



FY 2021/2022

ANNUAL REPORT



COLORADO
Energy Office

Colorado Energy Office's fiscal year 2022 (FY22): 7/1/21 - 6/30/22.

More information about CEO's policy work, programs, initiatives, and studies
can be found at energyoffice.colorado.gov

TABLE OF CONTENTS

Mission & Vision	2
Equity & Environmental Justice	2
Policy	5
Programs - Transportation	11
Programs - Buildings & Finance	20
Programs - Weatherization	25
Looking Forward	25

Mission & Vision

Our mission is to reduce greenhouse gas emissions and lower consumer energy costs by advancing clean energy, energy efficiency and zero emission vehicles to benefit all Coloradans. Our vision is to deliver a prosperous, clean energy future for Colorado.

To achieve our mission and vision, the Colorado Energy Office (CEO) works on a broad range of policies and programs, including those focused on zero emission vehicles, energy efficiency, renewable energy, and weatherization assistance. CEO is a non-regulatory department within the Governor's Office.

At its core, CEO's vision is inclusive, striving to reduce greenhouse gas emissions and consumer energy costs by advancing its programs to benefit all Coloradans. Inherent in this vision is the necessity to drive changes in energy production and use, the built environment, land use, and transportation systems in a way that not only reduces negative impacts from these systems but also focuses on providing benefits to disproportionately impacted communities, people of color, and underserved populations.

In FY22, CEO continued progress toward Colorado's clean energy future by expanding its work on environmental justice, electric vehicle (EV) infrastructure, eBike access, building energy efficiency, and more. The State has made significant progress on the near-term actions outlined in the [Greenhouse Gas Pollution Reduction Roadmap](#), and looks forward to introducing programs related to geothermal energy, energy efficient cannabis operations, and eBike rebates in FY23.

Equity & Environmental Justice

Legislative Commission on Low Income Energy and Water Assistance

In June 2021, Governor Polis signed [HB21-1105 Low-income Utility Payment Assistance Contributions](#), which creates a new source of funding to provide assistance to low income electric and gas customers. This funding comes from an energy assistance system benefit charge that investor-owned utilities are required to collect from their customers. The bill also modified the existing Legislative Commission on Low-Income Energy Assistance to include water utility assistance, and moved it from the Department of Human Services to the Colorado Energy Office (CEO). The commission housed under CEO launched on May 1, 2022, and is composed of seven members. Part of the commission's role is to ensure these funds maximize Energy Outreach Colorado's capacity to provide bill pay assistance.

The commission, in conjunction with Colorado's Weatherization Assistance Program, which also received funding from this bill, prioritizes the equitable inclusion of under-resourced households as the state continues transitioning to clean energy.

Electric Vehicle Equity Study

The [Colorado EV Equity Study](#) identifies barriers to electric vehicle access and addresses opportunities for a more equity-centered approach to transportation electrification and stakeholder engagement in Colorado. The report measures and maps current electric vehicle registration, accessibility, and vehicle emission impacts in Colorado communities. It also proposes criteria by which to evaluate and prioritize future electric vehicle programming and outreach. Beyond that, it provides tools that will support the State in implementing recommended equity-centered practices. The purpose of this study, originally proposed in the [Colorado 2020 EV Plan](#), is to help State agencies ensure that the benefits of vehicle electrification are available to all Coloradans.

In conjunction with the Colorado EV Equity Study, the Colorado Energy Office also launched the [EV Equity Dashboard](#), a tool that provides interactive maps of socioeconomic characteristics and health indicators related to transportation, vehicle registrations, charging infrastructure, expected travel behavior and traffic estimates, and utility rates. The [EV Prioritization Tool](#) makes this raw data available for users to create their own prioritization indexes and assign custom weights to evaluate applications for funding under various electrification programs in Colorado.

Pathways to Energy Affordability in Colorado

In January 2022, CEO released the [Pathways to Energy Affordability in Colorado](#) report. Across Colorado, many households struggle to pay their energy bills. This study finds that energy cost burdens—the fraction of household income spent on electricity and fuel use—are particularly high for the state’s rural communities, low-income households, renters, communities of color, mobile home residents, and propane users. These energy cost burdens can be alleviated over time by investing in key energy upgrades. In the near term, increased support from bill assistance programs—such as percent of income payment plans—can help lower energy cost burdens. This assistance can be slowly reduced as home upgrades reach an increasing number of households statewide and lower their burdens below 6% of their income. The expansion of energy efficiency, community solar, and demand response in heavily energy-burdened communities can simultaneously improve energy affordability for those who need it most while helping the state achieve its climate and clean energy targets.

Outreach and Community Engagement

2022 Community Engagement Workshops

In Spring 2022, the Colorado Energy Office partnered with the Colorado Department of Public Health and Environment (CDPHE) to host a series of Community Engagement workshops across the state. The goal of these workshops was to hear directly from Colorado residents about their thoughts, experiences, and concerns related to climate change and greenhouse gas reduction strategies. Agency staff from the Department of Agriculture, the Department of Transportation, and the Department of Natural Resources attended along with CDPHE and CEO staff, to listen, hear from community members, and provide information where appropriate.

These meetings took place between April 27 and June 22, 2022, and included in-person sessions in Aurora, Greeley, Pueblo, Trinidad, Lamar, Delta, and Durango, as well as two virtual options. CEO and CDPHE selected the locations for the in-person sessions to prioritize disproportionately impacted communities and ensure geographic diversity.

The State recognizes that communities of color and low-income communities are disproportionately impacted by climate change and pollution, and encouraged members of these disproportionately impacted communities to share their perspectives. Spanish interpretation was available to ensure access for Colorado's spanish-speaking communities.

A report of the findings from these community engagement workshops will be available in December 2022.

Outreach and Environmental Justice Staff

In recognition of the need to improve outreach, develop trusting relationships with disproportionately impacted communities, and reflect environmental justice principles in CEO programs, the Colorado Energy Office created the following roles in FY22:

- **Environmental Justice Specialist.** The Environmental Justice Specialist conducts outreach activities and collaborates with CEO staff to develop and implement programs that prioritize equity and environmental justice. This position works across State agencies to ensure coordination of meaningful and appropriate community engagement in the Colorado communities most impacted by climate change, pollution, and the state's energy transition. The Environmental Justice Specialist also serves as a liaison for these communities, helping build trust and encouraging engagement from community organizations and residents. This includes hosting and attending tabling events, conferences, and community engagement workshops. One of the main goals of this position is to improve the two-way flow of information between CEO and Colorado's disproportionately impacted communities in order to increase CEO's responsiveness to community questions and concerns.
- **Weatherization Assistance Program Engagement Manager.** The Engagement Manager conducts engagement and outreach with WAP network stakeholders, Colorado residents, community-based organizations, and other groups, in order to improve WAP's program delivery. This position is responsible for developing, implementing, and refining WAP's engagement plan to build trust with and create space for individuals and communities to participate in decisions that may impact their access to WAP programs and services. The priorities and concerns heard from communities and other stakeholders during community meetings and other events are communicated to WAP program managers for consideration in strategic planning for equitable policies and programs. The Engagement Manager also works closely with staff on developing the weatherization workforce and improving job quality within the energy efficiency

sector to remove barriers for Colorado's disproportionately impacted communities to access these jobs.

In FY23, CEO will continue expanding its outreach and engagement staff, including a WAP Program Associate focused specifically on communications.

Policy

GHG Pollution Reduction Roadmap

The GHG Roadmap is the state's sector-based strategic plan to achieve statutory greenhouse gas (GHG) emissions reduction targets of 26% by 2025, 50% by 2030 and 90% by 2050 from 2005 levels. In FY22, the Colorado Energy Office made significant progress towards achieving the near-term actions outlined in the [Greenhouse Gas Pollution Reduction Roadmap](#) (GHG Roadmap), completing more than 90% of the identified actions by the end of Fiscal Year 2022.

2022 Legislative Session Summary

More than 15 bills passed in the 2022 Colorado legislative session that advance climate and air quality, clean buildings, renewable energy, community resilience, transportation use, and just transition. These bills continue making progress on Colorado's Greenhouse Gas Pollution Reduction Roadmap.

The Roadmap is a sector-based plan with strategies to achieve at least 80% reduction from electricity generation by 2030, 60% from oil and gas development, 40% from transportation, and 20% from industry and buildings. The package of legislation makes major progress on all of these goals, including public investments in market transformation; creation of incentives from electric and gas utilities; and regulatory requirements to be implemented through the Public Utilities Commission, Transportation Commission, and Air Quality Control Commission.

Environment, climate & air quality

[Senate Bill 22-193 Air Quality Improvement Investments](#) delivers a priority set of clean air and climate change investment programs from the Governor's budget. The law includes:

- \$25 million in funding for the Clean Air Grant Program, which will provide grants for energy efficiency improvements, renewable energy, electrification projects, methane capture projects, sustainable aviation fuel, low carbon hydrogen use, and carbon capture at industrial facilities to achieve emission reductions required by current and future regulation.
- \$12 million in rebates for eBike purchases and programs that provide eBikes and safety equipment to approximately 10,000 low- and moderate-income Coloradans.
- \$65 million to start a new school bus electrification grant program, which aims to transition Colorado's diesel school bus fleets to electric buses. Grants will be prioritized for vehicles operating in disproportionately impacted communities, the ozone nonattainment area, and schools with high proportions of students receiving

free or reduced school meals. The program provides flexibility for applying districts to pay for charging infrastructure and buses, as well as covering administrative costs for applying to both the state and federal electric school bus programs.

- \$7 million for an oil and gas aerial monitoring program to identify leaks from such sources as pipelines and flowlines, production pads, tanks, central gathering facilities, and compressor stations to quickly identify, inventory, and fix methane and other leaks from oil and gas infrastructure.
- \$2 million to increase energy efficiency, reduce water use, promote renewable energy implementation, and enhance sustainable practices in operations of cannabis facilities in Colorado, which are major users of electricity and water.

Emissions from the built environment

[House Bill 22-1362 Building Greenhouse Gas Emissions](#) creates requirements to adopt the most recent International Energy Conservation Code in new buildings; prewire for EVs, solar, and heat pumps; and locally adopt a low carbon code starting in 2026 to move communities toward near net zero building energy codes by 2030. It also provides:

- \$3 million to support local governments and state agencies in adopting and enforcing advanced energy codes. In part, this will be done by funding technical assistance and training for local building department officials and staff, builders, architects, designers, contractors, and other stakeholders.
- \$1 million to support contractor training.
- \$10 million to the clean air building investments fund for the creation, implementation and administration of the building electrification for public buildings grant program.
- \$10.85 million to the clean air building investments fund for the creation, implementation, and administration of the high-efficiency electric heating and appliances grant program for neighborhood scale electrification.

[Senate Bill 22-051 Policies To Reduce Emissions From Built Environment](#) gives purchasers of an air-source, ground-source, or water-source heat pump system or variable refrigerant flow heat pump system an income tax credit equal to 10% of the purchase price of the heat pump system or heat pump water heater. This legislation provides the same benefit for the purchase and installation of an energy storage system. In addition, the bill waives sales and use taxes in the sale of heat pump systems, heat pump water heaters, storage systems, and other “decarbonizing building materials.”

[House Bill 22-1304 State Grants Investments Local Affordable Housing](#) includes a strong community grants program developed by a multi-agency team with the assistance of stakeholders to determine a list of sustainable land use best practices aimed at enabling more housing within existing communities. This will be a key factor in considering a local government’s viability for these affordable housing development grants. It includes \$40 million for grants to local communities to advance land use best practices, including infill development for affordable housing.

[House Bill 22-1282 The Innovative Housing Incentive Program](#) creates a program in the Office of Economic Development & International Trade to provide grants or loans to new or existing businesses with fewer than 500 employees that develop manufactured homes. The program may include incentives for installation in certain areas of the state, resiliency criteria, requirements to comply with international energy conservation codes, or energy efficiency requirements (which can include pre-wiring for solar improvements, a home energy rating system score of fifty or less, or near net-zero energy efficiency).

[Senate Bill 22-239 Buildings In The Capitol Complex](#) creates the Capitol Complex Renovation Fund for construction needs in existing state-owned facilities, including installation of electric vehicle charging stations and LEED certification for specified state-owned buildings.

Solutions for 100% Renewable Energy by 2040

[House Bill 22-1381 Colorado Energy Office Geothermal Energy Grant Program](#) incentivizes the expansion of Colorado's use of geothermal energy by providing grants to start programs supporting geothermal for electricity generation, space heating and cooling, water heating, and district heating. The program will support the development of geothermal space conditioning (i.e. heating and cooling) and water heating, as well as public-private partnerships on the development of geothermal electricity generation – either as a stand-alone or paired with electrolyzers for the production of green hydrogen.

[Senate Bill 22-118 Encourage Geothermal Energy Use](#) creates a program for basic consumer education and guidance for systems that use geothermal energy for water heating, space heating, or cooling. The bill also establishes a business model for community geothermal gardens, comparable to community solar gardens.

Resilience in our communities

[Senate Bill 22-206 Disaster Preparedness And Recovery Resources](#) aims to strengthen communities affected by natural and climate disasters and incentivizes coordinated statewide planning on climate change preparedness. Elements include:

- A program to help homeowners and businesses rebuild more efficiently after declared natural disasters. A \$20 million pool is being established to deliver a combination of low-interest loans and grant opportunities to cover costs associated with building high-performing, energy-efficient, and resilient homes and structures. These include the installation of high-efficiency space and water heat pumps, work toward net zero energy or net zero carbon buildings, advanced energy certification, or assistance in adding battery storage or an electric vehicle charging station.
- The establishment of the Governor's Office of Climate Preparedness. This office will not only increase capacity for recovery efforts, but will also support a climate-prepared future, starting with the development of the climate preparedness roadmap, which will enable the state to anticipate the needs in the event climate-related crises and will encourage land use patterns that reduce both

greenhouse gas emissions and exposure to climate driven hazards, such as wildfires and floods.

[House Bill 22-1249 Electric Grid Resilience And Reliability Roadmap](#) commissions a grid resilience and reliability roadmap to develop a statewide strategy on the use of microgrids to harden the grid, improve grid resilience and reliability, deliver electricity where extending distribution infrastructure may not be practical, and operate autonomously and independently of the grid, when necessary.

[House Bill 22-1013 Microgrids For Community Resilience Grant Program](#) creates the microgrids for a community resilience grant program with \$3.5 million in funding for initial projects. A cooperative electric association or a municipally owned utility may apply for a grant to finance the purchase of microgrid resources in eligible rural communities within the utility's service territory under certain circumstances. These include a significant risk of severe weather or natural disaster events, and the presence of one or more community anchor institutions.

Emissions from transportation and expanding public transit

[Senate Bill 22-180 Programs To Reduce Ozone Through Increased Transit](#) creates a \$28 million grant program that enables transit agencies statewide to provide free transit fares for at least a month during ozone season for two years. Vehicles are the largest single source of nitrogen oxide pollution, a key contributor to the formation of ozone, as well as the largest source of greenhouse gas pollution. The bill also provides \$30 million for a three-year Colorado Department of Transportation pilot project that expands existing transit services along the interstates, and \$10 million to support bicycle, pedestrian, and transit improvements to main streets.

[House Bill 22-1026 Alternative Transportation Options Tax Credit](#) eliminates the current corporate income tax deduction for expenses incurred providing alternative means of transportation for employees. The bill then replaces this deduction with a refundable tax credit equal to 50% of expenditures incurred by providing alternative transportation options to their employees beginning in 2023. Alternative transportation includes free or partially subsidized mass transit; free or partially subsidized ride-sharing arrangements, such as bike and electric scooter sharing programs; provision of ride-sharing vans; and guaranteed ride home programs. Expanding employer-based programs to reduce vehicle travel is a near-term action strategy in the state GHG roadmap.

Just transition for workers and communities away from the use of coal

[House Bill 22-1193 Adjustments to expenditures from funds dedicated to assisting those impacted by the transition to a clean energy economy](#) transfers \$2 million in previously appropriated funds from worker assistance programs to community assistance efforts to ensure more timely, efficient and effective use of Just Transition funding.

[House Bill 22-1394 Fund Just Transition community and worker supports](#) provides \$15 million to Just Transition Cash Fund this includes \$5 million for implementation of the Colorado Just Transition Action Plan and support for coal transition communities and \$10 million to the Coal Transition Workforce Assistance Program Account to support worker assistance programs.

PUC Engagements in FY22

Electric Resource and Clean Energy Plans

In 2019, the utilities that operate more than 99% of fossil fuel power plants in Colorado committed to meet at least an 80% greenhouse gas (GHG) emissions reduction by 2030 from a 2005 baseline. [SB19-236](#) codified that commitment for Xcel Energy and introduced a requirement for the utility to file a Clean Energy Plan (CEP). Under [HB21-1266](#), the state's other utilities were also required to develop a CEP.

Clean Energy Progress in Colorado



The 6 utilities that operate 99% of the fossil power plants in Colorado have committed to reduce emissions by at least 80% by 2030.



Status of Utility GHG Reduction Plans, June 2022

Key developments in 2022 include:

- Multiple parties have negotiated a settlement agreement in Xcel's Electric Resource and Clean Energy Plan that would retire the Pueblo Unit 3 coal plant by January 1, 2031; achieve an 85% emissions reduction by 2030 and at least 88% by 2031 from a 2005 baseline; and address just transition for communities with retiring coal plants. The PUC approved the settlement agreement in summer 2022.
- In April 2022, the PUC approved the settlement agreement in Tri-State's Electric Resource Plan that retires all coal generation in the state and achieves at least an 80% emission reduction by 2030.

- In June 2022, Black Hills Energy filed their CEP with the PUC, designed to achieve a 90% emissions reduction by 2030. This is now under PUC consideration.
- Holy Cross Energy, Colorado Springs Utilities and Platte River Power Association have each submitted voluntary CEPs to the Air Pollution Control Division for verification that each utility will achieve at least 80% reduction by 2030. These informational plans were filed with the PUC before July 1.

Clean Heat Plans and Gas Utility Demand Side Management

Signed in June 2021, [SB21-264](#) requires that gas distribution utilities submit comprehensive Clean Heat Plans with the PUC. Through “Clean Heat” resources—including energy efficiency, beneficial electrification, recovered methane, and green hydrogen, among others—each Clean Heat Plan must outline the utility’s proposal to reduce GHG emission levels by 4% in 2025 and 22% in 2030 below 2015 levels.

In October 2021, the PUC opened a rulemaking on gas system planning and the implementation of [SB21-264 \(Clean Heat Plans\)](#), [SB21-246 \(Beneficial Electrification Plans\)](#), and [HB21-1238 \(gas system demand side management\)](#). This proceeding set the stage for the required Clean Heat Plan filings by August of 2023, and explored broader changes to gas system planning to reduce emissions and align gas system investments with the state’s GHG emissions goals.

Specific FY 22 Engagements

PUC Investigations and Repositories

- 19M-0495E: Energy markets investigation (Colorado Transmission Coordination Act)
- 20M-0439G: Investigation into retail natural gas industry GHGs
- 21I-0076EG: Winter Storm Uri investigation
- 21M-0130EG: Winter Storm Uri data repository
- 21M-0168G: Short-Term Gas Infrastructure Gas Planning proposed rulemaking
- 21M-0395G: Clean Heat pre-rulemaking
- 22I-0027E: Investigation into Community Choice Energy
- 22I-0086E: Investigation into Public Service’s Comanche 3 Unit Outage
- 22M-0156E: Petition for Information on Public Service’s Comanche 3 Unit Outage
- 22M-0171ALL: SB 21-272 and equity

pre-rulemaking

- 22M-0200E: Voluntary CEP repository

PUC Rulemakings

- 20R-0516E: Distribution System Planning rules
- 21R-0314G: Gas Cost Adjustment rules
- 21R-0326EG: Utility Percent of Income Payment Plan rules
- 21R-0449G: Clean Heat rules
- 22R-0249E: Wholesale Energy Markets rules

Public Service Company of Colorado (Xcel Energy) Proceedings

- 21A-0071G: Pipeline System Integrity Adjustment rider
- 21A-0096E: Colorado Power Pathway Transmission proceeding
- 21A-0141E: 2021 Electric Resource Plan (ERP)/Clean Energy Plan (CEP)

- 21A-0192EG: Winter Storm Uri cost recovery (electric and gas)
- 21R-0494E: Electric Vehicle rates
- 21A-0625EG: 2022-2025 Renewable Energy Standard (RES) Plan
- 22D-0069E: Petition for a Declaratory Order related to the 2021-2023 Transportation Electrification Plan (TEP)
- 22A-0189E: Distribution System Plan

Atmos Energy Proceedings

- 21A-0186G: Winter Storm Uri cost recovery

Black Hills Energy Proceedings




- 20A-0195E: 2021-2023 TEP

- 21A-0166E: 2022-2024 Electric DSM Plan
- 21A-0196G: Winter Storm Uri cost recovery (gas)
- 21A-0197E: Winter Storm Uri cost recovery (electric)
- 21V-0342E: Petition for Variance of Deadline to file next ERP & RES Plan
- 22V-0090E: Petition for Variance of Deadline to file next ERP & RES Plan
- 22A-0230E: Black Hills Electric ERP/CEP & RES Plan

Tri-State Generation and Transmission Proceedings

- 20A-0528E: ERP (Responsible Energy Plan)

Programs - Transportation

	 % new light-duty vehicle registrations	 Total # of EVs on the road	 Total # of EV charging stations
FY 2021	4.4% <small>(Q3 & Q4 only)</small>	31,614	3,160 <small>(2,703 Level 2, 457 DCFC)</small>
FY 2022	8%	58,359	4,046 <small>(3,421 Level 2, 625 DCFC)</small>

Electric Vehicle Snapshot comparing FY21 with FY22

Charge Ahead Colorado

Charge Ahead Colorado (CAC) is an EV infrastructure grant program that provides funding for community-based Level 2 and DC fast-charging (DCFC) electric vehicle charging stations at public and private spaces and multifamily housing. The objectives of Charge Ahead Colorado are to improve air quality, reduce transportation emissions, and increase adoption of electric vehicles across Colorado. To date, CAC has funded more than 2,000 EV charging stations, including 151 stations from three rounds of applications in FY22:

June 2021

Total: 43 stations

- Aspen Mountain Lodge
- Banner Health Systems
- BUFFALO LODGE AND DAKOTA Condo HOA
- Club Villas Corporation
- Colorado Dept. of Public Safety
- Colorado Mesa University
- Eagle River Water & Sanitation District
- Garfield County Facilities Department
- La Plata County Government
- Mesa County Public Library District (dba) Mesa County Libraries
- New Belgium Brewing
- Otero Junior College
- River Mountain Lodge HOA
- Sandstone Creek Club
- Silverpick Lodge
- Tamarack Townhomes
- The Powerhouse
- Timber Ridge Condo Association
- Twin Owls Inc
- YMCA OF THE ROCKIES
- Arapahoe Basin Ski Area
- Bear Claw Condominium HOA (BREO)
- Big B's Fruit Company & Delicious Orchards
- Circle K
- Colorado Outpost EVCS, LLC
- CS Dual Hotel, LLC
- Eagle County Government
- ECOS Environmental & Disaster Restoration, Inc.
- Edgemont Condominium HOA
- EV Build LLC
- Grand Hyatt Vail
- Gunnison County Electric Association, Inc. - Rasta Lot
- Gunnison County Electric Association, Inc.
- Mercedes Benz of Colorado Springs
- Pueblo County Government

- Red E Charging LLC
- San Isabel Electric Association
- Shop & Hop #3 LLC
- SunRiver Condominiums
- Town of Basalt
- Tralee Capital Partners
- Tri County Ford
- Yampa Valley Electric Association

October 2021

Total: 38 stations

- 2 Guys LLC / MAX REG LLC
- Battey Calleigh & Mina LLC
- Beaver Creek Landing Association
- Camp V LLC
- Chipper College Lanes
- Chippers Horsetooth Center
- City of Aspen
- City of Central
- Desert Reef LLC
- Dinosaur Diamond National Byway
- Durango Outdoor Exchange
- ECOS 2
- Forney Industries Inc
- GPM Southeast LLC
- Hidden River Lodge
- Highline Electrical Association
- IBEW Local #12
- IBEW Local Union 111
- International Brotherhood of Electrical Workers
- JBS USA
- Lone Eagle Condominiums
- NMTC at CO QALICB, LLC
- Northfield Land LLC
- PetDine 1
- PetDine 2
- Phil Long Ford of Chapel Hills
- Ramshorn Investments
- Riverbend RV LLC
- South Fork Hospitality
- Summit County Government
- Town of Avon

- Town of Breckenridge
- Town of Mountain Village
- Town of Silver Cliff
- Upper Pine Fire Protection Dist.
- Vail Spa Condominiums
- Volvo Car USA LLC
- Yampa Valley Electric Association

February 2022

Total: 70 stations

- 1st Commercial Realty Group
- 40 West Arts
- Windsor at Fieldstone LP (1000 Spear by Windsor)
- River North Investment (1576 Sherman LLC)
- River North Investment (4500 Broadway LLC)
- River North Investment (Backyard on Blake LLC)
- Bear Creek TIC LLC
- Candlewyck Condo Association
- Centennial Mission LLC
- INSTITUTIONAL MULTIFAMILY PARTNERS LLC (Centrick Hi Lo by Windsor)
- City of Lone Tree
- City of Louisville
- City of Sheridan
- Colorado Chautauqua Association
- Commerce City
- Cottage Camp LLC
- CWS Apartment Homes LLC
- INSTITUTIONAL MULTIFAMILY PARTNERS LLC (Element 47 by Windsor)
- Evergreen Devco Inc
- Flywheel Capital
- Flywheel Capital 2
- Foothills Regional Housing
- Grand Peaks Properties (USVI-GPP Grand View at Flatirons Venture LLC)
- KW Rockvue LLC (Greystar)
- Hill One DTC Manager LLC
- Holland Partner Group
- Larimer Place Condo Association
- Lexmark International
- Mountain View LLC
- One Lincoln Station
- Parklane Condominium
- PBH Cove LLC
- INSTITUTIONAL MULTIFAMILY PARTNERS LLC (Platt Park by Windsor)
- St. Aidan's Episcopal Church
- Superior Shore Townhomes LLC
- Columbia Platte Valley Colorado LLC (The Manhattan)
- Tower Shoppette LLC
- 1250 Bayshore Highway, LLC dba Green Tree extended stay Eagle
- Balanced Rock Inn
- Basalt High School
- Beaver Run Resort
- Breckenridge Grand Vacations
- CGRS Inc
- City of Fort Collins
- City of Fruita
- City of Manitou Springs
- Colorado State University
- EV Build LLC
- Feedstore Limited
- Flywheel Capital
- Forever Forks LLC
- Fremont One Limited
- Friends of the Genoa Tower Inc
- Ft. Collins VOA Senior Housing LLC
- Islamic Center of Fort Collins
- Jerry Hensel/Arrowhead Metro District
- Kum & Go
- Phil Winslow Motors Inc
- Quicksilver Condo Association Inc
- Red Feather Mountain Library Dist.
- REV Enterprises Inc
- Drala Mountain Center (Shambhala Mountain Center)
- Spring Creek Gypsum
- Syed/Rocky Mountain Ionosphere Initiative Inc.

- The Charter at Beaver Creek Condo Association
- Town of Breckenridge
- Town of Vail
- Vail Religious Foundation
- Villas at Pony Tracks LLC
- Vista Verde Ran

EV Corridors

Developed in partnership with [ChargePoint](#) and site hosts, such as local governments, utilities, and private companies, the fast-charging electric vehicle corridors project comprises of high-speed charging stations to be installed at 34 locations across the state. By the end of FY22, 23 of these stations were operational and available for public use. The remaining 11 stations will be operational by the end of the 2023 calendar year.

Open Corridor Stations

- Dinosaur Welcome Center (Dinosaur, CO)
- Craig Kum & Go (Craig, CO)
- Steamboat Springs Kum & Go (Steamboat Springs, CO)
- Granby Kum & Go (Granby, CO)
- Estes Park Visitor Center (Estes Park, CO)
- Pagosa Springs Centennial Park (Pagosa Springs, CO)
- Montrose City Parking Lot (Montrose, CO)
- Rifle Kum & Go: (Rifle, CO)
- Vail Lionshead Parking (Vail, CO)
- Fairplay Town Hall (Fairplay, CO)
- Salida Two Rivers Development (Salida, CO)
- Purgatory Ski Resort (Durango, CO)
- Durango City Parking (Durango, CO)
- Alamosa Visitor Center (Alamosa, CO)
- Wellington Kum & Go (Wellington, CO)
- La Junta Village Inn (La Junta, CO)
- Wheat Ridge Target (Wheat Ridge, CO)
- Conifer Main Street (Conifer, CO)
- Brighton 7-Eleven (Brighton, CO)
- 15th & Pearl Parking Garage (Boulder, CO)
- Pueblo 7-Eleven (Pueblo, CO)
- Georgetown, CO
- Limon Main St (Limon, CO)
- Cañon City, CO (FY23)
- Greeley, CO (FY23)
- Ouray, CO (FY23)
- Westminster, CO (FY23)
- Dacono, CO (FY23)
- Sterling, CO (FY23)
- Lamar, CO (FY23)
- Burlington, CO (FY23)

Future Corridor Stations

- Aurora, CO (Calendar Year 2023)
- Castle Rock, CO (Calendar Year 2023)
- Gunnison, CO (Calendar Year 2023)

EV Fast-Charging Plazas

The Direct Current Fast-charging (DCFC) Plazas program was designed to increase access to high-speed charging across the State of Colorado through large banks of fast chargers. Proposed locations take into account proximity of existing and planned DCFC locations and the potential for high utilization. The goal of this program is to strategically deploy high-speed charging infrastructure needed by drivers without regular access to home or workplace charging, in addition to drivers in need of quick, convenient charging while traveling through the state. In FY22, the EV Fast-Charging Plazas program offered one round of funding, and transitioned from a regionally-focused program in the metro area to a statewide program. Plazas were completed in Aurora and Arvada, and new projects are currently under development in Glenwood Springs and Silverthorne.

STUDY: Battery Energy Storage Systems (BESS) Study

Battery Energy Storage Systems allow energy from a variety of sources to be stored for later use. The [Battery Energy Storage Systems \(BESS\) Study](#) (February 2022) explores the technical, economic, regulatory, and environmental feasibility of deploying BESS alongside Direct Current Fast Chargers for Electric Vehicles in order to reduce demand charge costs and ensure access to reliable Electric Vehicle charging across the state.

Research has shown that the demand charges can create a cost prohibitive environment for DCFC station operators. This is because high periods of maximum kilowatt draw from the grid result in high demand charge costs that are challenging to recover through revenue from overall charging volume in early stages of EV adoption, when utilization is low. Results from this analysis demonstrate an encouraging economic case for BESS implementation. The study found that, without BESS, the actual utility demand charges applicable to a given site were higher than the calculated break-even demand charges for many locations. This implies that, despite the additional capital costs associated with BESS, break-even demand charges can be relatively low in order to achieve savings by implementing battery storage in combination with DCFC stations. The modeled break-even demand charges showcase the outsized effect that demand charges have on the economic viability of fast charging.

Additionally, DCFC are more likely to incur significant additional infrastructure costs for “grid edge” or “grid constrained” scenarios, in the event that they require a service upgrade. Among surveyed utilities, several mentioned that the most expensive aspect of DCFC development is additional 3-phase wiring and transformers. Battery technology can lower the maximum kW draw from the grid in order to provide fast charging service using single phase lines, lowering infrastructure costs. This avoidance of line extensions provides significant additional benefits - estimated to range from \$25,000 to \$260,000 per mile. This study found that the ability of BESS to enable fast charging at the grid edge is technically feasible, and sites may capture economic value through avoided distribution infrastructure costs.

Can Do Colorado eBike Pilot Program

Following two successful FY21 eBike Pilot programs in October 2020 and April 2021 (ongoing), CEO received \$12 million from [SB22-193](#) to launch a statewide eBike Rebate Program and a statewide eBike Grant Program. The goal of this legislation is to improve access to eBikes for approximately 10,000 low- and moderate-income Coloradans through direct eBike and equipment purchase rebates and grants for eBike share and ownership programs. Grants will be available to non-profit organizations, local governments, tribal governments, and other community-based organizations to create eBike programs. CEO anticipates that the rebate will be available to individuals starting in Spring 2023, with the first round of grants available in mid-FY23 and a second round in mid-FY24.

Participants logged their eBike trips over the course of the Can Do Colorado eBike Pilot Program and the data indicates that in FY22 156 participants avoided 17,461.56 pounds of carbon dioxide emissions, the equivalent emissions of 19,660 miles traveled in an average gas-powered car. Many participants self-reported a drastic reduction in car trips (replaced with eBike trips) and several have subsequently sold their vehicles and use their eBike as their main mode of transportation.

Clean Truck Strategy

The Colorado Clean Truck Strategy kicked off in 2020 with a multi-state Memorandum of Understanding (MOU), signed by Governor Polis, to collaboratively advance the market for zero-emission trucks and buses. In September 2021, CEO, CDPHE, and CDOT collaborated on a [Medium- and Heavy-Duty \(M/HD\) Vehicle Study](#) to analyze the costs and benefits associated with several regulatory and investment scenarios related to this market. Modeling from this study indicates that, if the State of Colorado pursues strategies to support an accelerated transition to M/HD Zero-Emission Vehicles (ZEVs), it could reduce the state's M/HD GHG emissions 45% to 59%; nitrous oxide (NOx) emissions 54% to 93%; and particulate matter (PM) emissions 53% to 68% annually by 2050 from a baseline scenario. The modeling also projects significant health benefits from these reductions, such as fewer asthma cases, hospital visits, and premature mortality, particularly in low-income communities and communities of color.

Following the release of the M/HD Vehicle Study, state agencies gathered public input on the development of the Clean Truck Strategy. State agencies released a draft strategy for public feedback in March 2022, and published the final [Clean Trucks Strategy](#) in May 2022. It includes goals and objectives; 35 prioritized strategies for agencies to pursue in the near and medium term; and recommendations for leveraging the nearly \$1 billion in potential funding for clean trucks and buses coming from [SB21-260](#), federal infrastructure funds, the Governor's budget, and other sources. It also includes a rulemaking for the Advanced Clean Trucks (ACT) and Low NOx Omnibus rules at the Air Quality Control Commission in FY23.

STUDY: Opportunities for Low-Carbon Hydrogen in Colorado: A Roadmap

The GHG Roadmap identifies hydrogen as a potentially important low-carbon fuel for beyond 2030, especially to reduce emissions in hard-to-electrify sectors. The [Low Carbon Hydrogen in Colorado: Roadmap](#) (2021) evaluates the potential role hydrogen could play in achieving Colorado's climate goals, including identifying opportunities, barriers and recommended actions for the deployment of low-carbon hydrogen in the state of Colorado over the next fifteen years.

This roadmap presents a variety of different uses for low-carbon hydrogen, such as medium- and heavy-duty vehicles and electricity generation with storage capabilities. It also provides the following recommendations for near-term actions related to the research and development of low-carbon hydrogen as a fuel source in Colorado.

- Develop a Hydrogen Plan that includes concrete actions for the deployment of low-carbon hydrogen in Colorado.
- Investigate the market interest and feasibility of regional early-deployment hydrogen hubs to demonstrate the use of hydrogen in mature or emerging applications such as heavy-duty transportation.
- Develop pilot projects on the use of hydrogen in the power sector to test hydrogen applications using existing infrastructure, potentially in combination with a local hydrogen hub.
- Develop pilots related to the blending of hydrogen in existing gas infrastructure, as part of utility-specific Clean Heat Plans.
- Issue a Request for Information (RFI) to potential Colorado hydrogen market participants to assess the feasibility of developing pilots and/or geographically-based hydrogen hubs in the state.

Community & Stakeholder Engagement

Colorado Electric Vehicle Coalition

The [Colorado Electric Vehicle Coalition](#) (CEVC) is a stakeholder group consisting of utilities, industry, auto manufacturers and dealers, trade groups, government, non-profit organizations, academics, research professionals, and other industry advocates. The CEVC facilitates information sharing, collaboration, and networking among stakeholders to support Colorado's vehicle electrification goals. It also contributes to the development of state policy, studies, and standards.

This umbrella coalition meets every two months and has subgroups that meet periodically, including Policy, Beneficial Electrification, EV Equity, Transit, Marketing and Outreach, Micromobility, School Buses, Battery Recycling, and Retail Charging.

ReCharge Colorado

The ReCharge Colorado program works to advance the adoption of electric vehicles and installation of charging infrastructure across the state. ReCharge Colorado Coaches provide coaching services for EVs and infrastructure development in every county in the state. ReCharge Coaches help consumers, local governments, workplaces, and multifamily housing developments identify monetary savings, grant opportunities, and other advantages related to deploying EVs and charging infrastructure. ReCharge Coaches help build local stakeholder support for EV adoption and leverage these networks to drive EV sales and participation in available funding opportunities.

In FY22, ReCharge Colorado coaches hosted 107 outreach events, including ride-and-drives, educational events and webinars, and EV showcases. FY22 outreach events occurred in the following locations: Denver Metro region (42); Durango/Colorado South region (7); I-70 corridor (17); Colorado Springs/Pueblo/Central Colorado (18); Northern Colorado (23).

ReCharge Colorado coaches also worked with local governments and private businesses across the state to submit grant applications to Charge Ahead Colorado. The coaches' efforts resulted in 124 CAC grant applications with 56 of those awarded for locations that include ski resorts, rural corridor sites, hotels, workplaces, and multifamily dwellings.

Community Access Enterprise

In June 2021, Governor Polis signed [SB21-260](#), which created new sources of dedicated transportation funding and new state enterprises to enable a sustainable transportation system. The [Community Access Enterprise](#) (CAE), housed in CEO, was one of the three new transportation electrification enterprises created by this legislation.

The Community Access Enterprise supports the widespread adoption of electric motor vehicles, equitably invests in transportation infrastructure, and incentivizes the acquisition and use of electric motor vehicles and electric alternatives to motor vehicles. Over the first decade, the Community Access Enterprise is expected to receive approximately \$310 million to support electric vehicle charging and hydrogen fueling infrastructure, as well as low- and moderate-income adoption of EVs and electric bicycles.

The governing board of the CAE was appointed on September 29, 2021, and held its first meeting on November 4, 2021. Over the course of FY22, the board fulfilled its statutory obligations by approving a retail delivery fee through a rulemaking hearing, and publishing and posting a 10-Year Plan. In addition, state staff and external stakeholders presented to the board regarding CAE-related issues, including medium- and heavy-duty transportation electrification, federal programs, policies and funding sources, hydrogen, utility transportation electrification programs (TEPs), car sharing, and more.

On March 10, 2022, the board held a rulemaking hearing and unanimously approved the community access retail delivery fee for Fiscal Year 2022-23 (FY23) of six and nine-tenths cents (\$0.069). Prior to adopting the fee, the board held two public meetings, including one with Spanish interpretation, in order for members of the public to learn about the enterprise and the fee and provide public comment. Written comments were also accepted and public comment was included at the rulemaking hearing. Collection of the community access retail fee begins on July 1, 2022 by the Department of Revenue on behalf of the CAE.

On May 12, 2022, the board unanimously approved the [Ten-Year Plan](#) for the enterprise, which was published and posted to the enterprise [website](#). The plan details how the enterprise will execute its business purpose during state fiscal years 2022-23 through 2031-32 and estimates the amount of funding needed to implement the plan. The plan includes an extensive literature review of programs throughout the United States and provides recommendations for programs and funding levels. Five stakeholder engagement meetings were held, an online survey was conducted, and opportunities for oral and written comments were provided. The final plan recommends that the CAE provide funding to continue the growth of successful, existing CEO programs, and establish new programs that fill needs and gaps.

STUDY: Light Duty Vehicle Electrification

The [Light-Duty Vehicle Electrification study](#) (April 2022) modeled the potential costs and benefits of increased adoption of light-duty (LD) electric vehicles as a result of state EV policy implementation. The core policies assessed in this study offer a pathway to achieve Colorado's ambitious electric vehicle goals and light-duty GHG emission reductions, while providing additional societal benefits for Coloradans. The analysis in this report finds that the total annual benefits of these policies, including vehicle owner savings, climate benefits, air quality benefits and utility customer savings, could reach \$4.6 billion by 2050. The Roadmap presented in this report also highlights four policy areas that are important for meeting the state's goals strategically, cost effectively, and equitably: infrastructure development, incentives, education and outreach, and State leadership opportunities.

EV CO Education and Awareness campaign

In partnership with CDOT, CEO contracted with a third-party consultant in January 2022 to develop an electric vehicle education and awareness campaign that encourages Colorado consumers to purchase electric vehicles and move the state closer to its goal of 940,000 EVs on the road by 2030. The campaign is based on an [EV Roadmap](#) in 2020 that found 63% of Coloradans were interested in purchasing their first EV within the next 10 years (by 2030) and were seeking more information about purchase incentives, including state and federal tax credits, and information about at-home and public charging. Development of the campaign has included additional market research to identify the most common barriers and compelling benefits of purchasing an electric vehicle for Colorado's most likely near-term EV buyers. Various messaging strategies were tested to determine the most effective ways to reach

consumers with information about electric vehicles. By the end of FY22, campaign branding and messaging were nearly complete. The campaign launched in Fall 2022, and included a new campaign website, partner toolkit, social media outreach, and other materials to ensure Coloradans have the accurate and up-to-date information they need to purchase an electric vehicle.

Programs - Buildings & Finance

Agricultural Energy Efficiency Program

At the end of FY22, CEO wrapped up its Agricultural Energy Efficiency (AgEE) Program. Over its seven years, this program provided agricultural producers with dedicated, no-cost technical and financial resources to identify and implement energy efficiency and renewable energy projects. This included:

- 300+ energy audits conducted in 42 of Colorado's 64 counties
- \$3.2 million+ of annual energy savings potential identified
- \$3.6 million+ in project funding applied for on behalf of participants
- Nearly 200 energy efficiency measures installed
- 2,700+ MT of CO₂e avoided; the equivalent of taking nearly 600 cars off the road

The state continues to offer energy efficiency resources to agricultural operations in Colorado through programs administered by other state agencies, including the Advancing Colorado's Renewable Energy and Energy Efficiency (ACRE3) Program.

Colorado Commercial Property Assessed Clean Energy (C-PACE)

C-PACE, which is administered by the Colorado New Energy Improvement District (NEID), is a financing tool that allows commercial and multifamily property owners to finance qualifying energy efficiency, water conservation, and renewable energy improvements for existing and newly constructed properties with repayment of the financing through a voluntary assessment on the owner's property tax bill. During FY22, C-PACE provided \$12.3 million in financing for projects across seven diverse counties, including various project types, from retrofits to new construction.

C-PACE operates in the majority of counties in Colorado, including counties on the Front Range, Western Slope, and Eastern Plains. Eligible commercial and industrial building owners across the state have taken advantage of this unique energy efficiency financing program. In FY22, eight projects were completed, bringing the total to 102 overall, and contributing to an estimated 823 clean energy jobs, with an estimated program total of 1,738 jobs. These eight projects represent 4.5 million kBtu/year in projected energy savings, the equivalent annual energy use of 118 homes, and about 8,602 tons/year in lifetime GHG emissions reduction. The program continues to finance renewable energy, energy efficiency improvements, and water conservation across all commercial/industrial building types, resulting in immediate energy savings and positive cash flow.

C-PACE CASE STUDY: St. Cloud Hotel, Cañon City, CO¹

In March 2022, Colorado C-PACE announced that Unbridled Holdings III, owner of the Hotel St. Cloud, in collaboration with PCD Engineering and Twain Financial, engaged C-PACE to finance major energy efficiency improvements to this historic hotel in Cañon City, Colorado.



“We are proud to... bring this iconic building into the 21st century,” said Twain Financial project manager Zak Boyer. **“It is fitting that this exceptional project is also the 100th Colorado C-PACE project - a major milestone for the program and for Colorado.”**

Building upgrades include new high efficiency windows, doors, and plumbing; a new HVAC system; and a lighting retrofit.

“This iconic hotel, which dates from 1888, represents a cornerstone of Cañon City’s historic district,” said CEO of Unbridled Holdings III Stan Bullis. **“Built shortly after the city was settled, it ranks as one of Colorado’s oldest buildings. Our extensive renovations will ensure that it will continue to be a vital part of this community for decades to come, ... furthering our mission to restore people and places.”**

The Hotel St. Cloud is one of several Main Street buildings being restored by Unbridled. They recently opened a farm-to-table restaurant, Fremont Provisions, and hope restoring these buildings will inspire new economy, new purpose, and new hope in the city.

“It is always gratifying to update a building with such historical significance to its community,” said PCD engineer Jacob Goodman. **“The Hotel St. Cloud is irreplaceable, and we’re proud to have participated in the rejuvenation of this beautiful building.”**

Energy Performance Contracting (EPC)

Energy Performance Contracting (EPC) is a cost-neutral model for funding and implementing capital improvement upgrades for public entities, including local governments, special districts, school districts, institutions of higher education, and state agencies. Prior to entering an EPC, an Energy Service Company (ESCO) conducts an Investment Grade Audit (IGA) of facilities and delivers a project proposal that includes: energy and water efficiency measures, renewable energy systems, electric vehicle technology, operations and maintenance, and/or metering infrastructure improvements. Using the stream of income from cost savings or renewable energy produced through the upgrades, the project repays itself over the contract term.

¹ Image courtesy of the Bureau of Land Management. [Source](#).

To assess market expansion potential, the EPC program introduced a non-profit pilot program in FY22, which supported two groups, through the release of an RFP to completion of an investment grade audit. Other EPC program growth strategies included developing and requesting funding for two grant offerings that will help fund implementation of building electrification measures.

In FY22, CEO initiated 12 EPC projects through pre-approved ESCOs, and signed 21 MOUs with the following types of public jurisdictions: counties (1), municipalities (9), school districts (8), special districts [hospital, water districts] (1), institutes of higher education (2), and state agencies. Work during the fiscal year also included 19 investment grade audits (IGAs).

The EPC FY22 portfolio comprised 179 buildings, 33.8M sq. ft., and \$142,566,902 in total project investment. This included HVAC retrofits and commissioning, building envelope improvements (windows, insulation), solar PV and renewable energy integration, energy efficiency upgrades (lighting, motors, equipment), building automation systems, and water fixture and irrigation improvements. These measures represent annual operations and maintenance savings of \$895,647; annual electricity savings of 53,569,812 kWh; annual natural gas savings of 1,169,103 therms; and annual water savings of 140,761 kGal.

In FY22, the program engaged the following public jurisdictions through an MOU, IGA, or EPC:

Counties

- Moffat (EPC)

Institutions of Higher Education

- University of Colorado Boulder (MOU, IGA)
- University of Colorado Monument (MOU, IGA)

Municipalities

- Denver (x2) (EPC)
- Fountain (MOU, IGA)
- City of Centennial (EPC)
- Boulder (EPC)
- Thornton (MOU)
- City of Fort Morgan (MOU, IGA)
- City of Gunnison (MOU, IGA)
- Vail (MOU, IGA)
- Town of Eagle (MOU, IGA)
- Erie (MOU, IGA)
- Broomfield (IGA)
- Dolores (IGA)
- Monument (MOU)
- Englewood (MOU)

- Glenwood Springs (MOU)

Non-profit Organizations

- YMCA of the Rockies (IGA)
- YMCA Pikes Peak (MOU, IGA)

School Districts

- Centennial School District R-1 (MOU, IGA)
- Monte Vista School District C-8 (MOU, IGA, EPC)
- Fremont RE-2 (EPC)
- Cotopaxi School District RE-3 (MOU, IGA)
- Park County School District RE-2 (IGA)
- Cañon City School District RE-1 (MOU, IGA)
- Cripple Creek-Victor School District RE-1 (MOU, IGA)
- Adams-Arapahoe School District 28j (IGA)
- Colorado Springs School District 11 (MOU)
- Hanover School District 28 (MOU)
- Ignacio School District 11-JT (MOU)

State Agencies

- Colorado Department of Human Services (MOU)

Special Districts

- Denver International Airport (EPC)
- Denver Health (EPC)
- Foothills Park & Recreation District (EPC)
- Fountain Sanitation District (MOU, IGA)

EPC CASE STUDY: Denver International Airport²

In March 2019, Denver International Airport (DEN) competitively selected McKinstry to perform an Investment Grade Audit (IGA) under the State of Colorado's Energy Performance Contracting program. The audit scope included 11 facilities and 6 parking lots with nearly 8M square feet throughout DEN. As a result of this IGA effort, McKinstry has developed an Energy Performance Contracting project that results in a total project investment of approximately \$83M with annual utility and operational cost savings of more than \$4M. The EPC scope achieves 100% of DIAs energy usage reduction goals (20% reduction from 2017 baseline), 65% of GHG goals (30% reduction by 2025), and 80% of water reduction goals (20% reduction from 2017 baseline). This EPC contract represents the largest project in program history.



“This initiative is the most impactful project ever undertaken to improve the airport’s sustainability, one of the guiding principles in our Vision 100 plan,” said DEN CEO Phil Washington. **“The contract comes with guaranteed savings and system performance, pushing DEN forward in reaching our goal to become one of the most sustainable airports in the world.”**

This project offers a solution for DEN that will provide the airport with excellent long-term value and advances the goals identified in DEN’s sustainability plan. The project includes the following energy conservation measures:

- LED lighting retrofits
- Domestic water upgrades
- Cooling tower sub-meter
- EMCS Controls Replacement
- Addition of stand-alone HVAC units to EMCS
- Optimized control of basement MAU systems
- Controls optimization through Sky Spark
- Replacement of wet well piping under CUP

Additionally, 21% of project contract value is going to Minority/Women-owned Business Enterprises, exceeding a goal of over 18%. Construction began in June 2022 and has an estimated implementation period of 38 months.

² Photograph provided courtesy of Denver International Airport. [Source](#).

Industrial Strategic Energy Management (ISEM)

Administered by [Stillwater Energy](#), CEO's ISEM program works with industry and manufacturers to identify opportunities to manage their energy use via operations, maintenance, and behavioral changes. The program focuses on employee and executive engagement to develop, standardize, or update organizational energy management practices, policies, and processes in order to save manufacturers energy and money.

In FY22, ISEM engaged with four industrial manufacturers along the Western Slope. Each program participant received an on-site energy walkthrough that identified operations, maintenance, and behavioral opportunities along with capital improvement measures to consider. Walkthrough results were compiled into an "opportunity register" for each participant, which detailed findings, project prioritization recommendations, and an action plan. In total, more than 140 energy-saving actions were identified, including compressed air, HVAC, lighting, insulation, KPI development strategies, employee energy optimization training, motor and pump optimization/replacement. The ISEM program also conducted two energy management assessments with each participant, one at the begin and end of the program. These assessments examined how energy considerations were incorporated into day-to-day operations over the course of their engagement with the program while providing a regression-based energy model to help visualize energy usage and track progress toward energy savings targets.

Statewide Energy Benchmarking: Building Performance Colorado (BPC)

Signed at the end of FY21, the Energy Performance for Buildings Statute, or [HB21-1286](#), established statewide benchmarking requirements, which require owners of commercial, multifamily, and public buildings that are 50,000 square feet and larger to submit whole-building energy use data to CEO by December 1, 2022, and by June 1st of every year thereafter.

In FY22, CEO created the benchmarking program, now called [Building Performance Colorado](#), and began outreach to building owners about these new requirements. Several cities in Colorado have existing benchmarking programs, including Boulder, Denver, and Fort Collins. CEO worked with these cities in FY22 to streamline the benchmarking reporting requirements by creating a shared data reporting link. This allows building owners to submit just one benchmarking report to meet both local and state requirements. CEO will continue to work with building owners to comply with this program in FY23.

Building Performance Standards (BPS)

HB21-1286 also established building sector-wide emission reduction targets of 7% by 2026 and 20% by 2030, from a 2021 energy use baseline, for commercial, multifamily, and public buildings 50,000 square feet and larger. To achieve these targets, the statute directed CEO to establish a Task Force to develop broad recommendations for statewide building performance standards (referred to as BPS Task Force).

The [18-member](#) BPS Task Force began meeting in September 2021, and continued meeting once-a-month through September 2022. On October 1, 2022, the BPS task force submitted the Task Force's broad recommendations for the BPS to the Governor, General Assembly, and AQCC. The AQCC will conduct a rulemaking and promulgate rules for the BPS by June 1, 2023.

Programs - Weatherization

The Weatherization Assistance Program receives both federal and state funding to provide home energy audits and make energy efficiency improvements for income-qualified households to help them save money and improve home comfort and safety. This can include installing insulation, sealing cracks around windows and doors, replacing air infiltration sealing, and in some cases, installing solar panels and high efficiency electric appliances. In FY22, WAP made energy efficiency improvements in 2,064 homes, with estimated cost savings of \$1,027,872 and energy savings of 73,891 MMBtus, the equivalent of eliminating energy use from 1,933 homes for one year.

WAP Solar

In 2017, WAP began installing solar panels on eligible homes. In FY22, WAP installed solar panels on a total of 155 homes, producing an estimated annual energy savings of 986,557 kWh and saving homeowners an estimated total of \$113,504.

Looking Forward

In FY23, CEO is looking forward to developing and administering programs that continue to move Colorado closer to its GHG emissions reduction targets. This includes innovative programs focused on geothermal energy use and development, building energy efficiency, sustainability in cannabis grow operations, low-income access to electric vehicles, and development of a regional clean hydrogen hub. CEO is also taking advantage of a variety of new federal funding opportunities through the Infrastructure Investment and Jobs Act (IIJA; also known as the Bipartisan Infrastructure Law [BIL]) and Inflation Reduction Act (IRA).

Clean Energy Grant Programs

Clean Air

Signed in June 2022, [SB22-193](#) established the [Clean Air Grants Program](#) to provide funding to public entities, private entities, and public-private partnerships to fund voluntary industrial and manufacturing air pollutant emission reduction projects in Colorado. This program will invest \$25 million over six years for projects that include:

- Fossil fuel efficiency and fuel switching to lower carbon fuel sources
- Industrial process changes that reduce air pollutant emissions
- Renewable energy projects

- Strategic electrification
- Transportation electrification
- Carbon capture, utilization and storage
- Methane capture from landfills, sewage treatment plants, active or inactive coal mines, or agricultural operations
- Production and use of sustainable aviation fuel
- Production or use of clean hydrogen

CEO expects to issue its first request for applications for these grants in spring 2023.

Geothermal Energy

[HB22-1381](#), signed in June 2022, created the [Geothermal Energy Grant program](#) to support the use of zero-emission, geothermal energy for electricity generation and space/water heating and cooling in homes, businesses, and communities. Both public and private entities will be eligible for this funding for:

- Installation of geothermal heating/cooling systems
- Development of community geothermal systems
- Geothermal electricity generation
- Design studies

The Geothermal Energy Grant program is expected to launch in summer 2023.

High-Efficiency Electric Heating and Appliances

The High-Efficiency Electric Heating and Appliances Grant is authorized by [HB22-1362](#) to support community efforts to switch to high efficiency electric heat and appliances. Both public and private entities are eligible for this grant for projects related to electric heating appliances, electric vehicles, and "electric ready" infrastructure. This includes:

- the purchase and installation of high-efficiency electric equipment for space heating, water heating, or cooking
- the purchase of electrical installations and upgrades necessary to support the installation of high-efficiency electric equipment
- the purchase and installation of other innovative building heating technologies that will likely achieve equal or lower levels of greenhouse gas emissions

The High Efficiency Electric Heating and Appliances Grant is expected to launch in spring 2023.

Public Building Electrification

Established by [HB22-1362](#), the Public Building Electrification Grant will provide public buildings with funding to explore and implement building system electrification measures and infrastructure upgrades required to support these technologies. Grantees may use money

received through the building electrification for public buildings grant program for the following purposes:

- purchase and installation of high-efficiency electric equipment for space heating, water heating, or cooking
- purchase of electrical installations and upgrades necessary to support the installation of high-efficiency electric equipment
- purchase and installation of other innovative building heating technologies that the Colorado Energy Office determines will likely achieve equal or lower levels of greenhouse gas emissions than high efficiency heat pumps

The Public Building Electrification grant is expected to launch in spring 2023.

Cannabis Resource Optimization Program

According to the CEO's [2018 Energy Use in the Colorado Cannabis Industry report](#), the energy burden associated with Colorado cannabis cultivation is significant, with an estimated 2% of electricity generated in the state being allocated to cultivation facilities. As a result of this electricity use and additional natural gas & propane use, energy expenditures make up an estimated 33% of cultivation business' operating costs. However, significant energy cost saving and resource reduction opportunities exist through the implementation of resource efficiency measures.

To assist Colorado cannabis cultivation facilities in realizing these opportunities, CEO has developed the Cannabis Resource Optimization Program (CROP). The program is designed to provide eligible cannabis cultivation businesses with no-cost technical resource use and renewable energy assessments to better understand energy and water use drivers and cost-effective resource management opportunities.

As a follow up to this technical offering, CEO will partner with lending institutions to provide financing to help program participants implement identified efficiency measures.

CROP is expected to launch in January 2023.

Energy Code Board

Signed in May 2022, [HB22-1362](#) requires CEO and DOLA to appoint an Energy Code Board with 21 members representing a variety of specific interest groups from across the state by October 1, 2022. The energy code board is charged with creating new minimum requirements for local energy codes. The board must develop pre-wiring requirements for EV charging, building electrification, and solar by June 30, 2023; after that date any jurisdiction that updates its building code must adopt a code at least as strong as the 2021 International Energy Conservation Code (IECC), plus these pre-wiring requirements. Then in 2025 the board must adopt a low carbon code, based on the 2021 or 2024 IECC and its appendices, that maximizes carbon reductions while maintaining housing affordability. The board may also

update the pre-wiring requirements. Starting in 2026, jurisdictions that update their building code must adopt an energy code at least as strong as this low carbon code and pre-wiring requirements.

Roadmap 2.0

Colorado's Greenhouse Gas Pollution Reduction Roadmap was released in January 2021. In 2023 CEO, in coordination with CDPHE, CDOT, DNR, and other agencies, will begin a process to update the Roadmap. This includes hiring vendors to assist in modeling and outreach, implementing a robust public engagement process, and updating the list of Near Term Actions to identify critical programs and policies for the next several years. The public engagement and outreach process will begin in the 2023 calendar year, and an initial draft of Near Term Actions will be completed by June 2023. The roadmap update will likely be released at the end of calendar year 2023.

Vehicle Exchange Colorado

Through the Community Access Enterprise, Colorado will be establishing a statewide, income-qualified rebate program to remove high-emitting vehicles from the road and replace them with battery electric vehicles (BEVs), plug-in hybrid electric vehicles (PHEVs), and other low-emitting mobility options. CEO anticipates that the rebate will be available to low- and moderate-income Coloradans starting in spring 2023.

Federal Funding

Infrastructure Investment and Jobs Act (IIJA)

The IIJA provides additional funding opportunities for CEO, both through formula and competitive grants. This includes one-time funds for the Weatherization Assistance Program and State Energy Program, as well as funding for a new Energy Efficiency Conservation Block Grant (EECBG) program and a Energy Efficiency Revolving Loan Fund (EERLF). CEO will also pursue competitive grants in several areas including for a hydrogen hub, for transmission and grid resilience, to support new work on building codes, workforce development, and other areas.

Inflation Reduction Act

The Inflation Reduction Act provides funding support for CEO's work, both in programs that CEO will administer, as well as through a variety of funding available to outside entities and direct to consumers. CEO will have direct responsibility for two large residential rebate programs, called the Home Energy Performance-Based, WholeHouse Rebates, also known as a HOMES (Home Owner Managing Energy Savings) rebate program and the High-Efficiency Electric Home Rebate program. Together these two programs will provide almost \$140 million in rebates for Colorado residents, to be administered by the Colorado Energy Office. CEO will also likely play a role in programs focused on workforce development, greenhouse gas reduction planning, and more.

Western Interstate Hydrogen Hub (WISHH)

In FY23, the Western Interstate Hydrogen Hub will select a prime contractor to assist efforts across the four-state region to submit a proposal to the Department of Energy (DOE) for the funding opportunity announcement “[Regional Clean Hydrogen Hubs](#).” If awarded, the prime contractor will neutrally and fairly manage the implementation of the regional hydrogen hub project to drive maximum impact. Working with the prime contractor, WISHH released a concept paper outlining the coalition’s preliminary Hydrogen Hub concept, and will submit its full application for funding from the DOE in early 2023.

Grid resiliency and Microgrids for Community Resilience

The [Microgrids for Community Resilience grant program](#), established in [HB22-1013](#), sets aside approximately \$3.5 million for cooperative electric associations and municipally owned utilities to purchase microgrid resources for rural communities within the utilities’ service territories. This program is designed to build community resilience regarding electric grid disruptions through the development of microgrids. A microgrid is defined as a group of interconnected electric loads and distributed energy resources with clearly defined electrical boundaries that can function as a single, controllable entity with respect to the electric grid. A microgrid can be connected to or disconnected from the electric grid to enable it to operate either in “grid-connected mode” or in “island mode.” Program development will take place in fall 2022 for a program launch in 2023.

In FY23, CEO and DOLA will pursue additional microgrid funding from the [U.S. Department of Energy \(DOE\) 40101\(d\) Formula Grant](#) through the Bipartisan Infrastructure Law “Preventing Outages and Enhancing the Resilience of the Electric Grid.” The Formula Grant sets aside approximately \$8.6M for the State of Colorado in the first of five funding years (2022) and approximately the same amount for the second year (2023). In early 2023, CEO will submit the Colorado Response to Grid Resilience Program Narrative for the first two years of funding (\$17.2 million), after a half-year development, stakeholder engagement, and incorporation of subsequent comments.

The majority of this federal grid resiliency formula funding (\$10.1 million) will be dedicated to the [Microgrids for Community Resilience Program](#), which will be administered by DOLA. The state funding from [HB22-1013](#) will provide the 15% required state match, as well as microgrid funding. The formula funds will also be used for rural and small community flexible grid hardening (\$4.2 million); advanced system monitoring (\$2 million); and studies, technical support, and administration (\$863,506), which includes development of the Colorado Grid Resiliency and Microgrid Roadmap (January 1, 2025 deadline).

Additionally, CEO will be applying for several grants under the DOE’s [Grid Resiliency and Innovation Partnership \(GRIP\)](#) Program. In December 2022, CEO will submit a concept paper to express interest in applying for a \$50 million Smart Grid Grant for 19 utilities throughout the state (which cover 69% of the state’s land area and 73% of the population). Funding will be used to purchase wildfire mitigation technology, such as remote HD cameras and weather

stations to identify wildfires, and grid monitoring and modeling technologies to reduce utility caused wildfires. CEO is also building a partnership to apply for a Grid Innovation Grant (up to \$250 million) to increase transmission capacity into the San Luis Valley, an area of the state with the greatest solar resource that could benefit economically from solar farms on agricultural land that is forced to go fallow due to lack of water.