Annual Report

COLORADO ENERGY OFFICE 2016/2017

COLORADO
Energy Office

CEO Projects by County FY17

Agriculture Program Counties (Ag)
Participants

C-PACE Authorized Counties
Completed Projects (**C-P#**)

Energy Code Tech Assistance Counties (CODE)
Hours Tech Assistance

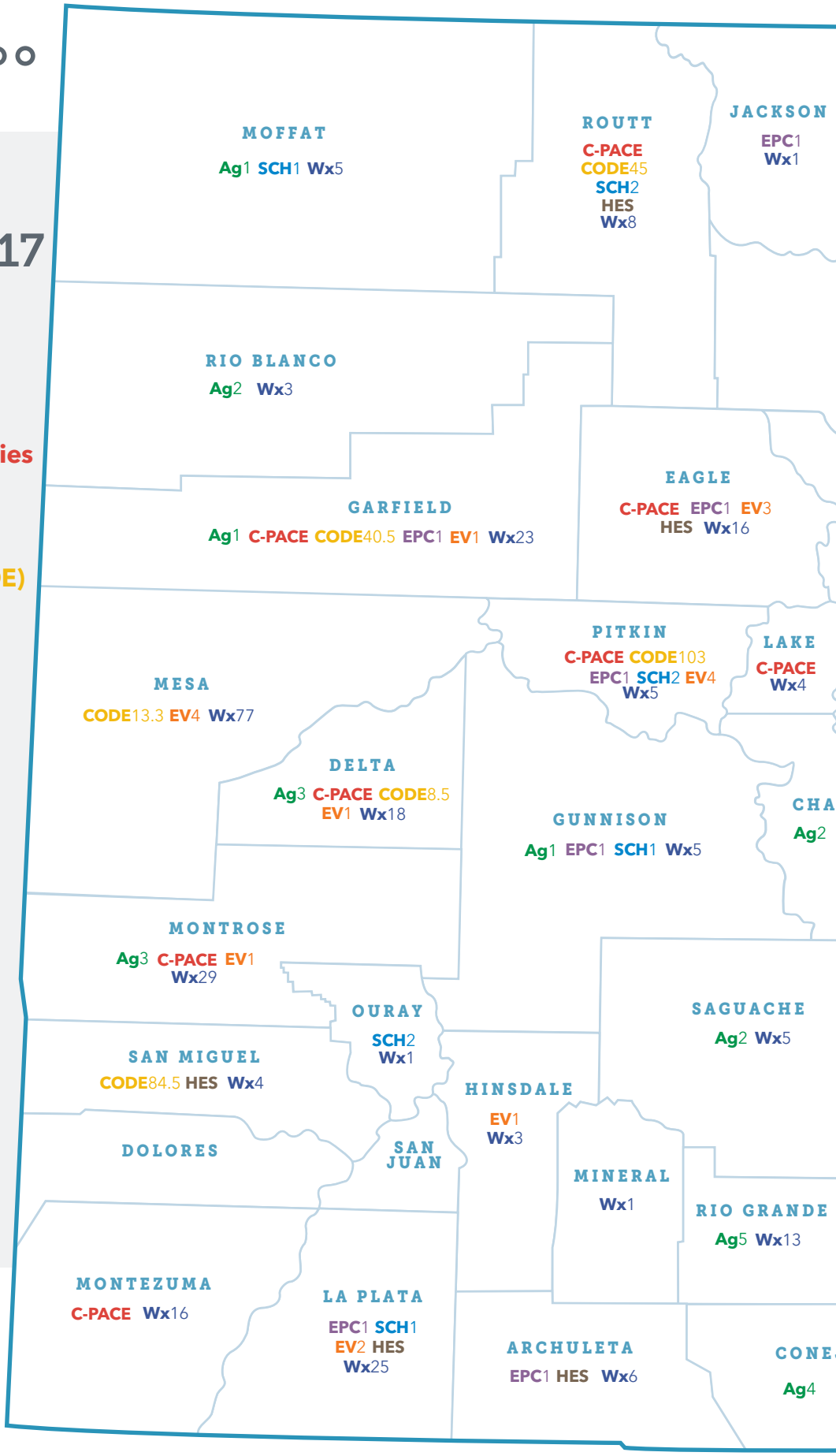
EPC Counties
Projects

Energy Savings for Schools Counties (SCH)
Projects

EV Charging Stations Counties (EV)
Charging Stations

Home Energy Score Counties
Real Estate Trainings

Weatherization Program Counties (Wx)
Households Completed




LARIMER
Ag5 SCH2 EV3 HES Wx87
WELD
Ag26 EPC2 SCH13 EV4 Wx104
LOGAN
Ag1 EPC1 Wx11
SEDGWICK
Wx1
PHILLIPS
Ag7 Wx2
MORGAN
Ag6 SCH1 Wx15
GRAND
Wx5
BOULDER
Ag2 C-P2 EPC6 HES Wx81
BROOMFIELD
C-PACE Wx9
ADAMS
Ag1 Ag1 CODE42.8 EPC3 SCH2 HES Wx180
WASHINGTON
Ag1 Wx2
YUMA
Ag12 CODE10 EPC1 SCH1 Wx4
GILPIN
SCH1 Wx2
JEFFERSON
Ag1 C-PACE CODE63 EPC4 Wx116
DENVER EPC2
C-P1 Wx124
CLEAR CREEK
EPC1 Wx3
ARAPAHOE
Ag1 C-PACE EPC2 Wx164
SUMMIT
EPC1 Wx10
DOUGLAS
EPC2 Wx6
ELBERT
Ag1 C-PACE SCH1 Wx5
KIT CARSON
Ag8 Wx4
PARK
EPC1 Wx6
LINCOLN
SCH1 Wx2
TELLER
Wx7
EL PASO
CODE9.4 EPC1 SCH2 EV2 Wx219
CHEYENNE
SCH2 Wx2
FFEE
EV2 Wx8
FREMONT
Ag1 C-PACE Wx21
KIOWA
Ag1 Wx1
CROWLEY
Wx2
PUEBLO
C-PACE EPC4 HES Wx102
CUSTER
Wx2
OTERO
SCH1 HES Wx15
BENT
Ag1 EPC3 Wx1
PROWERS
Ag10 EPC1 SCH1 Wx9
HUERFANO
Ag1 SCH1 Wx7
ALAMOSA
Ag3 Wx21
LAS ANIMAS
EPC2 Wx9
BACA
Ag2 Wx2
COSTILLA
Ag3 Wx7
JOS
Wx7

Table of Contents

01 Letter from the Executive Director

For the Colorado Energy Office (CEO), fiscal year 2017 was one of reflection and revisioning in the final year of a five-year state funding period. In 2012, the General Assembly passed HB-1315, changing the mission of CEO and creating two five-year cash funds focused primarily on energy efficiency. One fund supports CEO's work on clean and renewable energy, and the other supports innovation in conventional and traditional sources. The law directed CEO to:

- Sustain the Colorado energy economy and promote all Colorado energy;
- Promote economic development in Colorado through energy-market advances that create jobs;
- Encourage Colorado-based clean and innovative energy solutions that include traditional, clean and renewable energy sources in order to encourage a cleaner and balanced energy portfolio;
- Promote energy efficiency;
- Increase energy security;
- Lower long-term consumer costs; and
- Protect the environment.

Over the last five years, CEO has focused on improvements both internally and externally. CEO established and strengthened internal processes and procedures that have enhanced our ability to be responsible stewards of our state and federal funding. To accomplish the broad, external directives from the legislature, CEO developed new programs, expanded existing offerings and continued active participation at the Public Utilities Commission.

This report contains an overview of CEO's programs and accomplishments for fiscal Year 2017. Some of the highlights include:

- Completion of the Low-Income Community Solar Demonstration Project, a partnership with eight co-op and municipal utilities across the state to offer community solar to energy-burdened households that pay more than 4 percent of their income on utility bills
- A significant increase in applications for electric vehicle infrastructure and associated supply equipment through the Charge Ahead Colorado program, expanding charging infrastructure across the state and helping increase consumer access to charging in both urban and rural areas
- The first new-build construction project using Colorado Property Assessed Clean Energy, known as C-PACE, expanding access to private capital to commercial property owners for eligible energy and water improvements
- Technical assistance for cities and counties in the development of hydropower projects, enabling 11 water providers to complete necessary federal permit applications

As we look forward, we will continue to work with our partners and stakeholders to identify and implement opportunities that support a comprehensive energy portfolio in Colorado. Across the energy sector, technologies and markets are changing quickly. With advances in wind and solar technology, the price of renewable energy has decreased significantly in recent years, and consumer expectations for choice in service and the source of their energy are increasing. Technological advances in oil and gas have put Colorado in a national leadership position, both in terms of production and environmental protection. CEO will continue to play an important role coordinating and developing policy and programs that deliver cost-effective energy services and advance innovative energy solutions for our citizens.

Kathleen Staks

02 Mission

MISSION STATEMENT:

To deliver cost-effective energy services and advance innovative energy solutions for the benefit of all Coloradans.

Commercial & Industrial Energy Services

The commercial and industrial (C&I) sector in Colorado consumes almost 50 percent of the energy in the state (industrial = 29.7 percent, commercial = 19.6 percent). CEO's C&I energy services efforts include programs, initiatives and research studies that drive significant cost savings in the sector.

AGRICULTURAL ENERGY EFFICIENCY

Colorado's agricultural sector is critical to the economic health of the state, contributing more than $40 billion annually to the state's economy and providing more than 173,000 jobs. Agriculture also faces direct energy expenses of more than $400 million annually and accounts for approximately 86 percent of the state's water use. CEO's Agricultural Energy Efficiency (AgEE) program helps Colorado agricultural producers identify energy efficiency and renewable energy projects as well as financing options to implement the improvements.

In fiscal year 2017, CEO's AgEE program expanded beyond powered irrigation and dairies to include greenhouses, nurseries, and cold storage operators. To date, over 135 producers have enrolled in the AgEE program and more than 60 have received implementation support, moving beyond the energy audit to install recommended improvements. CEO has secured $1.6 million in financial assistance support for AgEE program participants from the Colorado Department of Agriculture (CDA) and U.S. Department of Agriculture (USDA) Natural Resources Conservation Services (NRCS), with an additional $400,000 from NRCS' Environmental Quality Incentives Program.

Highlight: Quail Ridge Dairy

Through CEO's AgEE program, agricultural producers Chris and Mary Kraft have reduced their energy costs by more than $17,000 a year. During the pilot phase of the AgEE program, the Krafts enrolled their Badger Creek Farms dairy to take advantage of the free audit and financing opportunities. The Krafts received $25,000 to install a heat recovery unit, storage tank and facility lighting, saving more than 25,000 kWh and $5,000 in annual energy costs.

This year, the Krafts enrolled their Quail Ridge Dairy near Fort Morgan in the program. Quail Ridge Dairy has 4,300 milking cows and averages 92 pounds of milk per cow per day. Although it was built in 2006, Quail Ridge Dairy had significant opportunities for energy cost savings. Following the audit, the Krafts installed lighting improvements and a larger, more efficient plate cooler that cools the milk quickly for storage to maintain product quality and low bacteria counts. Collectively, the energy efficiency improvements at Quail Ridge Dairy resulted in annual savings of more than $12,000.

ENERGY SAVINGS FOR SCHOOLS

K-12 schools use more than 8 percent of the total energy consumed within the building sector, making schools the fourth largest consumer after offices, commercial and healthcare facilities. Space heating, lighting, cooling, ventilation and water heating account for 87 percent of the total energy use in schools.

In Colorado's small, rural and low-income school districts, technical and financial resources are scarce, and energy management and education are not typically a priority. CEO's Energy Savings for Schools (ESS) program provides these schools with a free energy and water audit, preliminary renewable energy assessment, technical and financial implementation support, and training on how to create and implement energy management goals.

Participating ESS schools benefit from lower monthly utility bills and increased classroom comfort and safety. Schools can also use ESS program information in the classroom, enabling students to increase energy literacy and understand how behavior influences the overall consumption of resources.

ENERGY PERFORMANCE CONTRACTING

Funding capital improvements at public facilities can be challenging. Since the mid-1990s, Colorado's public sector has successfully used the Colorado Energy Performance Contracting (EPC) program to finance more than 200 facility improvement projects with guaranteed utility cost savings.

CEO's EPC program serves all public jurisdictions across the state, including school districts, state agencies, higher education, counties, municipalities and special districts. Through EPC partnerships with private energy service companies (ESCOs) and third-party financiers, facility improvement projects can be implemented across these jurisdictions. CEO's EPC program gives jurisdictions with deferred maintenance needs and lack of capital a way to address these needs with financing methods to cover the necessary improvements, often with no upfront costs. At the center of CEO's EPC program is free technical engineering services to public jurisdictions throughout the lifecycle of a project.

Highlight: Pueblo City School District

Pueblo City School District (PCSD) has 32 facilities and one administrative office building that suffer from aging infrastructure and above-average utility costs. Aging boilers and a condenser water system at PCSD's Central High School began failing in 2014. Having found success with EPC in the past, PCSD worked with CEO to perform capital upgrades on the high school's 110-year-old heating, ventilation and air conditioning system.

An investment-grade audit identified replacement options and associated energy savings that would help pay for Central High School's upgrades. EPC allowed the utility cost avoidance from the identified energy and water system upgrades, guaranteed by the partner ESCO, to serve as collateral for third-party financing. Through EPC, PCSD installed $9.3 million of equipment and operational upgrades with minimal upfront capital costs. Throughout the entire project, CEO provided independent review of the ESCO contract and direct technical engineering support to PCSD. The project was successfully completed in fiscal year 2017.

"We were attempting to not only replace old and dated equipment, but to also reduce energy costs, and the EPC method was the best solution for us." –Bob Lawson, Executive Director of Facilities and Construction Management for Pueblo City School District

COMMERCIAL PROPERTY ASSESSED CLEAN ENERGY

Owners of commercial buildings often find it difficult to finance energy improvement projects for their facilities. Through CEO's efforts, Colorado commercial building owners now have access to Commercial Property Assessed Clean Energy (C-PACE), a tool to finance energy efficiency and renewable energy improvements over a longer time period as compared to traditional finance products—and without incurring out-of-pocket costs at project onset. With C-PACE, building owners repay the cost of eligible energy improvements over a term of up to 20 years through an assessment on their property tax bills. As a result, C-PACE represents a successful model of partnership among public and private sector entities that advances economic development and energy efficiency. By the end of fiscal year 2017, 16 counties had joined the program, unlocking access to C-PACE for approximately 60 percent of the total eligible commercial building stock in Colorado.

Highlight: John's Cleaners

This year, John and Wendy Ellwood used C-PACE to finance energy efficiency and renewable energy improvements for their 12-year old Lafayette dry cleaning business, John's Cleaners. This C-PACE project produced an immediate financial payback for the Ellwoods due to a ground and rooftop solar installation that allows them to sell the excess energy they produce back to their utility. Not only do the Ellwoods no longer pay a utility bill, they now receive a check from their utility that averages $300 per month.

Highlight: Sloan's Lake Flats

In addition to providing financing for energy improvements to existing commercial buildings, C-PACE also can be used to finance energy efficiency and renewable energy measures for new buildings.

In fiscal year 2017, PACE Equity financed Colorado's first new construction C-PACE project at Sloan's Lake Flats in Denver. This was only the second new construction project to use C-PACE in the nation and, valued at over $2.8 million, it remains the largest C-PACE project to close in Colorado since the inception of the program.

The project is a new $16.8 million multifamily building in the Sloan's Lake area that will have 82 "micro-unit" studio apartments. C-PACE was used to finance solar panels and highly efficient HVAC, lighting, plumbing and windows. These renewable energy and efficiency measures will allow the building to save 56 percent of the energy consumed by a typical building of its size, according to Michael Leahey, Managing Director of the Colorado Office of PACE Equity.

INDUSTRIAL AND RECYCLED ENERGY

Colorado's industrial sector accounts for 33 percent of the energy consumed in the state. However, with only small operational changes, companies in this sector can realize significant energy use reductions and cost savings. One of the areas with the greatest potential is recycled energy.

Industrial processes in steel mills, paper plants, refineries, chemical plants, and oil and gas operations result in waste heat. Recycled energy is the process of recovering the heat that otherwise would dissipate into the atmosphere and using it to generate electricity with no additional fuel consumption. The result is a reduction in both energy costs and demand, which in turn reduces greenhouse gas emissions of existing power plants.

While recycled energy is classified as an "eligible energy resource" under Colorado's Renewable Energy Standard (RES), industrial projects using this technology are not yet broadly deployed in the state. Internal competition for funds, stringent requirements for short payback periods, a lack of energy management, and the varying sizes of operations create barriers to realizing cost savings from energy efficiency and renewable generation in the industrial sector.

CEO research indicates there is economic potential for recycled energy projects at 52 sites across the state that would total 106 MW of generation if developed. Ten of the sites have projected paybacks of less than five years, and 31 sites have projected paybacks between five and 10 years.

This year, CEO worked to advance the recycled energy market in Colorado through various activities. CEO expanded its previously published Recycled Energy Market Overview to include market potential for projects that are smaller and have lower level heat sources. CEO also partnered with the U.S. Department of Energy's Southwest Combined Heat and Power Technical Assistance Partnership (CHP TAP) to offer no-cost feasibility studies for facilities that were good candidates for recycled energy projects. And in partnership with Southwest Energy Efficiency Project (SWEEP), CEO participated in an outreach initiative to increase awareness of recycled energy and relevant incentives for companies in Colorado that are waste heat producers.

Low-Income & Residential Energy Services

The residential building sector represents approximately 23 percent of total energy consumption in Colorado—and this energy consumption comes at a financial cost. Nearly 30 percent of Colorado households experience energy burden, spending more than 4 percent of their income on utility bills annually. This percentage increases dramatically for impoverished households. Residential energy consumption also contributes to greenhouse gas emissions and air pollution, both of which generate social and environmental costs as well. There is significant potential for the residential building sector to achieve cost-effective energy savings, but several market barriers remain. CEO works to address these market barriers through education, technical guidance and financial assistance across low-income housing, existing homes, new home construction and building energy codes.

LOW-INCOME WEATHERIZATION ASSISTANCE PROGRAM

Impoverished households in Colorado typically spend more than 10 percent of their total household income on energy costs annually. This is disproportionately higher than the total higher-income households spend on energy costs annually. To help address this issue, CEO's Weatherization Assistance Program (WAP) provides free energy efficiency improvements to income-qualified households throughout Colorado's 64 counties, which reduce energy consumption, improve the comfort of homes, and provide energy cost savings. Coloradans who participate in WAP save an average of $200 to $500 annually on utility bills, giving these participants a greater ability to pay for food, housing and medical care. This year, CEO delivered WAP services to 2,180 eligible households throughout the state. These participating households saved a combined $440,000 on their energy bills, representing more than 272,000 therms of natural gas and 1.3 million kWh of electricity.

Weatherization Income Eligibility Chart

Number of Household Members	Gross* Annual Household Income
1	$24,120
2	$32,480
3	$40,840
4	$49,200
Each Additional Person**	$8,360

* Gross income means before tax.

**For families with more than 4 persons, add $8,360.00 for each additional person.

FY16/17 Weatherization Measures

Insulation Installed	Over 1.71 million square feet
Furnaces Replaced	Over 570
Water Heaters Replaced	Over 180
Refrigerators Installed	Over 550
Low-Flow Showerheads Installed	Over 1,100
CFL Light Bulbs Installed	Over 1,900
LED Light Bulbs Installed	Over 21,800

LOW-INCOME COMMUNITY SOLAR DEMONSTRATION PROJECT

Community solar is an array with multiple subscribers who each purchase a portion of the power produced and receive a utility bill credit. Community solar is an effective complement to low-income weatherization efforts that focus on reducing household heating costs, because it allows a participating household to reduce its electricity costs too. Community solar has typically only been offered to low-income households on a limited scale. For this reason, CEO completed a Low-Income Community Solar Demonstration Project with locations in Gypsum, Steamboat Springs, Fort Collins, Norwood, and Grand Junction in fiscal year 2017. For this demonstration, CEO partnered with local utilities and GRID Alternatives (GRID) to deliver nearly 1.4 MW of low-income subscribed capacity benefits to more than 300 households annually, leveraging more than $2 million in partner dollars.

Highlight: Yampa Valley Electric Association

Forty-five low-income households in Yampa Valley Electric Association's (YVEA) service territory have become subscribed members of the 165 kW community solar array built as part of CEO's Low-Income Community Solar Demonstration Project in fiscal year 2017.

The primary goal of YVEA's community solar project was to reduce electricity costs for low-income households and increase the amount of local renewable energy on its grid to satisfy customer desires for a more diverse energy portfolio. On average, the YVEA community solar project is expected to save each subscriber approximately $360 annually. When combined with cost savings achieved through CEO's Weatherization Assistance Program, this community solar project can reduce low-income subscribers' annual energy costs by approximately 57 percent.

"YVEA is proud to help develop a renewable energy project that touches so many people. This project is a perfect pilot for YVEA-owned solar generation—allowing a portion of our membership that often can't access renewable energy to benefit at an affordable cost, helping students and trainees who are building careers in the industry, and bridging what is sometimes a divide between solar advocates and utilities. We believe that many 'right' answers exist for the future of energy, and we expect to embrace varied and innovative fuel choices." —Diane Johnson, Chief Executive Officer of YVEA

EXISTING HOMES

To help consumers understand their home's energy use and associated costs, CEO supports the Home Energy Score (HES), which provides a quick, affordable assessment of a home's energy performance as well as recommendations for how to save money on utility bills. CEO has recruited dozens of home energy professionals throughout the state who have since become qualified HES assessors. In fiscal year 2017, these assessors generated more than 1,400 HESs to help Coloradans better understand how homes use energy, how to improve a home's energy efficiency, and the financial and societal benefits that accompany these improvements.

Also this year, CEO sponsored continuing education workshops for real estate professionals in 10 counties across the state. More than 130 participants completed workshops to learn about the benefits of energy-efficient, high-performance homes. With this knowledge, they can now pass this information to their clients who, in turn, will better understand and take advantage of the benefits of high-performance homes.

NEW HOMES & ENERGY BUILDING CODES

CEO provides training and technical assistance to help local jurisdictions adopt energy building codes to improve the efficiency of new homes. CEO also provides technical training and assistance to builders, real estate professionals and appraisers to ensure the value of energy-efficient, high-performance homes is understood and prioritized throughout the building process and point of sale transactions. In fiscal year 2017, CEO focused its efforts on Grand Junction and Colorado Springs, municipalities with high levels of construction but less stringent energy building codes.

In Grand Junction, CEO partnered with Xcel Energy to provide technical assistance to builders who had not previously participated in the utility's new home construction rebate program. In Colorado Springs, CEO provided technical trainings to builders which helped Colorado Springs Utilities modify its builder incentive program to stimulate greater participation from local home builders seeking to construct more energy-efficient, high-performance homes. CEO worked with both jurisdictions to promote the adoption of the most stringent energy building code to-date.

Transportation Fuels & Technology

Transportation accounts for 30 percent of total greenhouse gas emissions in Colorado. To help lower emissions in this sector and promote energy independence, CEO provides a number of grant programs that reduce the cost of installing alternative fuel vehicle fueling and charging stations. This infrastructure helps reduce range anxiety, one of the major barriers to adopting new transportation technologies by fleets and the motoring public.

ALT FUELS COLORADO

The ALT Fuels Colorado program was launched in 2014 in partnership with the Regional Air Quality Council (RAQC) to provide grants for the construction of publicly accessible alternative fuel vehicle fueling and charging stations. The program also provides grants for the purchase of alternative fuel vehicles. In fiscal year 2017, compressed natural gas (CNG) stations funded through ALT Fuels Colorado helped boost CNG sales by nearly 500,000 total gasoline gallon equivalents. Even during a time of low diesel prices, the state saw a 673 percent increase in CNG fuel sales between fiscal years 2016 and 2017.

Highlight: Town of Eaton

The Town of Eaton fueling station and resulting increase in CNG vehicles in Weld County serve as an example of how targeted incentives can create a sustainable alternative fuels market. Weld County is a leader in the promotion and utilization of CNG as a transportation fuel. Weld County is the top-producing oil and gas county in the state, and by using locally produced CNG, schools and fleets reinvest in a resource and tax base that supports the county. The Town of Eaton location is the highest-performing CNG station funded through the ALT Fuels Colorado program with regular utilization by local oil and gas operators, buses from several school districts, and local delivery fleets.

CHARGE AHEAD COLORADO

In partnership with RAQC, CEO manages the Charge Ahead Colorado program, which awards grants for installation of electric vehicle (EV) charging stations and associated equipment. RAQC funds projects within the Denver Metro area, and CEO serves all other areas of the state. In fiscal year 2017, CEO awarded 28 grants, bringing the total number of charging stations outside the Denver Metro area to 155.

Highlight: Town of Windsor

The Town of Windsor received a grant from the Charge Ahead Colorado program to install a Level II EV charger at the Windsor Public Works Service Facility in fiscal year 2017. As a result of the positive reception to the installation, the Town of Windsor's board approved the purchase of two EVs and installation of two additional charging stations at its town hall and community recreation center.

"This project truly served as the platform used to discuss the town's long-term goal as it relates to fleet management and environmental sustainability. With the help of this grant funding, staff was able to make the case for funding additional projects. Overall, this has helped us become a more environmentally conscious community." –Kelly Houghteling, Assistant to the Town Manager of Windsor

REFUEL COLORADO

CEO's Refuel Colorado program provides technical assistance centered on alternative fuels to fleet managers, fuel providers and dealerships statewide. Local Refuel Colorado coaches help identify cost savings and other advantages realized through the conversion to alternative fuel vehicles.

Highlight: 4CORE Group Buy Promotion

This year, EV adoption and charging infrastructure advanced in southwest Colorado with the help of CEO's Refuel Colorado program. Range anxiety caused by a lack of charging infrastructure in the region has made owning and operating an EV difficult.

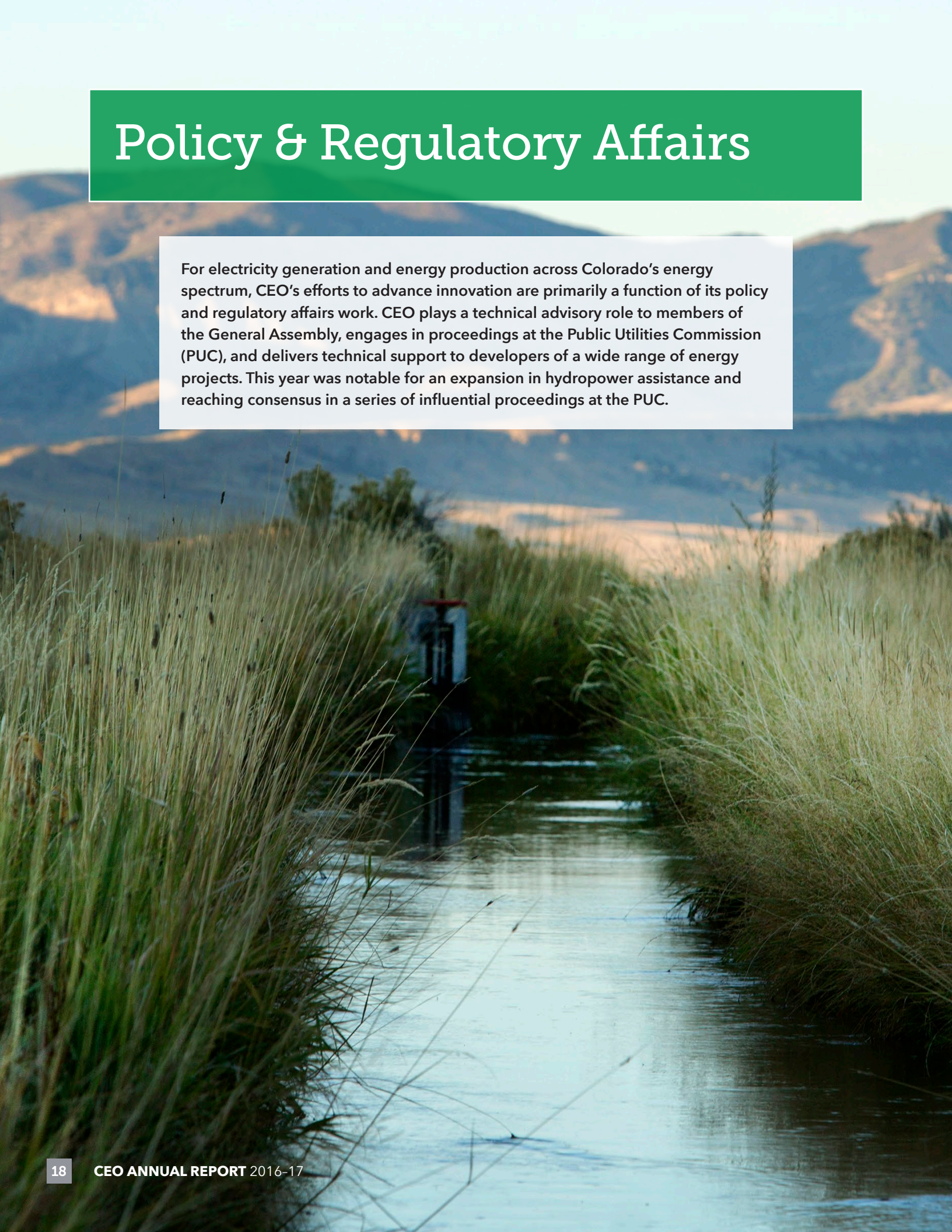
In 2017, CEO awarded La Plata Electric Association (LPEA) a grant for two EV charging stations through its Charge Ahead Colorado program and an additional grant to Mercy Regional Medical Center for two more stations in 2018. With these charging stations in place, LPEA, Mercy Regional Medical Center, and local Refuel Colorado coach Four Corners Office for Resource Efficiency (4CORE) made significant strides this year to advance EV adoption in the region through a successful group purchase initiative.

4CORE collaborated with Nissan of Durango and Nissan North America to offer the 2017 Nissan Leaf at a regional discount and provided test drive opportunities at two ride-and-drive events that reached 400 participants. As a result of the group buy promotion, 30 EVs were purchased. This number represented an almost 100 percent increase from March of 2016, when there were just 32 EVs registered in La Plata county.

"La Plata Electric Association was extremely encouraged to see the community's commitment to EVs through their purchase of 30 new Nissan Leafs using 4CORE's group purchase program. LPEA expects EVs to play an important role in the operation of its electrical distribution system."
—Dan Harms, Manager of Rates, Technology and Energy Policy at LPEA

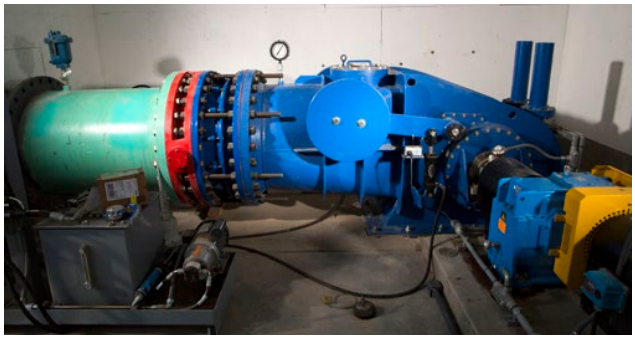
Policy & Regulatory Affairs

For electricity generation and energy production across Colorado's energy spectrum, CEO's efforts to advance innovation are primarily a function of its policy and regulatory affairs work. CEO plays a technical advisory role to members of the General Assembly, engages in proceedings at the Public Utilities Commission (PUC), and delivers technical support to developers of a wide range of energy projects. This year was notable for an expansion in hydropower assistance and reaching consensus in a series of influential proceedings at the PUC.



HYDROPOWER

Colorado has substantial hydropower opportunities throughout the state. CEO has been working to develop this energy resource by researching its technical potential, removing regulatory barriers, and training communities, developers and utilities on hydropower systems. Hydropower opportunities include existing dams, irrigation ditches, and inflow applications, as well as pressurized irrigation and municipal water distribution systems.



Highlight: Site Assessment Workshops

Informed by a Colorado resource assessment completed in 2016, CEO provided training sessions for water utilities on hydropower opportunities that exist within distribution infrastructure. Utilities can install pressure reduction valves throughout a water delivery system to reduce pressure that builds up as the resource is moved. Instead of releasing this pressure, an otherwise wasted energy resource, it can be captured and used to generate electricity. In fiscal year 2017, CEO held workshops to assist water providers with conducting preliminary site assessments and filing for Federal Energy Regulatory Commission (FERC)-qualifying exemptions. Twenty-five water providers participated in the workshops which yielded nine filings, representing a 32 percent increase from the previous year in total FERC-qualifying conduit exemptions from Colorado.

Highlight: Miller Creek Ditch Demonstration Project

Irrigation ditches present a largely untapped hydropower opportunity. Ditches with drops of at least 150 feet or 100 cfs of flow represent 123 potential project sites in the state according to the Colorado Department of Agriculture (CDA) report, *Developing Agricultural Hydropower in Colorado*.

This year, CEO partnered with CDA and the White River Electric Association (WREA) on a hydropower demonstration project on the Miller Creek Ditch in Rio Blanco County. WREA is a rural electric cooperative serving member-consumers in eastern Rio Blanco County, southern Moffat, and northern Garfield counties.

"The idea for us was to generate electricity with renewables locally that would benefit our membership and also the ditch members. It's a perfect win–win across multiple lines. This is our first hydro project … and we're actively exploring locations all the time."
–Alan Michalewicz, General Manager and Chief Executive Officer, WREA

PUBLIC UTILITIES COMMISSION

The Public Utilities Commission (PUC) has regulatory authority over investor-owned electric and gas utilities in the state of Colorado. CEO actively engages in PUC proceedings related to energy issues. Engagement in these proceedings is important for supporting the office's programs, fulfilling its statutory duties, and executing its mission of advancing innovative energy solutions.

CEO participated in 15 proceedings before the PUC during fiscal year 2017. Ultimately, the decisions in these proceedings will result in new cost-effective renewable energy in Colorado, increased energy savings, improved access to renewable energy for income-qualified consumers, and a more efficient electric grid.

Highlight: PUC Proceedings

Grid Modernization

Xcel Energy proposed an extensive new grid modernization project that would make its electric grid smarter and more efficient. CEO supported the project, joining others in advocating for additional components that would increase customer benefits and support a robust market of third-party energy services providers. The PUC approved the project.

Revenue Decoupling

Xcel Energy proposed the implementation of a revenue decoupling mechanism for its residential and small commercial rate classes. This mechanism breaks the link between the utility's sales and the amount of energy it delivers to customers, which gives the utility more incentive to engage in energy-saving programs and activities. CEO supported the concept but recommended a more robust version, a cap on customer bill impacts, and the development of an education and outreach plan. The PUC approved revenue decoupling with the modifications that CEO recommended.

Renewable Energy and Rates (known as tri-proceeding or global settlement)

Three Xcel Energy cases that included the Renewable Energy Plan case were combined in order to settle interrelated issues at once. Xcel gave its plans for renewable energy programs, a Phase II rate case that determines rate design, and an application for a new solar subscription program called Solar*Connect. CEO was one of 23 parties that joined the global settlement. CEO recommended a new low-income, onsite, solar pilot; new low-income provisions for community solar gardens; well-designed rate pilots; and a more favorable tariff for customers with recycled energy (waste heat to power). The PUC approved the global settlement with all the provisions.

Rush Creek Wind

Xcel Energy asked the PUC to authorize the utility to develop, own and operate a 600 MW wind facility in eastern Colorado. CEO supported the proposal, which the PUC approved.

Black Hills Renewable Energy Standard Compliance Plan

Black Hills Energy asked for the PUC's approval for its renewable energy programs for 2018–2022. CEO recommended additional provisions to make community solar gardens more accessible to income-qualified customers. The PUC approved the plan with CEO's proposed provisions.

COLORADO
Energy Office

1580 Logan Street, Suite 100
Denver, Colorado 80203
Phone: 303.866.2100
www.colorado.gov/EnergyOffice