State Brief: Colorado

BACKGROUND

While Colorado's energy mix is dominated by coal, the state uses a much smaller percentage of coal than it did ten years ago (55% in 2016 versus 72% in 2006). Eleven of the 100 biggest natural gas fields in the United States are located in Colorado, and the state has the sixth largest natural gas reserves in the country. The state also holds approximately four percent of the country's crude oil reserves.

Energy from renewable sources has doubled since 2010 to approximately 20% of the state's net electricity generation in 2016. In the same year, Colorado was ranked 10th for installed solar power capacity, reaching 1.7% of the state's electricity generation in early 2018. The Centennial State

Colorado's Electricity Mix, 2016

Hydroelectric 3.48%
Natural Gas 23.17%
Solar 0.98%
Biomass 0.3%
Wind 17.22%
Petroleum 0.01%
Other 0.1%
Coal 54.74%

Total GWh: 54,713   Source: EIA

also boasts one of the largest wind industries in the nation, currently employing 6,500 citizens. The state is home to the second-most wind jobs in the country.

The bi-partisan Colorado Public Utilities Commission (PUC) regulates the state's investor-owned utilities (IOUs). The PUC's three members are all appointed by the governor. The former director of the Colorado Energy Office, Jeff Ackermann (D) is the Chairman. Governor John Hickenlooper (D) has been in office since 2011. The split legislature features a Democratically controlled House and a Republican-held Senate.

In early 2013, an informal collaboration of electricity service providers, including IOUs, municipal electricity providers, generation and transmission cooperatives, and federal power marketing administration projects, got together to form the Mountain West Transmission Group (MWTG). Their aim is to develop strategies to adapt to the changing electric industry, focusing on full membership into an existing regional transmission organization (RTO), the Southwest Power Pool (SPP). In April 2018, after initial deliberations by MWTG with SPP, Xcel Energy (Colorado's largest utility and the largest member of MWTG) decided to end its participation in the MWTG and its efforts to form an RTO. Xcel's reasons for withdrawal include higher than expected cost to form the regional RTO, limited opportunities to expand the RTO to the west, and a risk of increased state regulation.

POLICY STRENGTHS AND OPPORTUNITIES[1]

The National Renewable Energy Laboratory (NREL) developed the notion of "policy stacking,"[2] an important framework for policymakers to consider. The basic idea behind policy stacking is that there is an interdependency and sequencing of state policy that, when done effectively, can yield greater market certainty, private sector investment, and likelihood of achieving stated public policy objectives.

---

[1] For more information on policy opportunities, please visit the SPOT for Clean Energy. For more information on specific policy actions related to these opportunities, please review the *Clean Energy Policy Guide for State Legislatures*.

[2] V.A. Krasko and E. Doris, *National Renewable Energy Laboratory*, 2012. Strategic Sequencing for State Distributed PV Policies: A Quantitative Analysis of Policy Impacts and Interactions. http://www.nrel.gov/docs/fy13osti/56428.pdf.
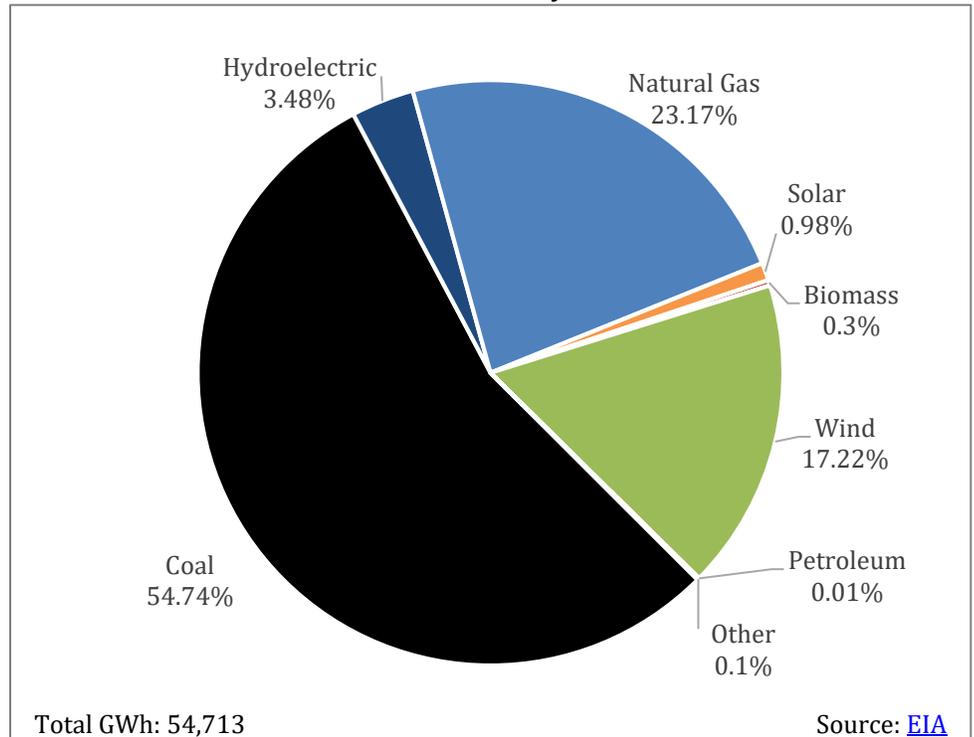
In theory, but not always in practice, clean energy policies can be categorized into one of three tiers of the policy stack. Tier 1, market preparation policies, remove technical, legal, regulatory, and infrastructure-related barriers to clean energy technology adoption. Tier 2, market creation policies, create a market and/or signal state support for clean energy technologies. Tier 3, market expansion policies, create incentives and other programs in order to expand an existing clean energy market by encouraging or facilitating technology uptake by additional market participants.

For example, before financial incentives for combined heat and power (CHP) will be successful, two key considerations for deployment are having clear interconnection standards and favorable stand-by rates for customers who opt to add CHP. In this example, states should adopt policies to address interconnection and stand-by rates before adopting financial incentive programs.

GRID MODERNIZATION

Policymakers can view grid modernization as creating a policy structure that supports and ties together many other initiatives, such as smart metering infrastructure, customer data management, energy storage, electric vehicle infrastructure, and utility business models.

In the last two decades, new digital technologies have enabled utilities to better manage the grid and provide opportunities for consumers to customize their services to fit their priorities. These technologies allow a two-way flow of information between the electric grid and grid operators and between utilities and their customers. Emerging technologies improve system reliability and resiliency by enabling better tracking and management of resources. These technologies allow grid operators to incorporate central and distributed energy resources, energy storage technologies, electric vehicles, and assist in addressing the challenges associated with planning, congestion, asset utilization, and energy and system efficiency. On the customer's side of the meter, advanced metering infrastructure, dynamic pricing, and other emerging technologies allow an exchange of information and electricity between a consumer and their electric provider.

According to the latest GridWise Alliance Grid Modernization Index, Colorado jumped from 34th to 18th position for stellar overall grid modernization efforts in 2017. Notably, in June 2017, the PUC approved Xcel Energy's $612 million grid modernization investment proposal, which would see the utility equipping homes and business with advanced metering infrastructure and rolling out a voltage optimization system between 2019 and 2024. This metering infrastructure will allow customers to track their energy usage and should lead to greater efficiency. Improvements in efficiency will, however, affect Xcel's profits and, as part of its proposal, Xcel suggested, and the PUC granted, a pilot revenue decoupling program to recover costs if total electricity consumption drops over time.

There are supportive policies that Colorado's policymakers could adopt to enhance in-state modernization efforts.

1. Update the grid modernization strategy through a stakeholder process that incorporates the viewpoints of utility customers, utilities regulators, utilities, and other stakeholders. Colorado took steps toward a transition to a modern grid following the enactment of SB 10-180. This bill created the Colorado Smart Grid Task Force, which produced "Deploying Smart Grid in Colorado," a 2011 report with recommendations for legislators and the PUC. Grid modernization strategies, while recognizing regional and inter-state diversity and avoiding one-size-fits-all plans, should also take a holistic view of the electric system. States may also decide to require that utilities propose a ten-year grid modernization plan within a specified timeframe. Legislation could require plans to outline a clear set of grid modernization goals and describe methods to measure, report, verify, and enforce progress towards those goals. States might also provide incentives or cost recovery mechanisms for utilities to meet grid modernization goals.

2. Require that utilities' integrated resource plans (IRPs) include strategies to enhance cybersecurity, integrate distributed energy resources (including electric vehicles and energy storage), increase smart meter deployment and demand response and/or demand-side management (DSM) programs, and measure and report on the results of grid modernization efforts. The Colorado Smart Grid Task Force's report, mentioned above, addressed most of these topics.

3. The technologies associated with grid modernization generate a wealth of information about the grid itself and about customer behavior. Policy should include measures to protect this data, but also to encourage the use of

this information to facilitate additional improvements to grid management and customer services. The Xcel Energy advanced metering infrastructure deployment is affiliated with the [Green Button Connect program](#). Green Button Connect outlines the [best practices](#) that promote the portability of, and customer control over, their energy information. Colorado could develop legislation or rules that, at minimum, clarify who owns the energy data associated with customer energy usage, protect customer privacy, outline the process for allowing direct access to data by third parties, and promote access to the highest resolution of data by third parties.

The adoption of incentives for or a requirement to integrate a certain amount of energy storage on the grid alongside enhancing renewable energy and electric vehicle policies would support modernization efforts and improve the chances of successful grid modernization.

ENERGY STORAGE

Energy storage offers a unique opportunity to dynamically manage supply and demand while maximizing the value of grid resources. By deploying storage in strategic locations, utilities can more effectively manage their energy portfolios. First, storage provides management of intermittent demand – helping to flatten peak demand requirements for the utility. Second, the responsiveness of energy storage can allow the utility to implement voltage regulation and other ancillary services, which are useful for improving system efficiency. Third, storage can dispatch power to better integrate intermittent resources like renewable energy. Finally, energy storage can help the commercial sector avoid costly [demand charges](#). As utilities around the country consider [extending demand charges to the residential sector](#), this will become an even more important issue.

The flexibility of battery storage, combined with advanced metering infrastructure, allows customers to control how and when they use energy from the grid or from solar panels installed on their home or business. In most cases, this can provide greater cost savings than standalone solar systems. Combined with [time-varying rates or real-time pricing programs](#), state policy can further support customer choice and open a new market for energy services. Prices that better reflect the time-varying and location-dependent costs of producing and delivering electricity can lead to several economic and environmental gains.

Storage provides multiple benefits to both the customer and the utility. State planning and regulatory policies can help maximize these benefits by 1) establishing a framework for easy integration of energy storage into the grid and 2) establishing a marketplace that monetizes the benefits of energy storage for cost effective investment.

In March 2018, Colorado became [one of the first states](#) granting customers the right to store energy. [SB 18-009](#) grants electricity users the ability to store energy without discrimination in rates or excessive barriers to connecting to the grid. It also requires the PUC to adopt rules allowing the installation, interconnection, and use of energy storage systems by customers of utilities.

In June 2018, [HB 1270](#) was enacted. This bill directs the PUC to adopt rules establishing mechanisms for the procurement of energy storage systems by electric IOUs, based on an analysis of costs and benefits as well as factors such as grid reliability and a reduction in the need for additional peak generating capacity. The information supplied by the utilities must include appropriate data and must specify interconnection points to enable independent evaluation.

For Colorado, now a leader in energy storage policy, there are policy opportunities for supporting the implementation of SB 18-009 and HB 18-1270:

1. Consider adding a mandatory energy storage procurement target or requirement for energy storage with a documented process for periodic review of progress towards that goal. Procurement targets can jump-start market creation, spur fast learning, and guide the development of a regulatory framework. [Five states](#) currently have energy storage goals that range from five megawatt hours (MWh) to two gigawatts (GW).

2. Instruct utilities to evaluate the value of energy storage in multiple strategic locations across the utility system and consider a requirement to deploy storage where it will be cost effective or identify the price point at which it will become cost effective.

3. Require the inclusion of energy storage as a critical piece of the energy system as both a demand and supply management resource. Some states have required that utilities evaluate the cost effectiveness of [non-wires](#)

[alternatives](#) (NWAs) to large transmission and generation investments. Alternatively, states might want to require utilities to develop a distribution investment plan that identifies the locations on the distribution system where energy storage or other distributed resources would offer the greatest value.

4. Finance and incentivize energy storage for customers and utilities. Incentives in the form of rebates, grants, and tax credits, can provide a bridge to scalable deployment for storage. Incentives should be designed to decline as storage values become more readily monetized. Policymakers could allow utilities that provide incentives to customers, as enabled by the recent storage bills passed in Colorado, to install smart meters that enable dynamic and time-varying energy management from multiple distributed battery systems. This should signal to customers the value of leveraging storage while better aligning customer costs with system costs. Financing energy storage installations for commercial customers would help reduce their demand charges.

MAINSTREAMING RENEWABLES

As the renewable energy industry has matured, technology has improved, and global production of generating equipment has increased, renewable energy is increasingly seen as the least cost and lowest risk form of energy (excluding energy efficiency). A Bloomberg New Energy Finance [report](#) from this year predicts that at least 50% of total global electricity will be renewable by 2050. With increased deployment, utilities are learning more about how to integrate renewables effectively, investors are becoming more comfortable with the technologies, and building code officials are recognizing common standards and best practices. For these reasons, it is in the interests of policymakers to ensure that their states are well positioned to benefit from the transition to clean and sustainable energy resources.

To reduce barriers to customer and utility participation in the renewable energy market, Colorado might consider several policy options.

Customer-Oriented Policies

1. Interconnection, net metering, and streamlined permitting – In general, customers want a clear, streamlined, affordable, and predictable system for connecting renewable energy systems to the grid. Colorado adopted [standards](#) for net metering and interconnection in 2005 and updated the rules in 2008 and 2009. These standards apply to utilities with 40,000 or more customers, municipal utilities with 5,000 customers or more, and all cooperative utilities. The state's net metering policy, while a [gold standard](#) in the U.S., could be improved by severing the policy's tie to the state's RPS. Colorado's policymakers might also consider establishing either statewide standards for streamlined permitting processes, or resources to support local governments that voluntarily implement a streamlined program, as [Brighton](#) has done. State incentives, such as tax credits, financial incentives, or loans, can be tied to systems that are established within a designated streamlined permitting jurisdiction.

2. Shared Renewables – Due to building and property attributes as well as ownership issues, many customers are unable to install renewable energy technologies. A National Renewable Energy Laboratory [report](#) found that 49% of private households and 48% of businesses are unable to host rooftop solar photovoltaic (PV) systems because they rent their spaces or lack suitable owned roof space. Allowing shared, or community, renewable energy projects addresses these barriers. These projects have multiple owners or subscribers who pay for a portion of the generation provided by the system. Colorado is currently a leader in community solar projects. There are nearly [70 projects](#) in operation, generating more than 50 megawatts (MW), and many more are in development across the state.

   [Colorado](#) currently allows virtual net metering for solar customers of IOUs only. Virtual net metering allows a customer to receive credits from a shared system as if the generation were on site. Virtual net metering is different from a power purchase agreement (PPA), which pays the customer for the proportion of power they produce. Because it is treated as a credit on the customer's bill, the customer can avoid the tax implications of a PPA payment - which can adversely affect the economics of the system (and may come as a surprise to the participant). To expand program participation, the state might consider expanding the virtual net metering policy.

   Low credit ratings often deter participation in renewable energy markets; this can affect low- and moderate-income (LMI) households' adoption of renewable energy solutions. Supportive policies for shared renewables

can be designed to encourage participation by LMI households; this can increase adoption of renewable technologies and reduce energy costs. Colorado is emerging as a [national leader](#) in bringing the benefits of renewable energy to LMI households.[3] The state has pursued low-income solar energy programs since 2015 and is on track to have 20 MW installed by 2019. Colorado's [Low-Income Community Solar Demonstration Program](#) could be expanded even further to drive additional participation. Low-income participation can be encouraged either through a percentage mandate for the overall annual contracted capacity, like Colorado's [five percent requirement](#), or by offering a higher rate of payment for the portion of shared solar capacity attributed to low-income customers. States that have a shared renewable program may want to coordinate this program with implementation of the federal [Weatherization Assistance Program](#) (WAP) to provide recipients of assistance with participation in a shared renewable system. Colorado's Energy Office is the managing agency for Colorado's WAP and has a proven record of successful implementation. The state's WAP is the first in the nation to be granted [permission](#) by the Department of Energy to use rooftop solar as an approved measure to reduce households' energy burdens.

There are [several additional policy options](#) that Colorado might consider to promote renewable energy uptake by LMI consumers. Generally, successful state policies should be tailored to these customers, be cost-effective and financially sustainable, have measurable performance indicators, and be flexible enough to allow later changes in design.

3. Corporate Procurement – Many Fortune 100 and 500 companies have established either climate goals or commitments to purchase renewable energy. In just the last four years, [over nine gigawatts (GW) of renewable contracts](#) have been announced by corporate entities. In the [first quarter of 2018](#) alone, corporations signed 14 agreements for over 1700 MW of renewable energy. This is leading policymakers to provide additional avenues for businesses to procure renewable energy. In Colorado, Xcel Energy launched [Renewable Connect](#), a green tariff program that offers corporate buyers a fixed price contract for 100% solar power on a month-to-month basis, or for five or 10 years. The state has no significant corporate offsite procurement deals to date, but with Xcel's program, that might change soon. [Colorado's policy](#) allows companies to purchase renewable energy credits (RECs), provides for a statewide shared renewable energy policy, and allows for the lease and ownership of onsite renewable energy projects. The products available in [Colorado](#) meet all six of the [Corporate Renewable Energy Buyers' Principles](#). One [area for improvement](#) for Colorado is to allow businesses to keep the renewable energy credits that they accrue from these projects. This is a key incentive for a business to participate. In addition, it is prudent to integrate corporate renewable purchase commitments into the long-term plans that utilities submit to regulators to plan for resource needs over multiple decades. By integrating these renewable purchase commitments into utilities' plans, regulators can avoid over-building resources and stranding generation assets.

Utility-Oriented Policies

Some states have created programs that aim to reduce greenhouse gas (GHG) emissions and increase investments in clean energy resources. Colorado is a leader on this front. In 2004, the state passed the first voter-led [Renewable Portfolio Standard (RPS)](#) in the country, requiring utilities to obtain a certain percentage of their power from renewable energy sources.[4] Furthermore, Gov. Hickenlooper issued an [executive order](#) in July 2017 to reduce statewide GHG emissions by more than 26% from 2005 levels by 2025. He also ordered a 25% reduction in carbon dioxide emissions from the electricity sector by 2025, as compared to 2012 levels, and a 35% reduction in carbon dioxide emissions from the electricity sector by 2030, as compared to 2012 levels. Colorado's largest utility, Xcel Energy, also set exemplary targets. It plans to increase renewable energy sources to [55%](#) of its energy portfolio by

---

[3] [Colorado](#) enacted House Bill 1342 in 2010, authorizing community solar gardens, requiring that community solar developers include at least 5 percent LMI subscribers at each of their arrays. This approach was difficult for Xcel Energy to meet and was revised in 2016 as part of a settlement agreement, expanding the low-income carve-out to an aggregate requirement. Colorado has also experimented with grant-funded, dedicated LMI community solar arrays. One planned community solar installation by Grand Valley Power will exclusively serve low-income customers, and eligible participants must be at 80 percent or less of the area's median income.

[4] Each qualifying retail utility is required to generate or cause to be generated electricity from eligible energy resources in the following proportions of its retail electricity sales for 2020 and each year thereafter: 30% for each IOU, 20% for each electric cooperative serving 100,000 meters or more, and 10% for each electric cooperative serving less than 100,000 meters and each municipal utility serving more than 40,000 meters.

2026. Xcel achieved its required 30% emissions reduction at the end of 2016 and now aims to further reduce its emissions to [60%](#) below 2005 levels.

Colorado might see a clean peak standard as the next step in a progression from its RPS and its emissions standard. [Clean Peak Standards](#) aim to increase the share of clean energy resources used to meet peak demand and decrease energy bills over the long-term, by reducing peak demand in the hours when energy costs are highest. These objectives can be met through different policy options including: planning and procurement that focuses on peak demand; a moratorium on the construction of new peaking units, or a phase out of existing units; incentives – including carve-outs in states with RPSs – for clean energy resources delivered during peak times; and/or adopting a new clean peak standard that sets a target for clean energy deliveries during peak times.

ELECTRIFICATION OF THE TRANSPORTATION SECTOR

An [estimated](#) 55% of new car sales will be electric by 2040 (Bloomberg New Energy Finance). Under the [Colorado Electric Vehicle Market Implementation Study](#) high growth rate projection, by 2030 Colorado could have close to one million electric vehicles (EVs) on the road. Therefore, a key part of building a modernized grid involves designing infrastructure that will facilitate easy connection of EVs to the grid. One of the most important barriers to increased adoption of EVs is the consumer's awareness of the availability of EV charging stations. Ultimately, drivers want to be sure that their car will get them where they need to go. Another important barrier to increased adoption of EVs is their higher up-front cost as compared to similar conventionally fueled vehicles. The good news is that both supportive policies for developing charging infrastructure and technological advancements have eased "range anxiety." See the U.S. Department of Energy's [Alternative Fuels Data Center](#) for a map of refueling locations for EVs and other alternative fuel vehicles.

Colorado has some financial incentives for citizens to purchase electric vehicles, such as a [plug-in EV (PEV) tax credit](#). A partnership between the Colorado Energy Office (CEO) and the Regional Air Quality Council supports [two](#) [grant programs](#) for EV charging stations. [Refuel Colorado](#) is an education and outreach program that help fleets identify monetary savings and other advantages from converting to alternative fuels. Other [incentives](#) include an [EV emissions inspection exemption](#), a [low emission vehicle (LEV) sales tax exemption](#), and a [high occupancy vehicle lane exemption](#) (although the Colorado Department of Transportation reached its quota and all new applicants are on a waiting list). PEV owners are required to pay an [annual fee](#) of $50 to use public EV supply equipment (EVSE) in Colorado, which may dis-incentivize potential EV owners. Fees contribute to the Highway Users Tax Fund and the EV Grant Fund.

Colorado [recently joined](#) Arizona, Idaho, Montana, Nevada, New Mexico, Utah, and Wyoming in signing the Regional Electric Vehicle West (REV West) [memorandum of understanding](#) to create an Intermountain West EV Corridor. The goal is to develop best practices and voluntary minimum standards for stations, expand access to new EVs, and create consistent charging experiences.

Following Governor Hickenlooper's Executive Order [D 2017-015](#), "Supporting Colorado's Clean Energy Transition," the Colorado Energy Office (CEO) released its [EV Plan](#). Its aim is to facilitate economic development, boost tourism across the state, and reduce pollution by building out key EV fast-charging corridors. The plan's five action areas are: 1) to build out key EV fast-charging corridors through strategic partnerships; 2) to coordinate with REV West states on an intermountain electric corridor; 3) to develop strategic partnerships that support greater investment in EV fast-charging and increased utilization of EV infrastructure; 4) to update signage and wayfinding requirements to include EV fast-charging; and 5) to ensure economic and tourism benefits and increase access to charging for all Coloradoans. The second phase of the plan focuses on acceleration of EV adoption.

On November 16, 2017, the PUC opened a [proceeding](#) to investigate electrification of the transportation sector, specifically the near- and long-term challenges for transportation electrification, new technologies such as vehicle-to-grid, heavy duty EVs, as well as other applications for beneficial electrification such as water heating and space heating and cooling. In June 2018, the PUC directed staff to form an EV working group and required them to issue a report to the Commission by November 30, 2018.

On June 18, 2018, Governor Hickenlooper signed Executive Order [B 2018 006](#) directing the Department of Public Health and Environment to develop a rule to establish a Colorado LEV program. This program will incorporate

requirements from the California LEV program and be proposed to the Colorado Air Quality Control Commission in August 2018.

As part of the national Volkswagen Diesel Emissions Settlement, Colorado will receive $68.7 million from the environmental mitigation trust. The state plans to invest the money as follows: $10.3 million in zero emission vehicle equipment like EV charging stations; $18 million in transit buses; $18 million in trucks, shuttles, and school buses; $11.7 million as flexible funds that will be allocated to the areas above with the most demand; $5 million to support the Diesel Emissions Reduction Act, a program that reduces diesel emissions in construction, agriculture, mining and industrial areas, and $5.7 million in administrative costs.

In addition to the current incentives and programs, there are a number of additional opportunities to expand the market for EVs in Colorado:

1. EV Financing and Financial Incentives – Providing additional financial incentives and innovative financing options can help spur greater market penetration of EVs. As mentioned above, the state offers a plug-in EV (PEV) tax credit and a low emission vehicle (LEV) sales tax exemption. Sales, property, and income tax credits are some of the simplest methods for addressing higher up-front costs. While sales tax credits are typically applied at the time of purchase, income tax credits may do less to address the upfront cost barrier as receipt of the credit is typically removed in time from the purchase.[5] Colorado may also consider adopting other financial incentives including low-interest loans, grants, vouchers, and rebates.

2. EVSE Financing and Financial Incentives – As mentioned above, CEO and the Regional Air Quality Council run two grant programs for EVSE. The provision of financial incentives and innovative financing options can increase installations of charging stations. States have adopted a number of other financial incentives including income and property tax credits, sales tax credits, low-interest loans, and rebates. A handful of states qualify EV charging stations under their property assessed clean energy (PACE) programs. A simple solution is to increase and expand existing tax credits to incentivize commercial, publicly available charging stations.

3. Parking Infrastructure Requirements – In tandem with the development of a statewide plan, legislation could set requirements for EV parking infrastructure. Some states have adopted permitting standards for parking lots, requiring, for instance, that for every 100 parking spaces, there must be at least one EV charging space. Further to the research and strategic development that CEO is doing in terms of the EV Plan, legislation could also incentivize utilities to develop make-ready locations. These locations supply power to the point where a utility or third-party developer might install an EV charging station. Like Denver's building code, Colorado's statewide building code could also be updated to include requirements for EV charging infrastructure.

NEWS
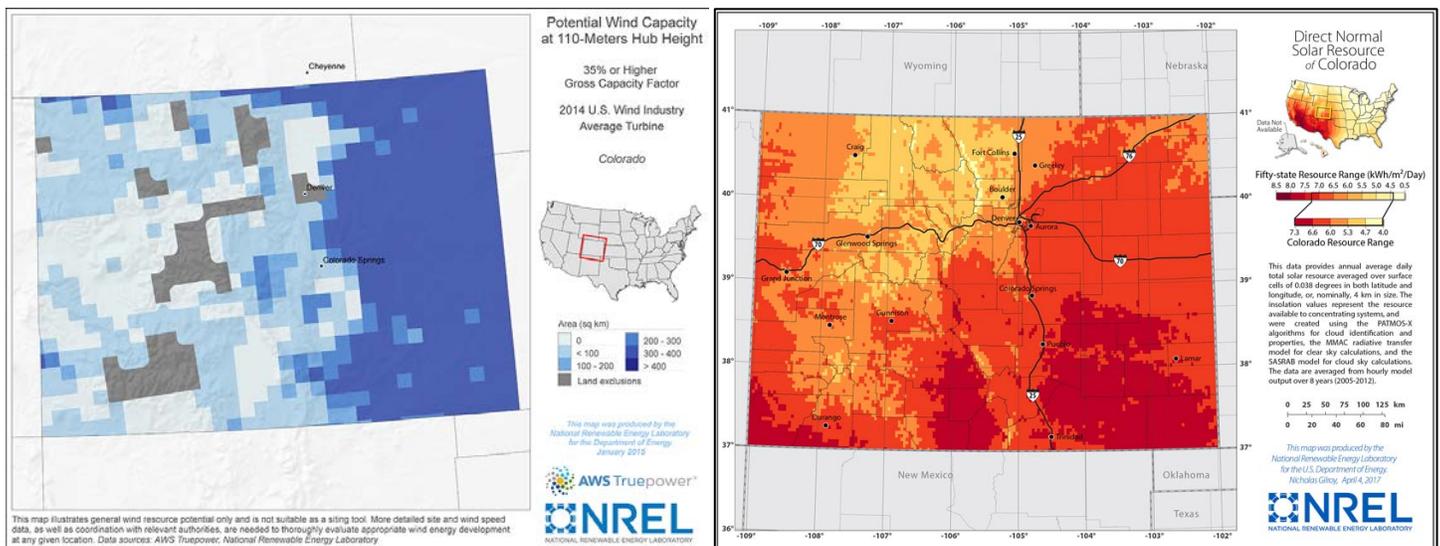- September 3, 2018: Nederland Tapping CU Masters Program for its Renewable Energy Goal
- August 31, 2018: Colorado Co-Op Vote Sets Table for Defection from Coal Power Wholesaler
- August 30: 2018: SunShare Launches 10 MWs of Community Solar Gardens in Colorado
- August 28, 2018: Colorado Approves Xcel Plan to Retire Coal, Shift to Renewables and Storage
- August 23, 2018: Tri-State Could Save $600 Million by Boosting Renewable Energy Use, Report Says
- August 22, 2018: US Military Pushes Clean Energy with Largest On-Base Battery
- August 9, 2018: Colorado's Alternative Energy Economy Boosted by Wind and Biofuels
- July 30, 2018: Coal-Fired Past or Green-Powered Future? Pueblo Looks for a New Economic Leg Up
- July 17, 2018: Colorado Springs Utilities Signs Two Companies to Build Solar Arrays
- July 17, 2018: U.S. DOE Backs Blockchain Energy Project in Colorado
- July 2, 2018: Solar is Saving Low-Income Households Money in Colorado. It Could Be a National Model
- June 29, 2018: Wind Energy Jobs in Rural Colorado Attract Bipartisan Support
- June 25, 2018: Landmark Legislation: Colorado Establishes the Right to Store Energy
- June 21, 2018: Colorado Regulators Boost Xcel Efficiency Target 25%
- June 20, 2018: Colorado Moves to Follow California's Low-Emissions Air-Quality Rules
- June 5, 2018: Colorado Integrates Storage into Utility Planning Process

---

[5] A study by the Congressional Budget Office however suggests that tax credits are important tools for ensuring increased adoption of alternative-fueled vehicles.

COLORADO'S WIND AND SOLAR RESOURCES

WIND https://windexchange.energy.gov/states/co[6]
SOLAR https://www.nrel.gov/gis/solar.html

OTHER RESOURCES

- American Wind Energy Association (AWEA), Colorado: http://awea.files.cms-plus.com/FileDownloads/pdfs/Colorado.pdf
- Colorado Energy Office: https://www.colorado.gov/energyoffice
- The American Council for an Energy-Efficient Economy State and Local Policy Database, Colorado: https://database.aceee.org/state/colorado
- The Database of State Incentives for Renewables and Efficiency, Colorado: http://programs.dsireusa.org/system/program?fromSir=0&state=CO
- U.S. Energy Information Administration, Colorado: https://www.eia.gov/state/?sid=CO
- SPOT for Clean Energy, Colorado: https://spotforcleanenergy.org/state/colorado/
- The Rocky Mountain Institute: From Gas to Grid – Building Charging Infrastructure to Power Electric Vehicle Demand
- The GridWise Alliance, EVs - Driving Adoption, Capturing Benefits: http://gridwise.org/evs-driving-adoption-capturing-benefits/
- The Regulatory Assistance Project, Performance-Based Regulation: https://www.raponline.org/event/performance-based-regulation-the-power-of-outcomes-part-1/

Our Resources

CNEE Homepage: http://cnee.colostate.edu/

The SPOT for Clean Energy: https://spotforcleanenergy.org/

The Advanced Energy Legislation (AEL) Tracker: https://www.aeltracker.org/

Clean Energy Policy Guide for State Legislatures: http://cnee.colostate.edu/cleanenergypolicyguide/

The Energy Policy Podcast: http://energypodcast.colostate.edu/

CNEE Contact Information

Tom Plant, Senior Policy Advisor
Tom.Plant@colostate.edu

---

[6] Please see your packet for a higher resolution wind energy capacity map.