

Colorado Energy Office Q3 FY2017 Performance Evaluation (April 2017)

Strategic Policy Initiatives: The Colorado Energy Office (CEO) identified several strategic policy initiatives for FY 2016-17 and beyond. For this performance evaluation, the Department has updated progress on the initiatives identified in the FY 2017 Performance Plan that capture the Department's strategic and operational priorities, and reflect the overall direction as identified by Department leadership. The updates reflect data as of April 1, 2017. Additional detail for these and other strategic policy initiatives is available in the Department's Performance Plan, which may be accessed [here](#).

Transportation Sector: Alternative-Fuel Vehicles

Colorado plans to increase the adoption of alternative fuel vehicles including compressed natural gas and electric. With Colorado's rich abundance of natural gas and citizens who value the preservation of the environment, Coloradans want the opportunity to make choices that can benefit both the economic and environmental health of the state.

SPI 1: Increase the sales of compressed natural gas (CNG) fuel by 500% from 2.5 million gasoline gallon equivalents (GGEs) per year in 2013 to 13 million GGEs per year by June 30, 2018, and increase the electric vehicle (EV) market share for new light duty vehicles sold in Colorado from 0.62% in 2013 to 2.3% by June 30, 2018, diversifying transportation fuel use for all Coloradans.

Progress: Progress Outcome:

CNG: CNG fuel sales in Colorado increased from 5,815,863 GGEs in 2015 to 8,221,186 GGEs in 2016. New data will be available in July 2017. (Data source: DOR)

EV: Colorado has an estimated 8,885 EVs in the state for 2016, increasing new light duty vehicles sold in Colorado from 0.9% in 2015 to 1.29% in 2016. (Data source: DOR and Polk)

CEO's strategy to remove market barriers to alternative fuel adoption is to increase the number of publicly accessible alternative fueling stations along Colorado's major transportation corridors. This will reduce Coloradans' concerns about the driving distance from one station to another and increase the likelihood of alternative fuel vehicle purchases. Through two grant programs, Colorado is incentivizing the market with infrastructure grants. CEO is conducting grant opportunities that will attract a pool of qualified applicants. With designated federal and state

dollars, CEO is making awards to install new CNG and EV stations and will monitor and evaluate progress through the state's contract standards. CEO is focused on specific geographical areas to complete CNG transportation corridor infrastructure. In addition, to provide greater flexibility for potential developers, the program instituted a rolling grant period in September 2016. Due to the relatively low gas and diesel prices, the program continues to see significant caution with CNG infrastructure investment. CEO continues to adapt to these market forces and may make more adjustments to its ALT Fuels Colorado program. Effective January 2017, new legislation will give consumers point of purchase tax credit savings for alternative fuel vehicles, including EVs, providing more incentive to purchase these vehicles.

Buildings/Facilities Sector: Energy Efficiency and On-Site Clean Generation

Energy efficiency is an integral part of the state's economic and environmental health. Inefficient energy usage affects overhead costs for consumers and businesses. It also has an impact on the quality of the air. Reducing energy use reduces carbon emissions. When consumers and businesses invest dollars to save on energy usage, they not only see immediate utility savings, they can increase the comfort of their homes and the value of their properties.

SPI 2: Increase energy savings resulting from CEO's direct energy efficiency projects by 14.6% from a goal of 151,265 MMBtu in FY16 to at least 173,378 MMBtu by June 30, 2018.

CEO's direct energy efficiency projects including the following programs will result in energy savings: 1) agricultural energy efficiency; 2) Energy Savings for Schools; 3) energy performance contracting for public buildings; and 4) weatherization assistance. Progress data is captured on an annual basis.

Progress Outcome: In FY 2016, CEO launched the Colorado Agricultural Energy Efficiency and Energy Savings for Schools programs. These programs provide energy audits and technical assistance to producers and schools located in rural Colorado. Part of technical support includes connecting participants to various funding sources. The lag time between audits, access to financial support, and implementation took longer than anticipated resulting in fewer completed projects. FY 2016 savings from these programs was 1,579 MMBTus. CEO's Energy Performance Contracting Program had six groups execute energy performance contracts in FY 2016, resulting in 90,104 MMBTu savings, lower than the projected estimates. CEO modified its long-term goal based on average number of executed projects per year as well as scopes of projects. CEO's Weatherization Assistance Program achieved its annual goal of 38,967 MMBTU in savings. In total, direct savings from CEO's energy efficiency programs was 130,650 MMBTus for FY 2016. (Data source: CEO contractor attested energy audits) Progress data is captured annually. The next update will be at the end of FY 2017.

SPI 3: Decrease Colorado's average annual residential energy use by 5% from 91 MMBTU in 2012 to 86 MMBTU by June 30, 2018.

Progress Outcome:

According to data from the U.S. Energy Information Administration, Colorado's average annual residential energy use was 91 MMBtu in 2012, increased to 102 MMBtu in 2013, and fell to 99 MMBtu in 2014. CEO is assessing the factors that drove the increase and decrease. Specifically, CEO is looking at normalizing energy use (e.g., correcting for weather variations), and assessing if Denver's housing shortage (due to the large population influx) likely increased per household consumption. CEO will continue to assess this SPI metric and may identify changes that better reflect CEO's ability to impact energy use in Colorado's residential sector. Please note that there is an 18-

month lag in data. Data for 2015 are scheduled to be released in July 2017. (Data Source: EIA with Colorado Census)

CEO's strategies to reduce energy use in the residential sector include integrating home rating systems into the home building process as well as the buying and selling process, making it easier for consumers and realtors to compare and understand energy efficiency features. Through outreach and training, CEO will secure agreements with real estate industry stakeholders to use and promote the Home Energy Score rating tool. CEO will coordinate with the weatherization assistance program to include a portion of scores for weatherized homes. CEO will continue to educate Colorado consumers about the value of increasing home energy efficiency and how to assist homebuyers with low-cost finance tools. CEO will work with identified jurisdictions to adopt 2015 International Energy Conservation Code. A house built under the 2015 code is nearly 40% more efficient than one built under 2006. Progress data is captured on an annual basis. The next update will be at the end of FY 2017.

SPI 4: Reduce the amount of household income expended by low-income households on energy from a baseline reduction in 2013 of 1.0%, on average, to a reduction of 1.5% by June 30, 2018.

Progress Outcome: In partnership with the Colorado Department of Human Services and the U.S. Department of Energy, CEO contracts with local agencies to provide economically disadvantaged residents access to cost-effective improvements that will reduce their energy usage and improve the comfort of their homes. In FY 2016, the program saved 38,967 MMBTus and achieved a .2% reduction of income expended on energy by low-income households; from 1.0 to 1.2%. Progress is captured on an annual basis. The next update will be at the end of FY 2017.

To achieve these goals, CEO is contracting with external vendors and agencies to perform energy audits, ratings, trainings and retrofits. CEO is monitoring and evaluating progress through the state's contract standards. CEO is conducting presentations and trainings to educate stakeholders and build partnerships; educating consumers through identified communication channels; and performing quality assurance through the Colorado's Weatherization Assistance Program.

Innovative Energy Production: Commercialization and Market Transformation of Emerging Energy Technologies

Colorado's diverse portfolio of electricity generation includes both traditional fossil fuel and a wide range of renewable energy resources. Through the Renewable Energy Standard, the state is a leader in the cost-effective transition to an electric generating portfolio, relying less on carbon-emitting resources. CEO is focusing on the continued advancement of clean energy electric generation in the state, aiding in the commercialization of near-market-ready emerging technologies.

SPI 5: Assist clean technology developers to increase annual generation of emerging technologies by 100% from 130,000 MWh in 2013 to 260,000 MWh by 2018, and increase the capacity of hydropower by 16% from 209 MW in 2010 to 242 MW by 2018.

Progress Outcome:

In 2013, electricity from emerging energy technologies totaled 135,377 MWh, which increased by 45% to 196,318 MWh in 2014. The total decreased in 2015 to 159,851 MWh due to a temporary generator outage. (Data for 2016 will be available in November 2017.) Hydropower capacity increased by 15% from 209 MW in 2010 to 239.5 MW in 2016. (Data for 2017 will be available in March 2018.)

Market assessments represent a means to commercialization and market transformation goals. To investigate the opportunities that may increase generation from energy clean technologies, market assessments are being designed and executed by working closely with key stakeholders to assure that the analysis is properly targeted and of greatest value to investors and other market movers.

Operational Measures

SPI 1: Alternative Fuel Vehicles - Diversifying transportation fuel use for all Coloradans

Major Program Area – Programs and Initiatives
Process – Grant funding rounds and outreach

Measure	FY13 Actual	FY14 Actual	FY15 Actual	FY16 Actual	Q1 FY17	Q2 FY17	Q3 FY17	Q4 FY17	FY17 Total	1-Year Goal	3-Year Goal
Publicly accessible compressed natural gas fueling stations awarded	N/A	N/A	11	4	0	0	0		0	6	5
Number of CNG gallon equivalents committed to by fleet owners in awarded CNG station proposals	N/A	N/A	1,995,164	1,441,399	0	0	0		0	175,000	175,000
Percent of contracts issued within 30 days after awarded	N/A	N/A	100%	100%	N/A	N/A	N/A		N/A	100%	100%
Electric vehicle charging stations awarded outside of Denver Metro	17	17	42	51	4	7	28		39	18	20

Number of proposed stations	N/A	N/A	30	30	18	10	62		90	40	40
Number of EV Wired Workplace events	N/A	N/A	N/A	4	1	0	0		1	12	12
Number funding rounds through RFAs	1	3	3	3	1	1	1		3	3	3
Percent of purchase orders issued within 30 days after awarded	N/A	N/A	100%	82%	100%	83%	N/A		91%	100%	100%

Note: The 3-year goal is a projected annual goal, not an accumulative goal.

ALT Fuels Colorado funding rounds were scheduled semi-annually in July and January between 2014 and July 2016. The program initiated a rolling grant period in September 2016 to give developers more flexibility in making grant proposals. CEO is focused on specific geographical areas to complete CNG transportation corridor infrastructure. These areas include Grand Junction, Fruita, Golden, Boulder, Eagle, south and north Denver, Colorado Springs, and Lamar. In addition, to provide greater flexibility for potential developers, the program extended the rolling grant period beyond January 31, 2017. Due to the relatively low gas and diesel prices, the program continues to see significant caution with CNG infrastructure investment. CEO continues adapt to these market forces and may make more adjustments to its ALT Fuels Colorado program. Additionally, the technical fleet analysis available through Refuel Colorado was recently updated to deliver more timely and concise information on investment opportunities for alternative fuels to local fleets, leading to greater local demand for CNG fueling infrastructure. Effective January 2017, new legislation gave consumers point-of-purchase tax credit savings for alternative fuel vehicles which should provide more incentive to purchase these vehicles.

Charge Ahead Colorado grant awards are made three times a year. The first two funding rounds for FY16-17 received 13 applications for 28 stations. Of the 13

awarded stations, two were recently declined due to a special permitting requirement for one and a change in investor for another. In addition, a FY 2016 award for two stations was terminated due to the recipient’s inability to initiate the project. In March 2017, CEO received 18 proposals for 62 stations. After review, 28 stations will receive awards, bringing the total number of awarded stations for the fiscal year to 39. CEO is also focusing efforts on workplace charging since most people with EVs will charge their vehicles at home or work. CEO is working with its ReFuel Colorado fleet coaches to target identified companies. CEO remains behind on its EV Wired Workplace events; however, two events are scheduled before the end of the fiscal year with another six tentatively scheduled. National data indicate that employees are six times more likely to purchase an EV at organizations with charging stations.

SPI 2: Energy Efficiency and On-Site Clean Generation – Energy Savings resulting from CEO’s direct energy efficiency projects

**Major Program Area – Programs and Initiatives
Process – Energy audits and presentation and MOU execution**

Measure	FY13 Actual	FY14 Actual	FY15 Actual	FY16 Actual	Q1 FY17	Q2 FY17	Q3 FY17	Q4 FY17	FY17 Total	1-Year Goal	3-Year Goal
Energy audits performed for Colorado producers	N/A	N/A	12	64	0	18	19		37	60	60
Number of applications received for Colorado Agricultural Energy	N/A	N/A	N/A	84	5	36	14		55	70	70

Efficiency Program											
Partner contributions leveraged from CEO's Regional Conservation Partnership Program partners	N/A	N/A	N/A	N/A	\$5,000	\$250,000	\$0		\$255,000	\$275,000	\$275,000
EPC MOUs	N/A	N/A	9	7	0	3	1		4	12	12
Number of preliminary presentations before MOUs	N/A	N/A	19	17	7	2	8		17	24	48
ESS MOUs	N/A	N/A	4	21	2	5	8		15	18	18
*Number of preliminary presentations before MOUs	N/A	N/A	24	31	4	16	6		26	24	48

Note: The 3-year goal is a projected annual goal, not an accumulative goal.

The Colorado Department of Agriculture (CDA) funding round released in December netted nearly \$800,000 in proposals from 28 producers. A total of \$75,000 was awarded to six producers. The proposals not funded were submitted under the USDA's RCPP funding round opened in February. A total of \$750,000 is available in this round. (Note that the remaining \$175,000 from CDA will be made available in the next funding round, tentatively scheduled for summer 2017). The EPC MOU goal is behind. Identified jurisdictions are planning to sign agreements. Presentations to targeted audiences are on track and will be completed in Q4. ESS goals and presentations are on track.

SPI 3: Energy Efficiency and On-Site Clean Generation – Residential Energy Use
Major Program Area – Programs and Initiatives
Process – Training, technical assistance and recruitment

Measure	FY13 Actual	FY14 Actual	FY15 Actual	FY16 Actual	Q1 FY17	Q2 FY17	Q3 FY17	Q4 FY17	FY17 Total	1-Year Goal	3-Year Goal
Home Energy Scores completed	N/A	N/A	N/A	851	380	309	376		1065	6,000	6,000
Number of real estate stakeholders that successfully completed training	579	1063	1242	1470	0	9	44		53	1,500	1,500
Number of qualified assessors recruited	N/A	N/A	N/A	59	10	0	3		13	60	60
Increase the percentage of new homes in targeted areas (Colorado Springs and Grand Junction) with a HERS score from 14% in 2015 to 17% in 2017	N/A	N/A	N/A	N/A	14.11%	14.70%	13.71% YTD		15.68% YTD	17%	-
New homes sold with a	N/A	6,784	8,385	8,832	2656	2769	*1342		*6767	9,000	12,000

Home Energy Rating System Index rating											
Number of jurisdictions considering adopting the 2015 International Energy Conservation Code that receive training and technical assistance	N/A	N/A	N/A	N/A	0	2	6		8	7	7
Number of 2015 IECC, HERS, and builder technical trainings	N/A	42	67	76	0	6	17		23	30	30

Note: The 3-year goal is a projected annual goal, not an accumulative goal.

In order to achieve the FY17 goals, CEO continues to promote the creation of Home Energy Scores and is also focused on using past audit and weatherization data to generate Home Energy Scores. CEO is working with partners to increase the number of qualified assessors and to encourage them to include a Home Energy Score with every energy audit conducted. CEO is also working with Energy Smart Colorado to generate scores from previous audit data and with software provider OptiMiser to generate Home Energy Scores from past weatherization audit data. CEO is continuing to provide education and outreach about the Home Energy Score to the real estate community.

CEO modified its new homes/codes for FY 2017 to better reflect its impact on the market. CEO has identified two regions - Colorado Springs/El Paso County and Grand Junction/Mesa County - to focus its efforts due to the volume of new construction compared to a low HERS penetration. The new goal reflects CEO's direct impact on increasing the number of HERS scores in this region. Colorado Springs and Grand Junction will be conducting training and providing technical support to builders in these areas during the last quarter. The training goal has been modified to include the range of residential training currently administered through CEO including in-person and webinar trainings. Progress toward this goal is on track and trainings continue to take place across Colorado.

Eight jurisdictions have applied for 2015 IECC assistance.

*This numbers reflects two months of the quarter. There is a one-month lag in reported data.

SPI 4: Energy Efficiency and On-Site Clean Generation – Low-Income Energy Burden

Major Program Area – Weatherization Assistance Program

Process – Inspection of sub-grantee closed housing units

Measure	FY12 Actual	FY13 Actual	FY14 Actual	FY15 Actual	FY16 Actual	Q1 FY16	Q2 FY16	Q3 FY16	Q4 FY16	FY17 Total	1-Year Goal	3-Year Goal
Energy efficiency measures performed on low-income eligible homes	7,087	4,137	2,925	3,050	2,969	331	386	*299		*1,016	2,000	2,000
Percent of home retrofits meeting or exceeding performance standards for weatherization	100%	100%	100%	100%	100%	100%	100%	100%		100%	100%	100%

Note: The 3-year goal is a projected annual goal, not an accumulative goal.

The weatherization assistance program inspects 5% of Colorado weatherized homes (app. 2,000) for quality assurance. The program’s numbers are reported a

month after installations.

*The number of completed units are reported the 15th of the following month. Due to the lag in data, the third quarter reflects two months of data.

SPI 5: Innovative Energy Production - Emerging Energy Technologies
Major Program Area – Policy and Research
Process - Market assessments to analyze opportunities and barriers

Measure	FY13 Actual	FY14 Actual	FY15 Actual	FY16 Actual	Q1 FY16	Q2 FY16	Q3 FY16	Q4 FY16	FY17 Total	1-Year Goal	3-Year Goal
Pressure-reducing valve (PRV) hydropower workshops for water utility stakeholders	N/A	N/A	N/A	N/A	0	1	1		2	2	N/A
Number of stakeholders attending	N/A	N/A	N/A	N/A	0	13	7		20	25	N/A
Geothermal stakeholders to complete and release a statewide geothermal strategy report	N/A	N/A	N/A	N/A	0	0	0		0	1	N/A
Number of Colorado Geothermal Coalition meetings hosted	N/A	N/A	N/A	N/A	2	1	1		4	5	N/A
Local government	N/A	N/A	N/A	N/A	0	0	0		0	1	N/A

stakeholders to design and deploy a database of energy information for Colorado buildings											
Number of contacts with stakeholders	N/A	N/A	N/A	N/A	5	0	0		5	5	N/A
Colorado Recycled Energy Market Overview updated and a customer/developer commitment for a recycled energy project secured	N/A	N/A	N/A	N/A	0	0	0		0	2	N/A
Number of contacts with recycled energy stakeholder	N/A	N/A	N/A	N/A	7	19	8		34	10	N/A
Electric cooperative partner established on a feasibility analysis of a shared renewable energy project	N/A	N/A	N/A	N/A	0	0	0		0	1	N/A
Number of contacts with stakeholders	N/A	N/A	N/A	N/A	12	11	8		31	20	N/A

Note: The 3-year goal is a projected annual goal, not an accumulative goal.

CEO's Policy and Research area conducts market assessments to determine opportunities and barriers for emerging energy technology. These project

assessments are prioritized each year based on the need for more information related to a promising emerging technology in Colorado. After assessments are complete, the office works with targeted stakeholders to gather feedback on project aspects that could be improved for future market assessments.