



COLORADO STATE ENERGY REPORT 2014

The Colorado State Energy Report can be accessed at
www.colorado.gov/energy



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INTRODUCTION

Energy touches the life of every Coloradan. It powers our homes and businesses, and fuels the transportation of people and goods. It affects the air we breathe and the water upon which we rely. Investing in energy resources doesn't just provide electricity, heat, and fuel – it spurs new innovations in clean technologies and lets us harness the ingenuity of those developing Colorado's abundant natural resources.

Colorado's diversity of energy resources, business-friendly environment, and world-class research institutions puts the state on a path toward a more secure energy future. Whether Colorado is creating the nation's first regulations limiting methane emissions through groundbreaking collaboration, or investing in new private-public partnerships to spur energy entrepreneurship, our goal is to support all of Colorado's energy resources for the benefit of the state and its citizens, while serving as a national leader in environmentally-friendly energy development.

COLORADO'S ENERGY POLICY

Over the last century, Colorado's energy sector has grown to include a diverse range of fossil fuels, renewable energy, energy efficiency, alternative fuel vehicles, and advanced technologies. According to the U.S. Energy Information Administration (EIA), in 2011, Colorado ranked 5th in the nation for natural gas production, 9th for crude oil production, and 11th for coal production.ⁱ In 2013, Colorado ranked 8th in the nation for total solar capacity,ⁱⁱ 10th for installed wind generation capacity,ⁱⁱⁱ and 16th for energy efficiency.^{iv} Additionally, Colorado's universities and technology hubs made the state a leader in energy technology and sector advancements, and 3rd in the nation for high-tech employment.^v

In fact, Colorado's energy industry continues to grow as one of the most significant sources of economic activity in the state.^{vi} In 2012, Colorado's energy industry employed more than 122,000 people. It also produced more than \$41 billion in revenue and \$24 billion in exports, bringing new money into the state's economy from other states and foreign countries.^{vii}

In support of a responsible and balanced energy policy, Colorado has advanced a diversity of measures, such as the first voter-led renewable energy standard in the nation and new financial incentives for homegrown energy resources.

From voter-led initiatives and bipartisan legislation, to responsible policy and regulation, Colorado is growing new energy sector opportunities, reducing our vulnerability to a changing climate and protecting the environment.

Over the last four years, Colorado has moved from 40th to 4th in the nation for fastest job growth.^{viii} Colorado continues to work with organizations like the Western Governors' Association and the National Governors' Association to reach an unprecedented level of regional and national collaboration and provide a strategy for growth. It is also why Colorado issued Executive Order D 2011-003 on January 2011, directing the creation of a statewide economic development strategy based on local input. One of the resulting products, the Energy Key Industry Network (KIN) report, includes a series of recommendations to grow Colorado's energy industry.

As an important next step to these efforts, this report provides the values and goals that guide Colorado's energy policy. The report also serves as a report card of the state's progress by emphasizing Colorado's achievements in meeting these goals and highlighting future actions Colorado will take to improve upon these efforts.

COLORADO'S VALUES

The *Colorado State Energy Report* provides the framework through which Colorado will continue to pursue its energy policy — one that responsibly grows Colorado's economy and is based on four values important to Coloradans.



Growing Jobs and Spurring Innovation



Protecting Colorado's World-Class Environment



Streamlining Government



Encouraging Collaboration



Growing Jobs and Spurring Innovation

Growing Jobs and Spurring Innovation depends on responsible and sustainable growth across all sectors of the state's energy economy.

Energy industry job growth in Colorado outpaces the national average, and energy jobs pay, on average, considerably more than the state's median household income. Developing Colorado's resources and technologies, and spurring new innovations in the energy sector, will allow Colorado to grow as a national and global leader in energy jobs, research, and technology.

Goal: Develop Colorado's Resources and Technologies

Goal: Spur Innovation

Goal: Train Colorado's Workers



Protecting Colorado's World-Class Environment

Protecting Colorado's World-Class Environment makes the state a great place to live, work, play, and visit.

Colorado boasts some of the best natural places, outdoor recreation opportunities, and wildlife in the world. Protecting the health of Colorado's citizens and natural environment is a paramount consideration for all energy-related activities.

Goal: Improve Colorado's Air

Goal: Protect Colorado's Water

Goal: Preserve Colorado's Wildlife and Lands



Streamlining Government

Streamlining Government allows Colorado to best serve its citizens, carry out the public's interest, and be a wise steward of the public's natural resources.

The elimination of redundant, inconsistent, or unnecessary regulation, without sacrificing public safety and environmental quality, or effective and efficient response in the face of emergencies, are top priorities of the state.

Goal: Improve the Regulatory Process

Goal: Enhance Emergency Planning, Response, and Recovery



Encouraging Collaboration

Encouraging Collaboration harnesses the diverse and abundant energy, technology, and human capital resources in Colorado.

Engaging citizens, businesses, local governments, non-governmental organizations, and the broader stakeholder community is the Colorado model for responsible energy development and world-class energy innovation.

Goal: Bring Stakeholders Together

Goal: Coordinate with Local Governments in Decision Making



GROWING JOBS AND SPURRING INNOVATION

Energy jobs are integral to the health of Colorado's economy. The energy industry currently employs more than 122,000 people in Colorado, representing job growth of 56.2 percent since 2003, and is estimated to have produced more than \$41 billion in revenue in 2012.^{ix} Additionally, energy jobs in Colorado pay on average \$80,891 annually, which is more than 40 percent the state average median household income — benefiting a wide diversity of Coloradans, from citizens in metropolitan areas to those in rural parts of the state.

In 2013, building on the Colorado Blueprint^x, the Colorado Office of Economic Development and International Trade (OEDIT), Colorado Energy Office (CEO), Department of Natural Resources (DNR) and Department of Public Health and Environment (CDPHE) convened the Energy Key Industry Network (KIN) to analyze energy industry trends and provide recommendations on how to continue to grow Colorado jobs and spur new market opportunities. This process, led through industry input, recommended that continued energy-related job growth and economic development would come from investing in the diversity of Colorado's resources and innovative business environment.

GOAL: Develop Colorado's Resources and Technologies

Colorado supports the responsible development of all energy resources and technologies — providing consumers with choices, growing the state's economy, and reducing costs to people and business.

Colorado companies and research institutions are leaders in developing advanced technologies that support energy development for electricity, heating and transportation. Technological advancements in unconventional oil and gas, clean energy technologies, and smart grids supported considerable increases in Colorado's resource production

for both traditional and renewable energy sources, making the state 7th in the nation for total energy production in 2011.^{xi}

ENERGY EFFICIENCY

Energy efficiency drives economic growth in the most fundamental of ways; it reduces operational costs. Colorado's energy efficiency sector is rapidly growing, providing new business opportunities in energy efficiency technologies, saving consumers money, and making Colorado businesses more competitive. Colorado law requires a 5 percent reduction from 2006 electricity sales by 2018 and a 5 percent reduction from 2006 peak demand by 2018.^{xii} State and local governments can also lead in the energy efficiency sector by investing in energy efficient cost-saving improvements in government buildings, and reducing barriers for private homes and businesses.

Colorado's local leaders have pioneered new approaches to public-private partnerships in energy. For instance, the City of Fort Collins, along with federal, private, and university partners, worked to create the FortZed Net Zero Energy District, a district of 7,000 customers that creates as much energy as it consumes. Additionally, in 2011, Gunnison, Eagle, and Pitkin Counties led the development of the Energy Smart Program, reducing barriers to energy efficiency by providing homes and businesses with energy assessments, rebate information, qualified contractors, and financing opportunities.

Additional financial incentives, such as state energy savings mortgages, commercial property-assessed clean energy programs, energy performance contracting and weatherization programs remove initial barriers to investment and provide long-term benefits for jobs and the environment.

ACHIEVEMENTS: PROMOTE ENERGY EFFICIENCY

- Expanded the energy and cost savings benefits of energy performance contracting (EPC) to the private sector by launching the nation's first statewide pilot project in 2012. Sixteen private companies participated. EPC is a financial tool that allows building owners to fund efficiency improvements through annual energy cost savings. Pilot participants have identified more than 9.2 million kWh of electricity and \$1 million in potential energy and water savings as of May 2014.
- Passed Energy Savings Mortgage legislation which provides up to \$8,000 in financial incentives with the purchase of an energy efficient home. As of May 2014, incentives have been provided for 30 new homes making them 70 percent more energy efficient than equivalent homes built in 2006.
- Invested more than \$60 million in home weatherization and energy efficiency improvements for 10,000 low-income households since 2011. Investments were made across all of Colorado's 64 counties, saving 6,360,000 kWh of electricity and 1,550,000 therms of natural gas, and providing safer homes and lowering energy costs for low-income households.



64 counties

More than **\$60 million** in energy efficiency improvements were installed in homes across all of Colorado's 64 counties, saving **6,360,000 kWh** of electricity and **1,550,000 therms** of natural gas, and providing safer homes and lowering energy costs for low-income households.

FUTURE ACTIONS: PROMOTE ENERGY EFFICIENCY

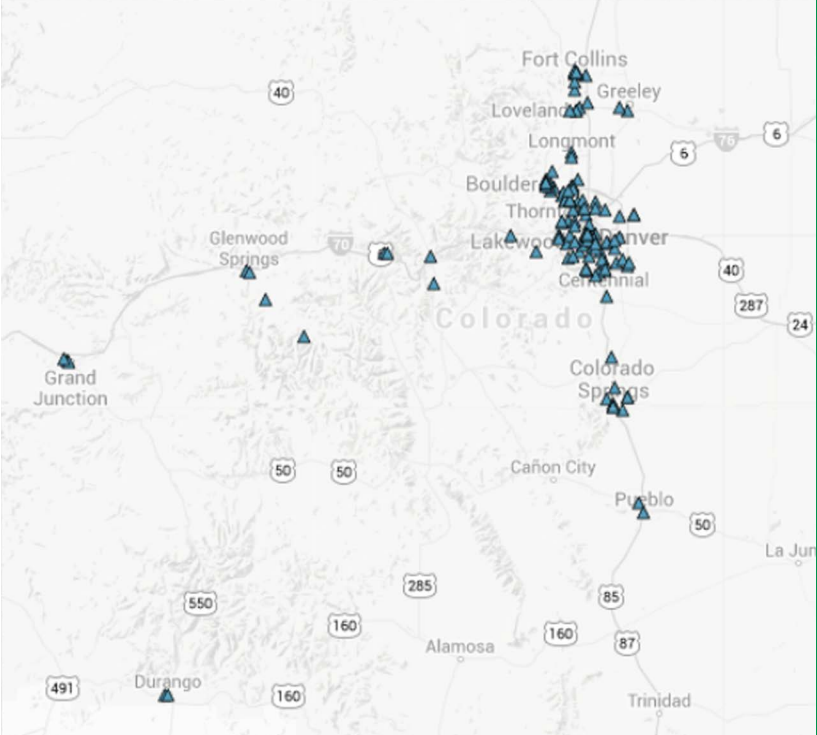
- Provide weatherization and efficiency services to over 25,000 low-income households between 2011 and 2018, saving Colorado households an estimated 3,875,000 therms of natural gas and 15,900,000 kWh of electricity.
- Improve average Home Energy Rating System (HERS) score from 63 to 50 on newly built homes by the end of 2017, achieving a 50 percent energy efficiency increase over standard homes built in 2006 and reducing costs to homeowners.
- Expand usage of Multiple Listing Service (MLS) fields for “green” features from 36 percent of home sales in Colorado in 2011 to 99 percent by end of 2015. “Green” fields in the MLS allow sellers and buyers to list and view energy efficiency and renewable energy attributes for a property and allow appraisers to properly value these attributes in the selling and buying process.
- Help 1,000 Colorado homeowners save money on utility bills and finance energy efficiency improvements through the federal Energy Efficient Mortgages Program (EEM), by the end of 2017.
- Design and deploy a statewide energy efficiency financing program for commercial buildings — the commercial property-assessed clean energy (PACE) program — by fall 2014, leading to at least 25 retrofits by mid-2016.
- Reduce energy costs for building owners and tenants by expanding the statewide private sector Energy Performance Contract pilot program to at least 50 private sector companies by the end of 2017.
- Achieve savings of 60,000,000 kWh of electricity and 4,000,000 therms of natural gas in private and public EPC programs by the end of 2018.
- Launch an agricultural energy efficiency program for Colorado dairies and irrigators that saves 10,000,000 kWh of electricity by the end of 2017.
- Work with stakeholders to address the future of Colorado’s Demand Side Management (DSM) statute, which expires in 2018. As a least-cost resource, DSM should continue to be a priority resource in utility resource planning.

ALTERNATIVE FUEL VEHICLES

Colorado’s transportation sector is the second largest sector of energy consumption in Colorado with approximately 92 percent of transportation fuels derived from petroleum.^{xiii} Alternative fuel vehicles (AFVs) diversify the fuel mix, use fuels produced in Colorado, and reduce emissions. AFVs, such as natural gas vehicles (NGVs) and electric vehicles (EVs), have become much more common since 2010 when the Chevrolet Volt and Nissan Leaf were first introduced commercially. In 2011, Gov. John Hickenlooper and Gov. Mary Fallin of Oklahoma led 16 other states in establishing a Memorandum of Understanding (MOU), committing to increase the use of NGVs in their state fleets. Colorado has since grown its fleet of NGVs from 3 to 225. Automakers are responding with the first manufacturer-available half-ton pickup and full-size sedan (the Ford F-150 and Chevrolet Impala). As a result, citizens everywhere have more options to save money by driving NGVs. At the same time, Colorado has passed some of the highest tax credits in the country for NGVs, EVs, and propane vehicles. EV charging stations have also become far more commonplace; 146 EV charging stations exist in Colorado today. Through Colorado’s EV charging station grant program, Charge Ahead Colorado, Colorado has committed to doubling the number of publicly accessible charging stations between 2013 and the end of 2015.

ACHIEVEMENTS: PROMOTE ALTERNATIVE FUEL VEHICLES^{xiv}

- Increased tax credits for alternative fuel vehicles (AFVs) in 2013 and 2014, providing a rebate of up to \$6,000 per vehicle — some of the highest incentives for alternative fuel passenger cars in the nation. These credits allow Colorado consumers to take advantage of the fuel cost savings of AFVs and improve Colorado’s air quality.
- Expanded the number of publicly accessible electric vehicle charging stations from 79 to 146 from the beginning of 2013 to May 2014, contributing to 1,535 EVs sold in Colorado in 2013.



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1,535

EVs sold in Colorado in 2013

The map above shows all 146 EV charging stations in the state.

FUTURE ACTIONS: PROMOTE ALTERNATIVE FUEL VEHICLES

- Establish a statewide network of compressed natural gas (CNG) stations, including 25-30 new public stations by 2018 allowing Coloradans to drive throughout the state on more affordable, cleaner burning natural gas, much of which is produced in Colorado.
- Increase the number of electric vehicle (EV) charging stations in Colorado from 146 to 200 by the end of 2015 to expand opportunities for alternative fuel vehicles and reduce fuel costs for consumers.
- Transition at least 1,000 public and private fleet vehicles to alternative fuels such as natural gas, propane, and electricity by 2018.

TRADITIONAL ENERGY

Fossil energy production is the bedrock of Colorado's energy industry. With vast reserves of natural gas, oil and coal, Colorado saw an 89 percent increase in crude oil production and a 38 percent increase in marketed natural gas production from 2007-2012. These increases were largely due to advancements in unconventional extraction and production methods.^{xv} In 2012, oil and natural gas extraction in Colorado produced more than \$12 billion in revenue, and created more than 35,000 new jobs from 2003- 2013.^{xvi} Natural gas

accounted for more than 20 percent of the total electricity generation in the state in 2012.^{xvii} Related sectors, such as petroleum refining, drilling, and natural gas distribution, produced billions more in revenue and tens of thousands of additional jobs. Additionally, Colorado has the largest reserve of coalbed methane in the nation, which contributes more than 40 percent of the state's total natural gas production. In 2013, 63 percent of Colorado's electricity came from coal. More than 50 percent of the coal produced in the state is exported, bringing in approximately \$1.3 billion in revenue from coal mining in 2012.^{xviii}

RENEWABLE ENERGY

Wind, solar, biomass, geothermal, small hydroelectric, and other renewable energy resources have been increasing in Colorado for the last decade, with substantial increases being due to Colorado's voter-led renewable energy standard and subsequent legislative expansions. Investor-owned electric utilities must provide 30 percent, and electric cooperatives 20 percent, of their generation from renewable energy resources by 2020. Wind is the largest source of renewable energy in the state and is rapidly growing.^{xix} In 2013, wind provided 13.8 percent of Colorado's electricity. The Carousel Wind Farm in Kit Carson County brought 150MW of wind energy to Tri-State Generation and Transmission, providing new economic development and lowering the long-term costs of electricity in rural Colorado. Additionally, Colorado has become a hub for wind manufacturing, boasting nearly 4,000 jobs in 2013, and ranking 5th in the nation for wind energy-related jobs.^{xx} Solar energy is also a rapidly growing



sector in Colorado and has created new opportunities in electricity generation, R&D and manufacturing. Colorado's solar energy sector supported 328 companies and 3,600 jobs in 2013, making the state 9th in the nation for solar jobs, with the expectation for significant future growth.^{xxi}

Other renewable resources, such as geothermal, small hydroelectricity, and biomass, have high potential in Colorado. Colorado ranks 4th among western states in the number of potential sites for geothermal power generation and has an estimated generational potential of 20MW. The town of Pagosa Springs is exploring the potential for Colorado's first geothermal power plant. Existing hydropower facilities have a total capacity of 1162 MW, with the potential for new opportunities through increased efficiency and investment in agricultural low-head hydro projects. Increased opportunities for biomass energy development and reduced forest fire risk come as millions of acres of Colorado's forests are impacted by pine and spruce beetle infestation.

TRANSMISSION

The ability to cost effectively develop Colorado's energy resources depends on the availability of transmission infrastructure. Most energy resources in the western United States are generated far from urbanized areas where the energy is in greatest demand. Pipelines and electric transmission lines are costly to build and difficult to site given the long distances they must travel across lands with multiple ownership.

The Colorado Public Utilities Commission (PUC) developed rules requiring the state's major transmission operators to file 10-year transmission plans. These plans inform the PUC of near-term and long-term plans to build out the transmission system, which is useful information when the PUC assesses the need for individual transmission projects. The transmission plans also provide information to counties, municipalities, and project developers, which can facilitate local development plans.

Given the interconnectedness of the transmission systems in the West, the Colorado Energy Office (CEO) and the PUC have collaborated with energy officials in other western states on electricity sector policy issues. Through the Western Interstate Energy Board, the CEO and PUC have worked to better understand policy and regulatory best practices from other states and help policymakers in other states learn from Colorado's successes.

ACHIEVEMENTS: DEVELOP COLORADO'S ENERGY RESOURCES

- Increased demand for clean and renewable energy in Colorado, such as solar, wind, landfill gas, hydroelectric, biomass, geothermal, and coal mine methane by expanding the renewable energy standard to require 20 percent clean energy from rural electric cooperatives by 2020. In 2013, one new coal methane project was brought on-line and additional coal mine methane and pyrolysis (waste-to-energy) projects are in negotiation.
- Promulgated through the Division of Water Resources (DWR) in 2010, the Produced Nontributary Ground Water Rules,^{xxiii} which provide for a transparent and streamlined process to classify produced water as nontributary for oil and gas wells in Colorado. These rules provide regulatory certainty to the oil and gas industry and allow for the orderly and timely development of energy resources. As of April 2014, almost 100 percent of the existing oil and gas wells are covered by these rules, 11 petitions have been approved, and three petitions are currently pending approval.
- Originated a series of rulemakings, promulgated rules, and instituted policies in 2011-2013 through the Colorado Oil and Gas Commission to encourage oil and gas development while protecting Colorado's water, air and lands (see Protecting Colorado's World-Class Environment section).

FUTURE ACTIONS: DEVELOP COLORADO'S ENERGY RESOURCES

- Reduce the median number of days to approve a drilling permit from 32 in FY 2012-2013 to 30 by June 30, 2015.
- Accelerate the development of renewable energy resources through implementation of Colorado's renewable energy standard (RES). In 2013, Colorado passed Senate Bill 252, increasing portions of the RES and adding new eligible sources to promote economic development and energy market advances, encourage Colorado-based clean and innovative energy solutions, increase energy security, and protect the environment.

GOAL: Spur Innovation

Colorado supports technical and entrepreneurial innovation as key to economic growth by increasing access to capital, supporting technological hubs, and building a business-friendly environment.

Ranked as the 2nd best state for entrepreneurship and innovation, the 4th top state for entrepreneurial activity, and 5th on the 2013 Clean Tech Leadership Index,^{xxv} Colorado is already home to top innovators in the energy sector. The State supports these innovators by providing capital incentives and breaking down barriers to investment as they bring technologies to market.

Additionally, Colorado's research universities, the U.S. Department of Energy's National Renewable Energy Laboratory (NREL), and public-private partnerships, like those established through the Colorado Energy Research Collaboratory, provide the foundational research and education needed for new market innovations. These innovations create new opportunities in energy efficiency, renewable energy, and technologies that allow for cleaner and more efficient use of traditional energy and natural resources.

Increased funding for Colorado's energy companies and research institutions enables them to more quickly bring ideas to the market and to generate well-paying jobs for Colorado's highly-skilled talent pool. With this need in mind, the Colorado Office of Economic Development and International Trade (OEDIT), in late-2013, began offering highly competitive grants to Colorado's most forward-thinking and capable companies and research institutions. This capital is being deployed strategically to fuel advances in technologies that will be used in the next generation of AFVs, batteries, power plants, energy efficient buildings, and other energy technologies.

Colorado's public-private partnerships, like the Colorado Innovation Network (COIN) created in 2011, create physical and virtual networks of global leaders that bring people together to support ecosystems to grow companies and create jobs. COIN's annual summit attracts many of the world's leading thinkers and innovators.

ACHIEVEMENTS: SPUR INNOVATION

- Supported the growth of seven Colorado clean tech companies by providing grants through the Advanced Industries Accelerator Program. As of June 2014, Colorado provided nearly \$3 million to these companies and to specific energy technology commercialization efforts at Colorado research universities.
- Assisted six innovative energy companies to expand or relocate to Colorado in 2013 through direct engagement and state incentives. These six companies include: Cool Planet, Intermountain Electronics, Woodward, Hamon Deltak, Sanjel, and FMC Technologies.
- Included innovative, clean, homegrown technologies, such as coal mine methane and waste-to-energy, in Colorado's renewable energy standard in 2013, leading to 16 new candidate sites for possible development across the state.
- Incentivized new business models for geothermal development in Colorado by working directly with developers and helping to secure \$3.8 million in DOE grant awards in 2014.
- Commissioned a report on the viability of "crowd-source" funding for new energy technologies. Upon completion in late 2014, the report will be distributed to the university technology transfer offices to inform Colorado technology commercialization and economic development efforts.
- Funded the Colorado Energy Research Collaboratory, a public-private partnership between Colorado research universities and NREL, at \$1 million per year through 2015 to invest in cutting-edge research for new energy technologies.

FUTURE ACTIONS: SPUR INNOVATION

- Attract 700 new energy jobs to Colorado each year, and encourage retention and growth of another 700 jobs each year among existing Colorado companies.
- Build recognition for businesses and research institutions in Colorado's air quality sector and attract three new research and development, manufacturing, and/or sales operations, such as the manufacturing of methane sensing and control technologies, by the end of 2015.
- Provide a comprehensive inventory of state, federal, and private sector funding opportunities available to early-stage energy companies in Colorado.

GOAL: Train Colorado's Workers

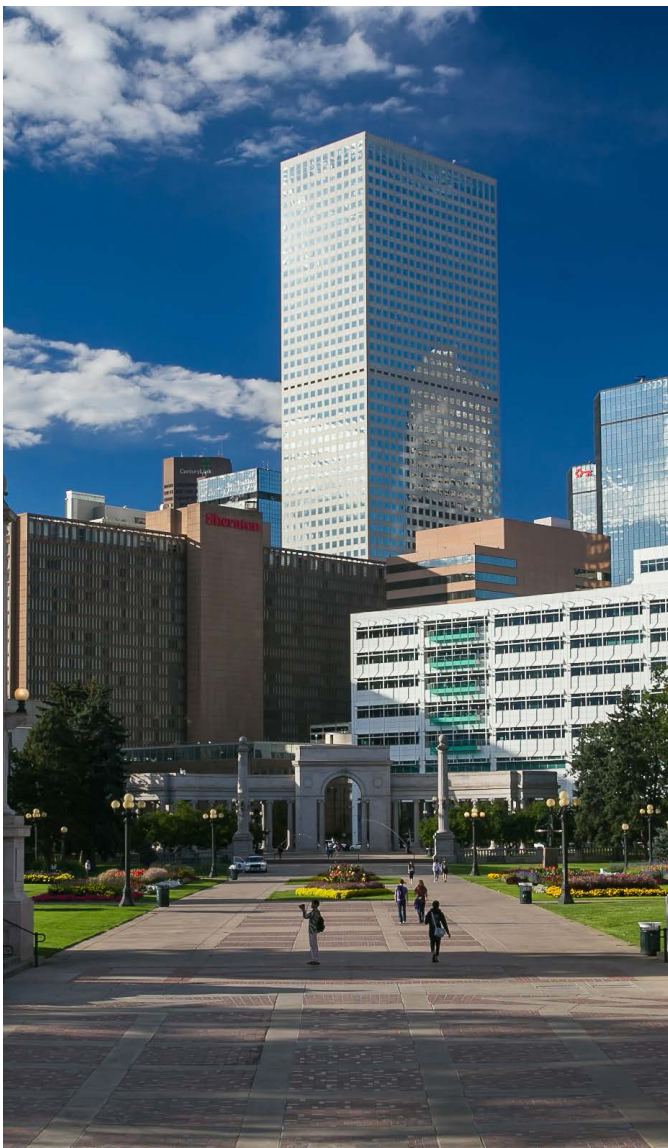
Colorado supports high-quality education for Colorado students in science, technology, engineering, and mathematics (STEM) — equipping them to pursue technical careers in the energy sector.

Colorado's wide diversity of energy companies and entrepreneurs provides job opportunities ranging from technical fields in science and engineering to business administration. Similarly, Colorado's universities and research institutions host a wide array of scientists and researchers.

These energy industry jobs often require specialized skills and advanced education. Through access to high-quality STEM education, Colorado can maintain and expand its workforce — building a long-term competitive advantage for all types of energy companies conducting business in the state.

Colorado supports sector partnerships to provide Colorado's energy industry with access to the skills and talents it needs. Sector partnerships are regional energy partnerships led by business along with economic development, education, and workforce development partners. Seven out of 14 of Colorado's economic development regions are launching or have launched active energy sector partnerships with the goal of meeting industry workforce and long-term education pipeline needs.

The sector partnerships will inform the development of statewide energy career pathways, which represents a series of connected education and training programs, work experiences, and student-support services that enable individuals to secure a job or advance in an industry or occupation.



7 innovative
clean technology
companies
have received Colorado's
Advanced Industries Accelerator
grants as of June 2014.

Colorado has begun the development and implementation of a Colorado STEM Education Roadmap through a three-year process, which began in spring 2013. Year one included defining a strategic vision, destination, and key initiatives. Year two focuses on implementing strategic initiatives and tactics, and on finalizing a STEM Action Plan based on data and research-based strategies. Year three will focus on identifying, connecting, and scaling effective STEM efforts.

ACHIEVEMENTS: TRAIN COLORADO'S WORKERS

- Worked with electric utilities and the Colorado Community College System to develop an energy technician specialist degree and certificate program, beginning in 2014, focused on transmission infrastructure, wind turbine maintenance, and solar installation maintenance.
- Provided technical training and certification to 300 workers statewide to work in home energy audit, inspection and retrofit fields, increasing the skilled workforce in these fields.

300

workers statewide were provided energy audit and inspection training, increasing the skilled workforce in these fields.

FUTURE ACTIONS: TRAIN COLORADO'S WORKERS

- Provide career paths in engineering and applied sciences for 400 high school students by 2015, through the implementation of the Colorado STEM Education Roadmap.





Protecting Colorado's World Class Environment

Colorado is blessed with a wealth of natural resources, including beautiful landscapes, diverse wildlife, abundant energy and mineral resources, and unique geology. Vast, open plains support agriculture and wildlife. The mountains, forests and canyons provide habitat for iconic species, awe-inspiring views, and some of the best recreational opportunities in the world. Colorado is also home to the headwaters of the Colorado and Rio Grande Rivers, which provide vital water supplies for more than 40 million people in Colorado and the Southwest.

The state's natural resources play a significant role in the high standard of living enjoyed by Coloradans. Out-of-state visitors and Coloradans alike enjoy hunting, fishing, outdoor recreation and accessing Colorado's public lands. Thoughtful management of the state's natural resources results in a variety of positive impacts on Colorado's economy. In 2012, the Outdoor Industry Association estimated Colorado's outdoor recreation economy generated 125,000 direct jobs and approximately \$13.2 billion in consumer spending.^{xxv}

Colorado's natural environment also provides the energy resources on which we depend. Responsibly accessing those energy resources is vital to Colorado's economy, but must be balanced against impacts to land, water, air, and wildlife resources. Public health depends on protecting these natural resources and the clean air, clean water, and open spaces they provide. One of the challenges faced by all energy-rich states, including Colorado, is how to balance the energy needs of citizens with the protection and preservation of the natural environment.

Changes in the climate pose a serious and ongoing threat to these resources, our people, and the economy. While the politics of a changing climate continue to be contentious to some, the impacts are already evident. The recent floods, forest fires, and extended droughts that stressed the region's water supplies caused billions of dollars in damages and devastated communities all across the state. While individual events can't be directly

linked to global climate trends, we know rising global temperatures are stressing our natural resources and leading to increased demand for already strained water and energy.^{xxvi}

Investing in solutions for a changing climate isn't about partisan politics; it's about security. It is about protecting Colorado's economy and the safety of our citizens. It's about investing in win-win solutions for Colorado's future. As George P. Shultz, former Secretary of State, Treasury, and Labor under Presidents Richard Nixon and Ronald Reagan said, "If we can capitalize on these opportunities, we will have a much better energy future, from the standpoint of our national defense, our national economy and our national environment including our climate."

Citizens and businesses demand clean air, clean water and open spaces to support abundant wildlife, recreational opportunities, and safe communities. Our ability to protect these resources makes Colorado a great place to live, work, play, and visit.

GOAL: Improve Colorado's Air Quality

Colorado is committed to securing clean air for all our citizens, while promoting responsible growth in the energy sector.

For the past decade, Colorado has been a leader in developing and implementing strategies to reduce harmful emissions from the power generation and oil and gas production sectors. As a result, Colorado's oil and gas air quality programs and power generation requirements are some of the most rigorous in the country. These successes are the direct result of working across broad coalitions in the state and across the region.

Through a diverse, bipartisan coalition of stakeholders including utilities, natural gas producers, and environmental groups, Colorado collaborated with

lawmakers to pass the Clean Air-Clean Jobs Act. The law provided a framework for utilities to retire and replace aging power plants with cleaner resources and created a national model for reducing the adverse health impacts from air pollution, complying with the federal regional haze rule, and strengthening Colorado's economy.

To further reduce potential air quality impacts associated with oil and gas development, the Colorado Air Quality Control Commission adopted, in February 2014, new regulatory requirements to cover the lifecycle of oil and gas development. These requirements make Colorado the first state in the nation to directly regulate detection and reduction of methane emissions and volatile organic compounds (VOCs) associated with oil and gas drilling. Full implementation of the requirements will result in a reduction of 94,000 tons per year of VOCs, that contribute to ozone formation, and 64,000 tons per year of methane, which contributes to total greenhouse gas emissions, at an estimated cost of \$450 per ton.

Regional, national, and global air quality concerns require an increased emphasis on coordination across state lines. For example, Colorado is collaborating with Utah and Wyoming to assess regional air quality impacts related to oil and gas development and to minimize the impacts of ozone levels and visibility within National Parks and Wilderness Areas.

Colorado also stepped up to the challenge of reducing greenhouse gas emissions and addressing a changing climate. Policies that promote energy efficiency, support clean energy, and reduce air pollution, including the Clean Air-Clean Jobs Act, have led to significant greenhouse gas reductions from the power sector and will lead to even greater anticipated reductions in the future. Due to the Clean Air-Clean Jobs Act alone, Colorado's largest utility anticipates reducing CO₂ emissions by 28 percent, NO_x by 86 percent, SO₂ by 83 percent, and mercury by 82 percent by 2020, while having a positive economic impact of \$590 million on the state from 2010 to 2026 and creating about 1,500 jobs during peak construction.^{xxvii}

These successful bipartisan policies should serve as a model to the federal government as it develops standards for CO₂ emissions under the federal Clean Air Act. Among other states, Colorado is leading the way in creating new innovative policy solutions for reducing greenhouse gas emissions. Colorado's clean air policies also drive investment and deliver economic and health benefits to the state. By recognizing state efforts and designing a stringent but flexible framework for regulating CO₂ emissions, the federal government can incorporate a variety of strategies, including the many successful Colorado programs already being implemented.

Investing in solutions for a changing climate isn't about partisan politics; it's about security. It is about protecting Colorado's economy and the safety of our citizens.

ACHIEVEMENTS: IMPROVE COLORADO'S AIR QUALITY

- Promulgated the nation's leading rules on air emissions from oil and gas operations, through the Colorado Department of Public Health and Environment (CDPHE) in February 2014, making Colorado the first state to issue regulations requiring the detection and reduction of methane leakage.
- Promulgated rules to prohibit uncontrolled venting on all wells built within 1,000 feet of an occupied building, through the Colorado Oil and Gas Conservation Association (COGCC) in early 2013, reducing methane emissions that would otherwise be emitted to the atmosphere through flaring or venting of gas.

First state
in the nation to require the
detection and reduction of
methane leakage from oil and
gas operations

FUTURE ACTIONS: IMPROVE COLORADO'S AIR QUALITY

- Promulgate rules to reduce emissions of methane and other VOCs through flaring of gas during oil and gas exploration and production.
- Perform a comprehensive study on the emissions and dispersion of pollutants from oil and gas facilities in Colorado to quantify air emissions and produce high-quality data from measurements at various distances from the wellhead for future impact assessments. The study, led through CDPHE, will be completed in June 2016.

- Conduct three complementary field experiments to better understand the factors controlling ozone in the Front Range, through CDPHE and in coordination with National Oceanic and Atmospheric Administration (NOAA), in the summer of 2014.
- Continue implementing the bipartisan Clean Air-Clean Jobs Act, providing a framework for utilities to retire and replace aging power plants with cleaner resources and strengthening Colorado's economy. Under the law, Colorado's largest utility anticipates reducing CO₂ emissions by 28 percent, NO_x by 86 percent, SO₂ by 83 percent, and mercury by 82 percent by 2020, while having a positive economic impact of \$590 million on the state from 2010 to 2026 and creating about 1,500 jobs during peak construction.

GOAL: Protect Colorado's Water

Colorado is committed to ensuring a secure water future while supporting Colorado's energy economy.

Water affects every aspect of Coloradans' lives. It is vital to maintaining vibrant municipalities, productive agriculture, a robust recreation and tourism industry, and a thriving natural environment.

Colorado faces a challenging water future, due in part to a growing population and to increased episodes of drought. A study commissioned by the Colorado Water Conservation Board (CWCB) estimates Colorado faces a gap between water supply and demand that could exceed 500,000 acre feet per year by 2050, or roughly half of the amount of current total water demand from municipal and industrial users in the state.^{xxviii} While energy development currently accounts for only an estimated 0.46 percent of overall water use in the state,^{xxix} Colorado will ensure that energy development can occur while allowing for all other water uses. One step toward this goal is to encourage water reuse and recycling during oil and gas production. Concerns of permitting delays for the reuse of produced water from oil and gas operations are being addressed through the State's commitment to making the process more straightforward for applicants.

In order to proactively address the projected gap between water supply and demand, Colorado released Executive Order 2013-005 in May of 2013 calling for the creation of a Colorado Water Plan.^{xxx} The Colorado Water Plan will provide a path forward for securing water needs, while supporting healthy watersheds and the environment, robust recreation and tourism economies, vibrant and sustainable cities, and viable and productive agriculture.

Public health, agricultural, and certain industrial uses also demand access to high quality water, and the State must meet standards under the federal Clean Water Act. With the increase in oil and gas development in the state, citizens have called for stronger protection of water supplies during oil and gas activities. Colorado takes public safety very seriously and proactively initiated a series of groundbreaking oil and gas rulemakings through the COGCC, from 2011 to 2013, to protect water resources.

ACHIEVEMENTS: PROTECT COLORADO'S WATER

- Released Executive Order 2013-005 in May of 2013 calling for the creation of a Colorado Water Plan.
- Originated a series of rulemakings, promulgated rules, and instituted policies in 2011-2013, through the COGCC, to protect Colorado's water quality. Specifically:
 - Approved groundwater protection rules in early 2013 requiring oil and gas operators to sample nearby water wells, before and after drilling activities, as a way to ensure that water supplies have not been contaminated.
 - Created a model for the nation in 2012 by requiring the disclosure by oil and gas operators of chemicals used in hydraulic fracturing fluids.
 - Adopted new spill reporting requirements in 2013 that lowered the threshold for reportable spills from 20 barrels to five barrels within a contained area, and imposed a new requirement to report spills of one barrel or greater outside of a contained area.
 - Adopted rules in 2013 that require oil and gas operations located within 500 feet of occupied buildings to protect storage tanks with steel rings and synthetic liners.

- Adopted rules in 2013 that prohibit the use of pits, except fresh water pits used during the drilling phase, for oil and gas locations within 1,000 feet of occupied buildings.
- Adopted a policy in 2013 requiring operators to certify that all existing wells within 1,500 feet of a proposed horizontal well have been properly cased and lined with cement to isolate aquifers and hydrocarbon-bearing zones prior to hydraulically fracturing the horizontal well. If an existing vertical well within 1,500 feet is not properly cased and cemented, the new well may not be stimulated using hydraulic fracturing.
- Increased enforcement actions in 2013 related to timely compliance of mechanical integrity testing to certify that existing wells that are not producing oil or gas remain mechanically sound.

Required the disclosure of chemicals used in hydraulic fracturing fluids

FUTURE ACTIONS: PROTECT COLORADO'S WATER

- Release a Colorado Water Plan no later than December 31, 2015.
- Identify nontributary groundwater formations in the northeast region of the state that can be available for energy development, allowing access to water for energy development without taking water away from current uses, by December 31, 2014.
- Encourage water reuse/recycling by developing a decision tree, in 2014, to guide applicants through the complex approval process for produced water from oil and gas operations.

GOAL: Preserve Colorado's Wildlife & Lands

Colorado is committed to preserving natural resources while encouraging the growth of the energy economy.

Colorado has one of the most beautiful natural environments of any state in the nation. Individuals move to Colorado to enjoy the natural environment, and businesses choose to locate in Colorado, in part, because it is a place where their employees desire to live, work, and play.

The natural environment is a major driver of Colorado's economy. The outdoor recreation industry in Colorado generates \$13.2 billion in consumer spending annually, and 125,000 direct jobs.^{xxx} In addition, activities related to hunting, fishing, and wildlife viewing generate a total annual economic impact of \$3 billion and support more than 33,800 jobs across the state.^{xxxii}

With these benefits comes the responsibility of good stewardship. By soundly managing Colorado's natural resources, future generations of Coloradans can enjoy the same high standard of living enjoyed today. The COGCC's oil and gas regulations include provisions to minimize impacts to wildlife and its habitat. Oil and gas operators are required to consult with experts at Colorado's Division of Parks and Wildlife (CPW) in order to receive a permit to drill in areas identified as sensitive for key wildlife species. These regulations incentivize operators to voluntarily mitigate the impacts of their planned development, and have resulted in the agreement of 18 separate Wildlife Mitigation Plans between operators and CPW. In 2013, a third-party consultant assessment concluded that 96 percent of practices recommended to industry after CPW consultations were adopted, indicating a strong, collaborative relationship between operators and wildlife managers.

Some places in the state provide such natural resource, recreational, or economic value that they deserve long-term protection from development activities, including energy development. One of these areas is the Thompson Divide, southwest of Carbondale in western Colorado, which comprises 220,000 acres of National Forest land – about half of which has been leased to oil and gas companies. Developing solutions for the Thompson Divide can be achieved by bringing all parties to the table and can lead to a win-win: long-term protection of the area and compensation to those who have invested in it.

Similarly, Colorado supports the community-driven, bi-partisan proposal to redesignate Colorado National Monument as a National Park, along with separate efforts to designate the stretch of the Arkansas River known as Browns Canyon as a National Monument.

**ACHIEVEMENTS:
PRESERVE COLORADO'S WILDLIFE AND
LANDS**

- Protected 247,564 acres since 2010 through wildlife mitigation plans, bringing the total number of acres enrolled under wildlife mitigation plans to 621,076.
- Initiated a COGCC rulemaking in 2013 to update habitat maps used to regulate oil and gas development for 13 sensitive species.
- Verified that 96 percent of best management practices recommended by CPW during consultation with oil and gas operators were subsequently adopted on a voluntary basis.

**FUTURE ACTIONS:
PRESERVE COLORADO'S WILDLIFE AND
LANDS**

- Partner with non-governmental organizations and landowners to jointly launch a statewide habitat exchange program that creates incentives for voluntary mitigation practices for Greater sage-grouse habitat by December 31, 2015, and mule deer habitat by December 31, 2016.
- Initiate a COGCC rulemaking by January 1, 2015 to update habitat maps for Greater sage-grouse for use in regulating oil and gas development.

621,076

acres were protected under wildlife mitigation plans.



Streamlining Government

Colorado establishes regulations to minimize waste in the exploration and production of energy resources, protect the rights of energy mineral owners, and avoid and mitigate adverse environmental impacts. Additional regulations exist to address activities beyond energy development, like the transmission of raw energy resources through pipelines, road, and rail, and the flow of electricity through electric transmission lines. This vast regulatory environment is increasingly complicated by multiple state programs and the shared authority of federal, state, and local governments to manage subsurface energy resources and the land and habitat on which those resources are found.

Given the complex regulatory environment, it is critical that regulations are clear, practical, and implementable. Streamlining government reduces red-tape, and allows for better response and recovery during emergencies. Continuously improving upon these efforts and increasing the efficiency of government will allow Colorado to better respond to citizens and be a more thoughtful steward of the public's resources.

GOAL: Improve the Regulatory Process

Colorado will continue to evaluate all regulations within the State's authority, balancing effective governance, responsible development, and environmental protection.

Executive Order D 2012-002 was issued on January 19, 2012, requiring every state agency to assess existing regulations and ensure they are necessary, clear, and not duplicative. Through this order, agencies are required to consider whether the protections provided by each regulation can be accomplished in a more efficient manner. This is an ongoing process, and Colorado strives to effectively implement existing regulations and respond quickly to new, innovative ideas. State employees continually assess each step in the regulatory process to be responsive to the changing regulatory environment and ensure value is added, redundancies are eliminated, and processes are optimized.

For example, oil and gas development has grown considerably in Colorado in recent years. This growth has increased the number of permit applications submitted to state agencies with regulatory authority over oil and

gas development. For example, permit applications received by the Colorado Department of Public Health and Environment's (CDPHE) Air Pollution Control Division, and the time needed to process those applications, have increased. To address these concerns, CDPHE has developed general permits to streamline the permitting process for certain types of oil and gas equipment, allowing state staff to dedicate their time to more complex permit applications.

ACHIEVEMENTS: IMPROVE THE REGULATORY PROCESS

- Issued Executive Order D 2012-002 to assess the need for, appropriateness, and cost effectiveness of new rules and regulations.
- Streamlined the permitting requirements for 40 percent of the oil and gas permits issued by CDPHE's Air Pollution Control Division in 2013. Determined that 1,614 of the total 3,967 oil and gas permits issued were "general permits," meeting industry's needs without compromising stringent air quality protections.
- Originated a COGCC rulemaking and promulgated rules in 2013 to allow operators to use groundwater samples previously obtained to satisfy the initial baseline or subsequent sampling requirement, thereby reducing costs.
- Originated a COGCC rulemaking and promulgated rules in 2012 that increase consistency and conform better to actual practices for applications on permits to drill, increase transparency by improving information available in applications for permits to drill, and repeal an obsolete regulatory deadline in rules regarding visual impacts.

- Adopted a new policy in 2010 allowing for increased transparency in the approval of nontributary groundwater claims for hydraulic fracturing. Six claims have been approved as of April 2014, and three claims are currently pending approval.
- Coordinated with federal regulators to streamline permitting of small hydroelectricity development. Through an Memorandum of Understanding (MOU) with the Federal Energy Regulatory Commission (FERC), 26 low-impact projects were pre-screened, nine projects were successfully completed and five projects have received exemptions.

FUTURE ACTIONS: IMPROVE THE REGULATORY PROCESS

- Continue to ensure new rules and regulations meet the provisions in Executive Order D 2012-002.
- Continue an expedited air permit review process for low-review permits and a general permit for common oil and gas equipment, allowing for quicker permit approval times, when appropriate, by CDPHE's Air Pollution Control Division.
- Update and expand the Colorado Small Hydropower Handbook and coordinate all state agency comments regarding a hydro electricity projects application for exemption from Federal Energy Regulatory Commission (FERC) review.

GOAL: Enhance Emergency Planning, Response and Recovery

Colorado will work to provide a coordinated and rapid response to energy emergencies.

Colorado's varying geography and climate make the state susceptible to wildfire, droughts, and flooding, often all at the same time. Additionally, the impacts of a changing climate can significantly increase the likelihood of these dangers, impacting the economy and the well being of Colorado residents. One in every four Coloradans lives in close proximity to wildfire zones. In recent years, the record for most destructive fire in the state's history has been broken three times.^{xxxiii} The 2013 floods took 10 lives and forced more than 18,000 people to evacuate their homes.

These incidents and other natural disasters can impact the ability of citizens to access energy, including the interruption of transportation and heating fuels, as well as electric lines. In the 2013 flood, more than 10,000 customers were left without electricity, and gasoline supplies were limited on the Western Slope. Spills during the production of oil or natural gas resources can heavily impact the environment and nearby communities. Emergency response requires cooperation with federal agencies, local governments, energy companies and utilities, and first responders. It also requires the distribution of timely and accurate information to the general public about health and safety.

In June of 2013, after a long period of drought, there were at least 13 wildfires, including the most destructive fire in state history. Colorado's Public Utilities Commission, the Colorado Energy Office, and the Colorado Office of Emergency Management worked with electric utilities and first responders to contain the fires with minimal damage to major transmission lines.

The September 2013 floods caused damage across 24 Colorado counties. More than 19,000 homes were damaged and towns were isolated without power.

40%

of oil and gas air quality permits issued were streamlined in 2013.



Additionally, the major rail link to the Western Slope was washed out, disrupting petroleum transportation to the Front Range. The State issued an emergency waiver to allow suppliers to drive trucks between Grand Junction and Denver to resupply Western Slope stations with transportation fuels during the emergency. At the same time, the State worked with petroleum marketers and railroad companies to reroute supplies through Wyoming and New Mexico. The State also worked to rebuild the rail link, and access to petroleum lines was restored by the end of September.

In the winter of 2014, propane shortages spread from the Northeast to the Midwest and eventually to Colorado. Smaller propane distributors ran out of propane to distribute, and larger distributors ran out of drivers to supply farms and households with propane heating fuel. In February 2014, the shortage became severe and temperatures reached below zero degrees Fahrenheit. Colorado responded by issuing emergency Executive Order D 2014-001, allowing suppliers to bring propane in from surrounding states and deliver propane to homes in need.

These devastating natural disasters require decisive action to save lives, rebuild roads, and restore access to energy supplies.

- Reestablished access to gasoline and diesel on the Western Slope after the 2013 flood by opening up supply lines from the Front Range through a special transportation waiver.
- Issued Executive Order D 2014-001 to secure access to heating fuels during the 2014 propane shortage.

Issued Executive Order D 2014-001, securing access to heating fuels during the 2014 propane shortage

ACHIEVEMENTS: ENHANCE EMERGENCY RESPONSE

- Released a collaborative state energy emergency response plan developed by the Colorado Energy Office, the Office of Emergency Management, and the Public Utilities Commission in June 2012 to improve emergency operations in preparing for, responding to, and recovering from an energy sector power failure.
- Released a Flood Response “lessons learned” report from the COGCC following the September 2013 floods that includes recommendations for better coordination between the agency and other affected agencies, and to improve COGCC’s internal response in the immediate aftermath of an emergency impacting oil and gas infrastructure.

FUTURE ACTIONS: ENHANCE EMERGENCY RESPONSE

- Release a COGCC emergency manual by December 31, 2014 to guide staff response to oil and gas accidents.
- Work with the propane industry in 2014 on a process for ensuring adequate heating fuel for future winters.
- Release a Colorado climate vulnerability assessment, in 2014, assembled through a team of Colorado-based experts, to identify key vulnerabilities that a changing climate will pose for Colorado’s economy and resources. The plan will provide state agencies, local governments, and others with information to improve preparedness planning.

Encouraging Collaboration

Collaboration is vital to balancing resource development, environmental protection, and the building of a robust business environment for entrepreneurs. Colorado's diverse energy resources and technologies create unique opportunities to bring people, businesses, and communities together in the decision making process.

GOAL: Bring Stakeholders Together

Colorado will continue to work with industry groups, agencies, and the public to build lasting partnerships.

The most effective policies are created through robust, well-informed stakeholder processes. Only by providing an opportunity for a wide array of stakeholders to express their opinions and concerns can Colorado balance the development of our energy resources with the protection of public health and environment.

This concept was most recently demonstrated in 2014 with the adoption of new oil and gas emissions rules. As detailed previously, a broad coalition of environmental and industry interests worked with the administration on passing rules to minimize air quality impacts associated with oil and gas development. These efforts included the nation's first regulations to reduce methane emissions from oil and gas development.

Similarly, in 2011, COGCC worked with diverse partners such as the Environmental Defense Fund and Halliburton to pass regulations requiring disclosure of chemicals in hydraulic fracturing fluid. In 2013, COGCC passed regulations requiring baseline groundwater sampling and reducing impacts of oil and gas activities near occupied buildings. In each of these instances, the State passed comprehensive regulations by repeatedly seeking input from local governments, industry, and environmental groups before the official rulemaking process began.

Colorado's stakeholder engagement initiatives have been structured to provide ongoing participation, rather

than one-time engagement, in an attempt to reach a broad consensus through collaboration. While such a broad consensus is not always obtainable, the process provides stakeholders an opportunity to participate and be heard. By engaging interested parties before beginning the formal rulemaking process, the rules are made stronger from the knowledge of experts who work in the field, and community members who will be directly impacted.

ACHIEVEMENTS: BRING STAKEHOLDERS TOGETHER

- Convened more than 260 energy executives from around the state in 2013, through the Energy Key Industry Network, connecting energy companies of all sizes in an on-going conversation about growing the energy industries in Colorado.
- Hosted a stakeholder process in 2014 to collaborate on future solar policies, and established an independent docket at the Public Utilities Commission to examine net metering policy and the regulatory treatment of distributed solar.
- Established a 16-state MOU committing to use natural gas vehicles in state fleets in 2011, resulting in a reduction in cost of about \$3,500 for a compact sedan. Additionally, the MOU resulted in the market introduction of an American-made half-ton pickup (Ford F-150) and a full-size sedan (Chevrolet Impala) to accommodate consumer demand.
- Held a stakeholder forum for oil and gas produced water in 2014, which led to a research report on the beneficial reuse of the water.

FUTURE ACTIONS: BRING STAKEHOLDERS TOGETHER

- Convene a stakeholder study group to evaluate and discuss the severance tax structure on oil, gas, and other minerals, including policies for severance tax collection and distribution, and, where appropriate, make findings and recommend changes to law or policy, by December 31, 2015.
- Advocate for the development of a shared revenue leasing system for installations of renewable energy on federal lands, providing necessary funding to local governments and for conservation actions.
- Bring together federal, state, and local officials for a scoping meeting in 2014 with CDPHE and applicants of new energy technologies to discuss the permitting of these new technologies.
- Establish a wind turbine innovation institute in Colorado through DOE grant funding and enhanced information sharing between industry partners, federal research institutions, and Colorado universities by 2016.
- Study proposals to reuse produced water and pursue steps that protect the environment and utilize the water in an economically beneficial way in 2014. Developing a better understanding of produced water constituents, novel treatment methods, and new, appropriate uses of the water will benefit industry and consumers and lead to better protections for local landowners.

More than
260
energy executives
convened through the
Energy Key Industries
Network

GOAL: Coordinate with Local Governments in Decision Making

Colorado is committed to working with local governments in our shared authority over energy development.

Across the nation, authority for regulating energy development is shared by federal, state and local governments. In Colorado, local governments have broad land use authority conferred to them by the Colorado Constitution or by laws enacted by the Colorado General Assembly. Different types of local governments hold different levels of authority, but in general, local governments have the authority to set land use ordinances, approve zoning decisions, and permit oil and gas locations. Local governments' regulatory powers may be preempted, however, by state statutes. In this case, the authority granted to the State by the Colorado General Assembly to regulate oil and gas development may preempt that of local governments when local regulations impede the development goals of the State.

State and local governments need to work closely together to navigate this shared authority to responsibly steward energy resources and serve the public. In order to improve relationships with local governments, the COGCC established a series of programs intended to increase communication with local governments and to build capacity within local governments. The Local Government Designee (LGD) program identifies a point of contact in each participating local government for the purpose of coordinating between governments on oil and gas related activities. Currently there are 146 LGDs across the state, covering 56 out of 64 counties, 82 municipalities and eight special districts. All counties with oil and gas production have an LGD. In 2012, the COGCC added two new positions within the agency, called Local Government Liaisons, to provide a clear point of contact for concerns on social and regulatory issues and provide trainings for local governments. These efforts are just the beginning of a continued effort by this administration to coordinate with local governments in the regulation of oil and gas development.

ACHIEVEMENTS: WORK WITH LOCAL GOVERNMENTS

- Expanded Local Governmental Designee program by establishing two new COGCC Local Government Liaisons in 2012, providing a clear point of contact for local government concerns on social and regulatory issues.
- Conducted eight training programs around the state in 2013 for COGCC Local Government Designees, other local government officials, and interested citizens to familiarize them with COGCC's permitting program, regulatory regime, and the many opportunities for local governments and citizens to participate in COGCC's permitting and oversight procedures. More than 130 people attended the training sessions.
- Worked with 13 local governments through the COGCC in 2013 to update their local ordinances related to oil and gas operations within their jurisdictions.
- Worked, through staff at the COGCC, in 2013, with eight local governments to craft agreements with oil and gas companies through which the operator agrees to specify best management practices when conducting operations within the local jurisdiction, including practices that may be more stringent than those required by the COGCC.

FUTURE ACTIONS: WORK WITH LOCAL GOVERNMENTS

- By August 1, 2014, COGCC local government liaisons will contact all municipalities and counties to increase their participation level in oil and gas regulation, ensuring local input from across the state.
- Continue to encourage local governments and oil and gas companies to utilize operator agreements that address local concerns from energy production.

CONCLUSION

Four key values drive Colorado's policies to responsibly grow our energy economy and be a national leader in environmentally-friendly energy development: Growing Jobs and Spurring Innovation, Protecting Colorado's World-Class Environment, Streamlining Government, and Encouraging Collaboration.

Colorado has a track record of pursuing these values. From bringing together diverse stakeholders to leveraging the abundance and diversity of Colorado's energy resources to developing the homegrown innovations in research and development, Colorado's energy sector has grown to rank nationally in measures ranging from clean technology entrepreneurship to energy generation and production. This report provides a framework for continuing to build on these successes.

Worked with
8 local governments,
requiring oil and gas companies to adopt more stringent best management practices to address local concerns

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