



Colorado Energy Office Q2 FY2017 Performance Evaluation (January 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 January 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 2,583,243 GGEs to 5,648,589 GGEs in 2014, and increased slightly to 5,815,863 GGEs in 2015. The Colorado Department of Revenue has a three-month delay in releasing excise tax data. During January through June 2016, 3,961,606 GGEs were sold in Colorado. (Data source: DOR and Polk)

EV: As of April 2016, Colorado had 6,678 EVs in the state, increasing light duty vehicles sold in Colorado from 0.62% in 2013 to 1% in April 2016. CEO will report total 2016 EV numbers in February 2017. (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 specified 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. Due to the relatively low gas and diesel prices, the program continues to see significant caution with CNG infrastructure investment. CEO continues to evaluate and 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.

Note: CEO has modified its original SPI 2 goal (i.e. by 12.6% from 273,253 MMBtu in FY16 to at least 307,878 MMBtu by June 30, 2018) based on further analysis of the underlying assumptions used to establish the EPC baseline, concerning number and types of projects. The original projection was established during a period that included stimulus funding from the American Recovery and Reinvestment Act that is not reflective of current program potential.

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 has 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.

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 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.



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.

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 13% from 209 MW in 2010 to 220 MW in 2013 and to 236 MW in 2015. (Data for 2016 will be available in March 2017.)

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	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	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	100%	100%
Electric vehicle charging stations awarded outside of Denver Metro	17	17	42	53	4	9			13	18	20



Number of applications received	N/A	N/A	30	30	6	7			13	40	40
Number of EV Wired Workplace events	N/A	N/A	N/A	4	1	0			1	12	12
Number funding rounds through RFAs	1	3	3	3	1	1			2	3	3
Percent of purchase orders issued within 30 days after awarded	N/A	N/A	100%	82%	100%	83%			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 received three proposals during the first quarter but the proposals lacked required information. CEO is working with developers to ensure all applicants submit all necessary information. Due to market conditions, the program continues to see caution with CNG infrastructure investment. CEO is evaluating the market conditions and may make additional adjustments to its program including making a modification to fund EV fast-charging corridors, depending on the market demand/forces. CEO continues to engage developers and public and private fleets about investing in alternative fuel vehicles.

Charge Ahead Colorado grant awards are made three times a year. The first two funding rounds for FY16-17 received 13 applications with 13 stations awarded. Through strategic outreach and partnership building, the program continues to receive interest from a pool of qualified applicants. CEO is also focusing efforts on workplace charging due to the fact that most people with EVs will charge their vehicles at home or work. The workplace charging event measure is behind target. CEO will increase its efforts through the ReFuel Colorado fleet coaches to target identified companies. 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			18	60	60
Number of applications received for the Colorado Agricultural Energy Efficiency Program	N/A	N/A	N/A	84	5	36			41	70	70
Partner contributions leveraged from CEO’s Regional Conservation Partnership Program partners	N/A	N/A	N/A	N/A	\$5,000	\$250,000			\$255,000	\$275,000	\$275,000
EPC MOUs	N/A	N/A	9	7	0	3			3	12	12
*Number of preliminary presentations before MOUs	N/A	N/A	19	17	7	2			9	24	48
ESS MOUs	N/A	N/A	4	21	2	5			7	18	18
*Number of preliminary presentations before MOUs	N/A	N/A	24	31	4	16			20	24	48

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

The Colorado Department of Agriculture released a \$250,000 grant funding round in December, significantly increasing the planned partner contributions. The EPC MOU and presentation goals are behind. A new program manager was hired in late December. A signed MOU is a key indicator that an energy audit will



take place and energy efficiency improvements will be implemented. A signed MOU also provides access to CEO’s technical support services. (Energy/MMBTu savings).

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			689	6,000	6,000
Number of real estate stakeholders that successfully completed training	579	1063	1242	1470	0	9			9	1,500	1,500
Number of qualified assessors recruited	N/A	N/A	N/A	59	10	0			10	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% YTD			14.70% YTD	17%	-
New homes sold with a Home Energy Rating System Index rating	N/A	6,784	8,385	8,832	2656	*1744			*4400	9,000	12,000
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			2	7	7



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Number of 2015 IECC, HERS, and builder technical trainings	N/A	42	67	76	0	6			6	30	30
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Note: The 3-year goal is a projected annual goal, not an accumulative goal.

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. The training goal has been modified to include the range of training currently administered through CEO.

Up until FY 2016, the real estate stakeholder trainings focused on the Home Energy Rating System Index and the new home market. Due to several market barriers, Colorado found a more cost effective tool to address the existing home market. In September of FY16, Colorado launched the Department of Energy's Home Energy Score specifically for the existing home market. CEO continues to promote the value of the Home Energy Score through real estate industry training and outreach.

*This numbers reflects 2 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	*305			*636	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%

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 second quarter reflects two months.

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	N/A
Number of stakeholders attending	N/A	N/A	N/A	N/A	0	13			13	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	1	N/A
Number of Colorado Geothermal Coalition meetings hosted	N/A	N/A	N/A	N/A	2	1			3	5	N/A
Local government stakeholders to design and deploy a database of energy information for Colorado buildings	N/A	N/A	N/A	N/A	0	0			0	1	N/A
Number of contacts with stakeholders	N/A	N/A	N/A	N/A	5	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	2	N/A
Number of contacts with recycled energy stakeholder	N/A	N/A	N/A	N/A	7	19			26	10	N/A



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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	1	N/A
Number of contacts with stakeholders	N/A	N/A	N/A	N/A	12	11			23	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.

The Colorado Geothermal Coalition (CGC) is slightly delayed because of the formal approval process within stakeholders' organizations. A combined draft is currently being assembled and will go through a comment period with the full coalition. The CGC will meet again in early January when the geothermal strategy draft will be reviewed and finalized.