and all 64 counties will have recycling available.

Baseline: 162 municipalities and 59 counties in 2013

Coordinating Agency: CDPHE and the Pollution Prevention Advisory Board

Partners in implementation: Local government agencies, Private industry: waste & recycling sector, Colorado Association for Recycling

3. Diversify the current end-use markets of waste tire products in Colorado to create self-sustaining end-use markets for Colorado waste tires without the need of a state funded subsidy.

Objective 1: By 2019, the recycling rate for newly generated waste tires will be 100 percent.

Baseline: 92 percent recycling rate in 2013

Coordinating agency: CDPHE

Partners in implementation: Tetra Tech Inc., local governmental agencies, waste tire industry leaders (processors, end users, waste tire monofills),²⁴ Rubber Manufacturer's Association

LOCAL STRATEGIES:

Local public health agencies and community partners throughout Colorado have many efforts underway that contribute to healthier air. The following are strategies for improving air quality chosen by local communities to address in local public health improvement plans; they do not represent all local efforts that contribute to healthier air.

- Build local capacity for provision of environmental health services.
- Obtain, maintain, communicate and educate the public about air quality monitoring data.
- Increase radon awareness, radon testing within homes, and the percent of homes that take corrective action for radon levels over the Environmental Protection Agency action limit.
- Promote radon-resistant construction in all buildings and adoption of policy that supports increasing radon awareness.

Other local efforts that contribute to healthier air may include both regulatory and advisory programs that address air quality concerns related to fireplaces, woodstoves, restaurant grills, open burning, fugitive dust, asbestos, mold, carbon monoxide and vehicle idling.



1 <http://www.epa.gov/osw/consERVE/materials/tires/fires.htm>

2 Calculated using the EPA Waste Reduction Model http://epa.gov/epawaste/consERVE/tools/warm/Warm_Form.html