

ECONOMIC OPPORTUNITIES OF CUTTING CARBON POLLUTION AND CLIMATE CHANGE IN COLORADO



THE IMPACT OF POLLUTION AND CLIMATE CHANGE IN COLORADO

Recent incidents provide a reminder of the economic and public health impacts of extreme weather in Colorado. Although we cannot say that climate change is responsible for any individual event, this change is already increasing our risks from these events.

- In 2011, Colorado's power plants and major industrial facilities emitted 44 million metric tons of carbon dioxide, ranking the state as the 21st most carbon-polluting state nationally.⁴
- Record-breaking rains drenched communities along Colorado's Front Range in September 2013, killing 10 people, swamping roughly 18,000 homes, and causing an estimated \$2 billion in damages.⁵
- In 2012, excessive heat broke records in 33 Colorado counties, and heavy snowfall set records in 8 counties.⁶
- Drenching rainstorms set precipitation records in 15 Colorado counties in 2012.⁷
- The same year, the state endured 43 large wildfires.⁸
- Asthma, worsened by air pollution, sickens 113,600 Colorado children a year and 299,100 adults.⁹
- Climate change intensifies the impacts of air pollution. In Colorado 13 counties have experienced excessive ragweed pollution and 5 have had unhealthy levels of smog.¹⁰
- The federal government has issued disaster declarations for Colorado seven times since 2000 due to severe storms, winter snowstorms, wildfires such as those that ravaged the Waldo Canyon area, tornadoes, and flooding.¹¹



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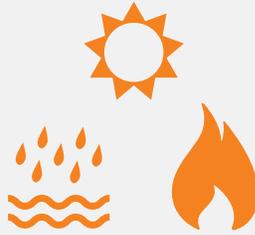
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CLIMATE CHANGE: THE KEY ENVIRONMENTAL CHALLENGE OF OUR TIME



RISING TEMPERATURES ARE A HEALTH CONCERN. In Colorado, asthma sickened 113,600 children and 299,100 adults in 2011, according to the American Lung Association.¹ Climate change, driven by rising pollution levels, leads to higher concentrations of ground-level ozone, a chief component of smog, which aggravates asthma.



IT IS DRIVING EXTREME WEATHER. In 2012, there were 3,527 monthly weather records broken for heat, rain, and snow in the United States, according to information from the National Climatic Data Center (NCDC). That's even more than the 3,251 records smashed in 2011—and some of the newly broken records had stood for 30 years or more.²

\$1,100
PER TAXPAYER

IT IS IMPOSING GRIEVOUS AND GROWING COSTS. In 2012 alone, crop losses, flood damage, wildfires, and other climate-related disasters cost our country more than \$140 billion. The American public picked up the lion's share of the tab, to the tune of \$1,100 per taxpayer.³

...BUT WE CAN ADDRESS IT, WITH GREAT BENEFIT TO OUR FUTURE GENERATIONS AND ECONOMY

COLORADO LEADS ON CLEAN ENERGY, AND ECONOMIC OPPORTUNITY LIES AHEAD

Already, Colorado's clean energy policies and growing energy efficiency and renewable energy industries have provided big benefits to the state. And there are tremendous economic opportunities that lie ahead from cutting carbon pollution.

- Colorado was home to 72,629 green energy jobs in 2011, according to the Bureau of Labor Statistics.¹²
- The pace of green job growth continues. Large-scale solar and wind projects completed in the past year generate more than 880 megawatts (MW) of clean electricity. Colorado's growing solar industry added more than 1,100 jobs to the state in just one year.
- NextEra's Limon Wind Farms not only generate 200 MW of power for the region, but also generate \$130 million in state and local tax payments, and landowner royalties.¹³
- Colorado has a large and as-yet untapped wind energy potential. The state's wind resources are ranked 12th in the country, according to the American Wind Energy Association, and has the potential to generate 25 times the state's current electricity needs.¹⁴
- The wind energy industry supports between 4,100 and 5,000 direct and indirect jobs in Colorado.¹⁵
- The National Renewable Energy Laboratory is based in Colorado. The nation's primary laboratory for renewable energy and energy efficiency research and development, the NREL is developing clean energy solutions to address America's energy and environmental challenges. The lab conducts research on biomass, photovoltaic technology, hydrogen and fuel cells, wind, energy efficient buildings, and advanced vehicles.¹⁶
- Colorado is at the forefront among states with an improved Renewable Energy Standard. Last summer, Gov. John Hickenlooper signed into law a measure to expand the state's Renewable Energy Standard, which will drive clean energy investment and increase jobs and renewable project development in rural Colorado. The measure increases Colorado's Renewable Energy Standard for cooperative associations that provide wholesale electricity in the state, and for large electric associations that provide service to at least 100,000 customers. It doubles the amount of renewable energy these utilities must provide—to 20 percent by 2020—while capping cost increases at 2 percent.
- Already, renewable energy employs nearly 10,000 Coloradans, helping to reduce the state's dependence on fossil fuels and to curb climate change.¹⁷

“We have to act with more urgency—because a changing climate is already harming western communities struggling with drought, and coastal cities dealing with floods. That’s why I directed my administration to work with states, utilities, and others to set new standards on the amount of carbon pollution our power plants are allowed to dump into the air. The shift to a cleaner energy economy won’t happen overnight, and it will require tough choices along the way. But the debate is settled. Climate change is a fact. And when our children’s children look us in the eye and ask if we did all we could to leave them a safer, more stable world, with new sources of energy, I want us to be able to say yes, we did.”

—President Barack Obama, 2014 State of the Union Address

With those words, the president made it clear that **Colorado residents** and all Americans have an obligation to future generations to address the key environmental challenge of our time. The president has laid out a comprehensive National Climate Plan to curb pollution, expand clean energy, and make our communities more resilient. The plan also presents a tremendous economic opportunity for businesses, communities, states, and our country.

BENEFITS FOR COLORADO FROM ACTING ON CARBON POLLUTION

The carbon reductions are possible under a plan in which Colorado and other states and their power companies meet national carbon standards using flexible approaches to conform to state-specific limits on carbon pollution in a way that best fits their energy needs and resources. NRDC selected a respected firm, Synapse Energy Economics, to analyze the impact of its power plant plan on jobs, electricity rates, and GDP. Synapse found that **NRDC’s proposal could create 210,000 new jobs nationwide**, mainly in clean energy, while helping **Americans save an average of \$.90** per month on their electricity bills and helping the economy.¹⁹

THE PRESIDENT’S CLIMATE PLAN AIMS AT THE HEART OF THE PROBLEM

Electric power plants are the largest source of the dangerous carbon pollution that is driving climate change and extreme weather. In the United States, these plants release about 2.4 billion tons of carbon pollution a year into the air, which is about 40 percent of our nation’s carbon footprint. Today, we limit the amount of arsenic, mercury, and soot these plants emit. But, astonishingly, there are no limits on carbon pollution. That is wrong and it must change. In response, the president has directed the U.S. Environmental Protection Agency to end the limitless dumping of carbon pollution from these power plants. The EPA has both the authority and the responsibility to reduce carbon pollution under the Clean Air Act, and it should move forward to help protect future generations.

NRDC’S CARBON POLLUTION SOLUTION HELPS CURB CLIMATE CHANGE

In December 2012, the Natural Resources Defense Council unveiled a proposal showing how the EPA can cut carbon pollution from the nation’s power plants 26 percent by 2020 and 34 percent by 2025.¹⁸ These carbon reductions would generate between \$25 billion and \$60 billion in benefits through avoided climate change impacts and avoided pollution-related illnesses and deaths. They would cost industry about \$4 billion, or just 1 percent of revenues. That means we could see up to \$15 in climate and health benefits for every \$1 invested. These reductions, at low cost with big gains, are achieved through a program that:

- **Sets carbon intensity-based emissions standards** for all large fossil-fueled power plants, taking into account differences in the emissions starting points among the states.
- **Allows states to choose what policies to implement** in order to meet the standards, including cleaning up existing power plants, shifting power generation to plants with lower emissions or none at all, and improving the efficiency of electricity use.
- **Charts a path to affordable and effective emissions reductions** by tapping into the ingenuity of the states and leveraging their existing efforts to reduce pollution and provide more clean energy options.
- **Can be implemented** using the authority the EPA has now under the Clean Air Act.

In Colorado, the impacts are substantial. By using the Clean Air Act to slash carbon pollution, Colorado could:

- Create 5,000 new jobs, largely through investments in energy efficiency.

- Save an average Colorado consumer \$1.82 per month on his or her electricity bill.
- Stimulate significant growth in the state's energy efficiency industry.

Because the bulk of investment in energy efficiency focuses on making our buildings and homes more efficient, such investment creates a lot of jobs that require a broad range of homegrown expertise, in industries that have been especially hard hit by the recent recession. There will be greater demand for electricians, heating/air conditioning installers, carpenters, construction equipment operators, roofers, insulation workers, industrial truck drivers, construction managers, and building inspectors.

ENDNOTES

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