



## **Our Mission**

Reduce greenhouse gas emissions and consumer energy costs by advancing clean energy, energy efficiency and zero emission vehicles to benefit all Coloradans.

## **Our Vision**

A prosperous, clean energy future for Colorado.

## **Overview**

Reducing greenhouse gas pollution and enabling a statewide transition to clean energy are essential to preserving and protecting Colorado's way of life. These actions defend the health of our communities and natural environment, provide access to lower cost clean energy resources for rural and urban areas, increase investment and economic growth opportunities, and expand clean energy jobs. To address Colorado's sources of emissions and respond to the legislative direction to reduce greenhouse gas emissions established by HB 19-1261, CEO is working to transition to 100 percent clean electricity generation by 2040, rapidly expanding the adoption of zero emission vehicles and increasing consumer access to energy improvements for Colorado's homes and businesses.

In 2017, coal-fired power plants provided just over half of the state's net electricity generation and natural gas provided almost one-fourth. Electricity from renewable sources has more than doubled since 2010 to nearly one-fourth of the state's net electricity generation in 2017, led by increased wind power. At the same time Colorado's power plant operators are replacing older coal-fired capacity with electricity generation from natural gas and renewable energy sources. Since the 2004 adoption of its Renewable Energy Standard policy, Colorado has been leading the national transition to clean energy. In 2017, wind power accounted for 75% of Colorado's renewable electricity generation, followed by hydroelectric facilities at 15%, utility-scale solar at 8%, and biomass at less than 2%.<sup>1</sup> In 2017, Colorado had nearly 2,000 wind turbines with a total generating capacity of just over 3,100 megawatts, making Colorado ninth nationwide in installed wind power capacity and 8th in actual wind power generation.<sup>2</sup> In 2017, Colorado was ranked 20th among US states in installed solar capacity with nearly 1,100 megawatts and 10th in the nation in actual solar electricity generation.<sup>3</sup> The clean energy transition contributes to Colorado's economic health by creating more than 57,000 clean energy jobs in all of Colorado's 64 counties.<sup>4</sup> Colorado consistently ranks at the top of the nation in clean energy jobs created. CEO performs work to make energy accessible and affordable for Colorado citizens while reducing emissions, supporting the economy and advancing innovation.

With a transition to cleaner electricity, increasing the adoption of zero emission vehicles (ZEV) including electrifying cars, buses and trucks will lead to cleaner air, improved public health and reduced greenhouse gas pollution from one of our top emitting sectors — transportation. Colorado has at least 2,312 fueling stations that dispense alternative transportation fuels. Of these, more than 1,958 are electric vehicle (EV) charging stations supporting the increasingly-electrified transportation sector in the state.<sup>5</sup> Between 2016 and 2017 alone, the state saw a drop in total fuel consumption of more than 20 million gas-gallon equivalents<sup>6</sup> representing a 0.89% decrease in the more than 2.25 billion GGEs consumed in 2016. CEO is working to rapidly increase the adoption of zero emissions vehicles with a focus on EVs. To meet the goal of 940,000 EVs on the road by 2030, CEO is working to remove market barriers to EV adoption, including increasing the number of

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<sup>1</sup> EIA Data Browser

<sup>2</sup> American Wind Energy Association, State Wind Facts, Colorado Wind Energy

<sup>3</sup> Solar Energy Industries Association, Colorado Solar

<sup>4</sup> <https://www.e2.org/wp-content/uploads/2018/06/Clean-Jobs-Colorado-2018.pdf>

<sup>5</sup> U.S. Department of Energy Alternative Fuels Data Center (AFDC), Colorado Transportation Data for Alternative Fuels and Vehicles.

<sup>6</sup> State Energy Data System based on beta data converted to gasoline gallon equivalents of petroleum (GGEs) for the transportation sector (which includes more than highway vehicles) from the U.S. Energy Information Administration



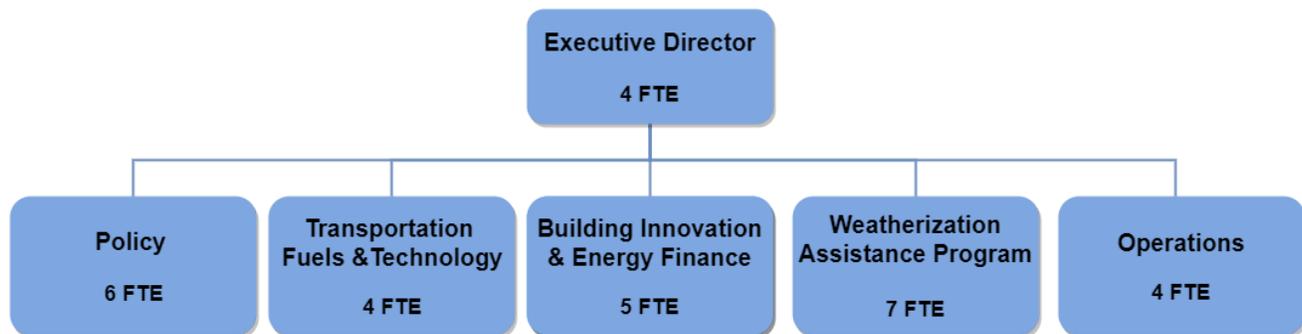
accessible charging stations. This will reduce Coloradans’ concerns about driving distances from one station to another and increase the likelihood of EV purchases. CEO complements these efforts by working with utilities and intervening at the Public Utility Commission to increase utility investment in EV charging; providing education and technical assistance to fleets and the public to highlight benefits associated with zero emission vehicles and increase adoption rates; and conducting research on strategies to further reduce emissions.

The commercial building sector is the largest consumer of electricity in Colorado, accounting for nearly two-fifths of the state’s total power use, followed by the residential sector at one-third of total consumption and the industrial sector at about one-fourth.<sup>7</sup> More than one in five Colorado households use electricity as the main home heating source.<sup>8</sup> CEO develops programs to help residential, commercial and industrial customers access energy efficiency and renewable energy improvements to reduce energy use and associated costs. CEO is also exploring ways to increase building and industrial electrification. These programs include services such as energy audits for agricultural producers, technical and engineering assistance for public jurisdictions, financing products for commercial building owners, low income home weatherization, and strategic energy management programs for industrial entities. These programs are important because energy efficiency is the least expensive source of power and the best way to reduce the cost of operating buildings and facilities while also reducing emissions. Colorado has experienced a population growth rate of 1.56 percent per year on average from 2008-2015. The energy consumption growth rate has been -0.53% per year on average over the same period. In 2014, energy expenditures per capita were \$3,733, which is ranked 43rd among all US states.<sup>9</sup> CEO works to keep the state’s buildings modernized, affordable to operate and efficient.

### **Statutory Authority**

24-38.5-101 C.R.S.

### **Organizational Structure**



The Policy team conducts research to identify opportunities and market barriers, intervenes in proceedings at the Public Utilities Commission and Air Quality Control Commission, and represents the office at the General Assembly. The team also provides providing technical assistance and training to local governments adopting clean energy policies.

The Transportation Fuels & Technology team works to reduce transportation-related emissions by accelerating the use of market-ready and emerging zero emission vehicles that can meet the needs of today’s fleets and the public but for which barriers exist. CEO works to increase the number of electric vehicles and other emerging zero emission transportation technologies through policy and planning, infrastructure grant funding and education and outreach to consumers.

<sup>7</sup> U.S. EIA, State Energy Data System, U.S. States, Table F21, Electricity Consumption Estimates 2016

<sup>8</sup> U.S. Census Bureau, American FactFinder, American Community Survey, Colorado, Table B25040, House Heating Fuel, 2013-17 American Community Survey 5-year estimates

<sup>9</sup> <http://swenergy.org/programs/utilities/state/colorado>

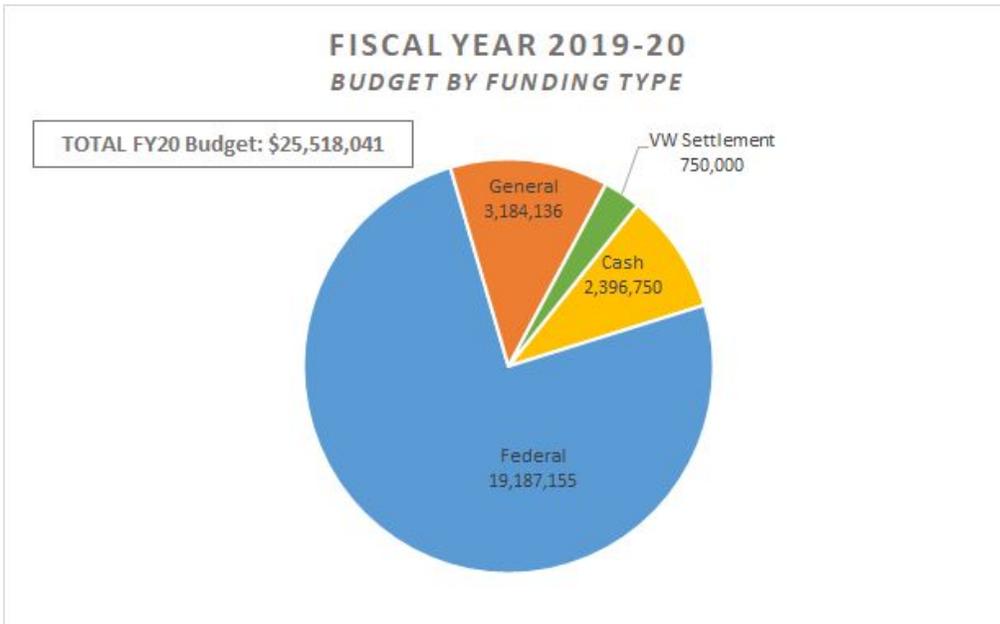


The Building Innovation & Energy Finance team provides energy services aimed at reducing energy consumption and lowering energy costs for buildings and facilities across Colorado, including residences, agricultural operations, industrial facilities, schools and public buildings. This team educates schools and industrial users about the benefits of energy management programs and supports project implementation and provides services for agricultural producers and public sector entities seeking to implement energy improvement projects at their facilities. They also work to increase access to energy efficiency and renewable energy through financing public-private-partnerships. CEO also works to create and support public-private-partnerships capable increasing access to energy efficiency and renewable energy across the buildings sector.

The Weatherization Assistance Program (WAP) team serves households meeting an annual income requirement or 200% or less of the federal poverty level. Nearly 30% of Colorado households experience energy burden, spending more than 4% of their household income on utility bills annually. This percentage increases dramatically for impoverished households. This program uses a combination of federal, state and utility funding to provide direct energy retrofit services to these households through contracts with statewide service providers. CEO coordinates the funding sources, establishes performance standards, conducts technical and administrative training, and performs compliance reviews of the service providers.

The Operations team is responsible for the fiduciary integrity of the office and creating internal processes that ensure efficient, effective, and elegant operations. This unit is responsible for overseeing the office’s accounting and budget functions in order to ensure that CEO continues to prudently manage taxpayer dollars. The Operations Unit is also responsible for designing and facilitating CEO’s data-driven strategic planning process and refining the office’s internal and external policies and procedures. This unit works with all other units to ensure all fiscal responsibilities are met in a timely and complete manner.

### **FY 2019-20 Budget**



### **Strategic Goals**

CEO’s overarching office goals are to reduce greenhouse gas emissions and consumer energy costs by advancing clean energy, energy efficiency and zero emission vehicles to benefit all Coloradans. While each unit has



additional goals and strategies, these initiatives represent a variety of efforts that are proven to be effective in helping CEO achieve its mission.

Beyond the five goals below, CEO has an additional cross-functional focus area for FY2019-20 which impacts multiple goals. This focus area is to work with communities to help them adopt clean energy related plans such as adopting an EV readiness plan, creating a clean energy or climate plan, adopting an advanced building code or entering into an Energy Performance Contract for their buildings.

**Goal 1: Create a blueprint for pollution reduction to achieve 26% reductions in greenhouse gas (GHG) emissions below 2005 levels by 2025 and 50% reductions in GHG emissions below 2005 levels by 2030, and implement targeted strategies to achieve reductions in the electricity sector by June 30, 2020.**

Reducing greenhouse gas emissions and a statewide transition to clean energy are integral to preserving and protecting Colorado's way of life. These actions support the health of our communities and natural environment, provide access to lower cost clean energy resources for rural and urban areas, increase investment and economic growth opportunities and expand clean energy jobs, and respond to the legislative direction to reduce greenhouse gas emissions that was established by HB19-1261.

**Key Strategies:**

- Complete a decarbonization pathways study to define strategy in reducing GHG emissions
- Complete a beneficial electrification study, and make policy recommendations to inform the General Assembly and Public Utilities Commission (PUC) proceedings
- Conduct a feasibility analysis and stakeholder engagement in order to make a recommendation on the adoption of a Low Carbon Fuel standard
- Develop strategies to support increased use of clean energy for each utility type including: investor owned utilities, municipal utilities and rural electric co-ops
- Intervene in proceedings at the PUC and AQCC to provide technical assistance and advocate for advancing clean energy in Colorado
- Implement programming and advance policy designed to ensure consumers have access to make energy improvements to their homes and businesses
- Engage with communities on implementation strategies to achieve local clean energy strategies

**Goal 2: Increase the number of new light duty electric vehicles (EVs) sold on an annual basis from 4,156 in 2017 to 23,500 by 2022.**

In order to meet the goal of 940,000 EVs on the road by 2030, CEO is working to remove market barriers to electric vehicle adoption, including increasing the number of accessible charging stations. CEO complements these efforts by working with utilities and intervening at the Public Utility Commission to increase utility investment in EV charging and set appropriate EV rate structures, working with the legislature to enhance support for EVs, and working on regulatory efforts at the Air Quality Control Commission, as well as by providing education to highlight the benefits associated with zero emission vehicles.

**Lead Goal: Increase the annual number of Electric Vehicles (EVs) sold in Colorado from 4,470 in 2018 to 10,500 by June 30, 2020.**

**Key Strategies:**

- Install community-based charging stations to improve EV charging access for Coloradans



- Install corridor-based fast-charging stations to improve EV charging access and long distance travel for Coloradans
- Conduct EV outreach events
- Update of the Colorado Electric Vehicle Plan, with input from the inter-agency work group
- Assist communities in developing EV readiness and support local electrification goals
- Intervene in PUC and AQCC proceedings to provide technical assistance and advocate for clean transportation in Colorado
- Conduct a feasibility analysis and stakeholder engagement process to develop recommendations on the potential adoption of a Low Carbon Fuel standard

**Goal 3: Increase average annual customer cost savings for Weatherization Assistance Program (WAP) clients from \$330 to \$425 by June 30, 2022.**

In Colorado, approximately 20-25% of households experience severe energy burden. This burden means that these households are spending a disproportionate amount of their income on home heating and electricity compared to other Coloradans. The Weatherization Assistance Program offers services to income-qualified households to reduce energy burden and associated energy expenditures.

**Lead Goal:** Achieve \$375 average annual savings per low-income household by June 30, 2020. This goal is reported on annually by September of the following year.

**Key Strategies:**

- Target homes heating with high-priced propane and electric fuel sources to reduce energy costs
- Target homes for installation of solar PV to reduce electricity costs

Through contracts with statewide low-income energy service providers, CEO will perform direct energy retrofits, deliver technical and administrative training, conduct quality assurance, and implement compliance reviews of the service provider agencies. All of these efforts lead to reducing home energy costs, creating greater comfort, and increasing safety for Colorado's most at-risk citizens.

**Goal 4: Increase the number of projects implemented from 2,035 in FY2017-18 to 2,750 by 2022 resulting in a projected GHG reduction of 16,000 tons in 2018 to 30,000 by 2022.**

CEO provides energy services across residential, commercial and industrial sectors aimed at maximizing energy cost savings to customers and increasing consumer access to energy efficiency and renewable energy improvements. These programs include services such as energy audits for agricultural producers, technical and engineering assistance for public jurisdictions, financing products for commercial building owners, low income home weatherization, and strategic energy management programs for industrial entities.

**Lead Goal:** Increase the number of projects implemented from 2,035 in FY2017-18 to 2,243 in 2020 resulting in a projected GHG reduction of 22,000 tons by 2020.

**Key Strategies:**

- Complete energy audits, feasibility studies, or energy management plans across CEO's energy services
- Enter into Energy Performance Contracting (EPC) MOUs with public jurisdictions
- Conduct building energy code trainings and provide assist technical assistance to help jurisdictions adopt one of the two most recent versions of the IECC



**Goal 5: Increase the amount of facilitated/closed financing from CEO partnered energy improvement programs in the buildings sector from \$37.1M in FY2017-18 to \$80M by June 30, 2022.**

Increasing access to capital for energy improvements requires working with Colorado's private lenders to identify opportunities scale and reduce gaps in the energy finance market for consumers. This is an increasingly viable possibility as the price of clean energy has fallen dramatically in recent years. Capital market inefficiencies and inherent challenges to financing mean that many clean energy opportunities remain underfunded or unfunded. Energy efficiency remains a classic example of this conundrum. In 2010, McKinsey estimated that a holistic approach to energy efficiency would yield energy savings in excess of \$1.2 trillion - more than double the amount of upfront investment required. Yet many of these opportunities remain untapped by private lenders. CEO works to create and support public-private-partnerships capable of filling these finance gaps across the buildings sector.

**Lead Goal:** Increase the annual amount of CEO facilitated/closed financing for energy improvement projects in the buildings sector from \$37.1M in FY2017-18 to \$55M by June 30, 2020.

**Key Strategies:**

- Expand access to financing programs (e.g. C-PACE, RENU, & EPC) statewide
- Train contractors capable of building a broader pipeline of projects and increase participation of current contractors
- Educate and engage more potential users of energy finance programs
- Identify gaps in the market and seek partnerships to address them