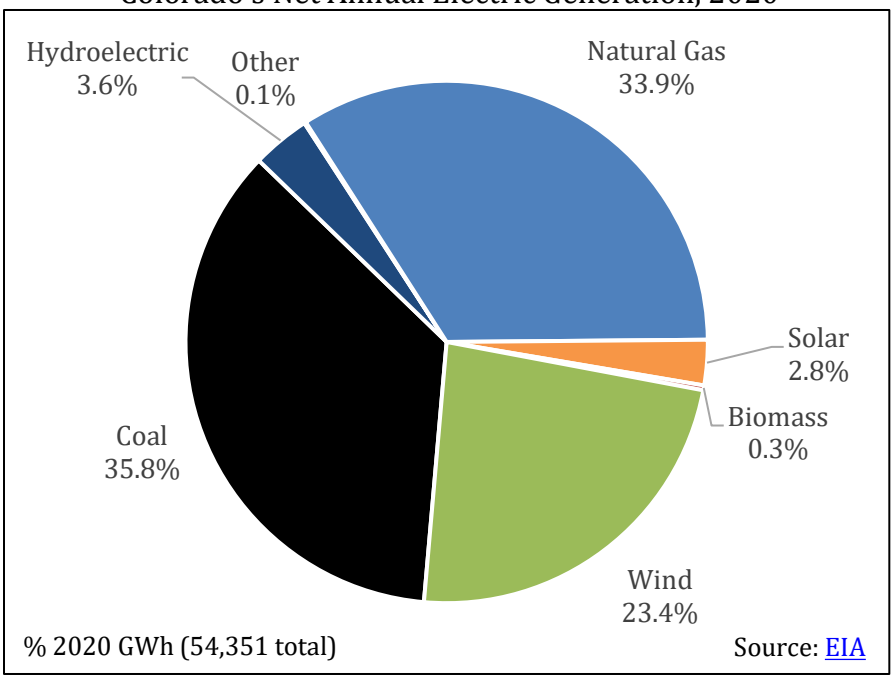
State Brief: Colorado

BACKGROUND

Colorado has historically relied heavily on coal and natural gas for the state's electric generation. The state's generation from coal declined by almost half in the last decade (68% in 2010 versus 35.8% in 2020). Overall, coal, natural gas, and renewable resources each supplied approximately one-third of Colorado's net electric generation in 2020.

Colorado's Net Annual Electric Generation, 2020



While coal continues to decline, wind continues to increase, accounting for 23.4% of the state's net electricity generation in 2020, up 6% from 2018. In 2020, wind power accounted for 78% of Colorado's renewable electric generation. As of December 2020, Colorado ranked 13th in the nation for solar and 7th for wind generation. In 2020, small-scale solar (including rooftop solar) made up just over 1/3 of total solar generation in the state. The Solar Energy Industries Association (SEIA) projects that Colorado will install 3840 MW of solar capacity over the next five years. In April 2019, Xcel Energy obtained approval to construct a 500-megawatt (MW) wind farm as part of the company's effort to achieve carbon neutral generation by 2050. The wind farm became operational in 2020. Additionally, Xcel Energy has pledged to source 53% of its electricity from in-state renewable resources by 2026.

The 2020 U.S. Energy and Employment Report found that Colorado has 92,586 traditional energy workers (3.3% of total state employment). In 2020, Colorado ranked 18th nationwide for clean energy jobs (including jobs in energy efficiency and solar) and the industry employed 58,182 Coloradans.[1] Between 2018 and 2020 the state saw a 9.6% increase in clean energy job growth; with 6% growth from June 2020-December 2020 alone. The Centennial State was one of 12 states with growth over 9%. Additionally, 12.5% of Colorado's clean energy jobs are located in rural areas of the state.

In January 2021, Colorado released their Greenhouse Gas (GHG) Pollution Reduction Roadmap – the result of a stakeholder process – which identifies avenues for a clean energy transition and meeting the GHG reductions required by House Bill 19-1261: 26% by 2025, 50% by 2030, and 90% by 2050 (from 2005 levels). Though Senate Bill 21-200, a bill that was designed to enforce the roadmap, did not pass the Senate in Spring 2021, many of its objectives were merged into House Bill 21-1266. If enacted, this bill would create regulations to measure emissions in the oil and gas, electric utility, transportation, and industrial and manufacturing sectors, and includes enforceable emissions requirements for the electric utility, industry, and oil and gas sectors. At the time of this writing, the bill was on Governor Jared Polis' desk for signature.

The Colorado Public Utilities Commission (PUC) regulates the state's investor-owned utilities (IOUs). All three commissioners are appointed by the governor and confirmed by the state senate. Eric Blank is the Chairman. Democratic Governor Polis took office in January 2019. Democratic majorities control both chambers of the Colorado General Assembly.

[1] This is in addition to the number of traditional energy jobs in the state.

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POLICY STRENGTHS AND OPPORTUNITIES

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.

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 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

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, dynamic pricing, advanced metering infrastructure, and other technologies allow an exchange of information and electricity between a consumer and their electric provider. Grid modernization is associated with greater consumer choice by allowing customers to meet their energy priorities by producing their own energy or through contracting innovative clean energy services from different providers.

Grid modernization will require a suite of state and federal policy changes to support advancements in grid technologies, grid management, and utility regulation.

Senate Bill 19-236 directed the PUC to create rules concerning the filing of distribution system plans (DSPs)[3] and requiring the evaluation of Non-Wires Alternatives (NWAs), among other things. In December 2020, the PUC proposed rules that would require utilities to file DSPs, grid innovation plans, and NWAs cost benefit assessments every two years. Signed in June 2021, Senate Bill 21-72 creates the Colorado Electric Transmission Authority. This authority will create intrastate electric transmission corridors and operate the storage and transmission facilities required for utilities to participate in regional markets. The bill also requires that all of Colorado's transmission utilities join a regional wholesale market by 2030.

In March 2021, Xcel Energy submitted a proposal to invest $1.7 billion in new transmission to connect renewable energy projects in rural areas of the state to urban regions. If approved, the new transmission lines will span 12 counties and enable Xcel to reduce their emissions by approximately 85% below 2005 levels by 2030.

There are also community resilience initiatives in the state which are targeted at strengthening the grid during extreme weather and disasters. In May of 2019, Xcel Energy filed an application with the PUC for approval of their Community Resiliency Initiative, a plan to dedicate up to 15 MW of the company's energy storage systems to

[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.

[3] For more on distribution system planning see: https://www.utilitydive.com/news/distribution-system-planning-proactively-planning-for-more-distributed-ass/542129/

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community resiliency centers. The proposal was approved in 2020 and the 2021 Work Plan, the result of a collaboration between Denver and Xcel Energy, includes seven energy storage micro-grid projects.

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

1. Update the state's grid modernization strategy through a stakeholder process that incorporates the viewpoints of utility customers, utility 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 "Smart Grid Deployment in Colorado," a 2010 report that provided policy recommendations for legislators and the PUC. Grid modernization strategies, while recognizing regional and intra-state diversity, should take a holistic view of the electric system.

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. Policymakers could develop legislation or rules that, at minimum, do the following: clarify who owns the energy data associated with consumer energy usage; protect customer privacy; and promote access to the highest resolution of data possible. Xcel Energy's AMI deployment is affiliated with the Green Button program.

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 can support modernization efforts and improve the chances of successful grid modernization.

ENERGY STORAGE

Energy storage offers a unique opportunity to manage supply and demand dynamically while also maximizing the value of grid resources. By deploying storage to strategic locations, utilities can more effectively manage their energy portfolios. First, storage allows utilities to manage intermittent demand – helping reduce peak demand requirements. Because the generation resources that provide peak power are the system's most expensive, reducing peak demand can save consumers money. Second, the responsiveness of energy storage can allow utilities to implement voltage regulation and other ancillary services, which are useful for improving system efficiency. Third, because storage technologies can both store and dispatch power, storage enables better integration of intermittent power generation resources like renewable energy to the grid. Finally, energy storage can help the commercial sector avoid costly demand charges. As utilities around the country consider implementing or extending demand charges to other sectors, energy storage will become more relevant as a customer cost-saving investment.

The flexibility of battery storage, combined with advanced metering infrastructure, allows customers to control, for instance, 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.

Two major trends have enabled increased deployment of energy storage: declining costs and technological advances. State policies can help maximize these benefits by establishing both a framework for easy integration of energy storage resources onto the grid and a marketplace that monetizes the benefits of energy storage for cost-effective investment.

In 2018, Colorado became one of the first states to grant customers the right to store energy. SB 18-009 granted electricity users the ability to store energy without discrimination in rates or excessive barriers to connecting to the

grid. It also required the PUC to adopt rules allowing the installation, interconnection, and use of energy storage systems by utility customers.

Also enacted in 2018, HB 18-1270 directed 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 had to include appropriate data and specify interconnection points to enable independent evaluation. At the end of 2018, the PUC issued rules incorporating storage into utility planning processes.

In 2019, Synapse Energy Economics was contracted by the Colorado Energy Office to complete a report, The Future of Energy Storage in Colorado, which considers opportunities, barriers, and policy recommendations to increase the deployment of energy storage in the state. The report concluded that unless there are facilitating policies and mandates to promote energy storage, deployment will be slow in Colorado throughout the next decade.

More recent storage updates include plans for the Pike Solar and Storage Facility in El Paso County – a project that includes a 25 MW battery storage system. In Spring 2021, Xcel Energy announced objectives to double its capacity of renewables and battery storage by 2030. Xcel's preferred plan would include 400 MW of energy storage. Additionally, the PUC amended interconnection rules in 2021 to create a pilot program that offers incentives for storage development.

There are additional policy opportunities for supporting the energy storage market. The recommendations here draw heavily from the Interstate Renewable Energy Council's (IREC) 2017 report, "Charging Ahead – An Energy Storage Guide for Policymakers."

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.

2. Finance and incentivize energy storage for customers and utilities. Incentives could enable customers to use storage to manage their electric load and store locally produced renewable energy. Incentives in the form of rebates, grants, and tax credits can provide a bridge to scalable deployment for storage. These incentives can also be designed to decline as the value of storage becomes more readily monetized, and/or as the cost of storage decreases. Policymakers could allow utilities that provide storage incentives to customers to also recover the costs of installing smart meters. This would 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 could help reduce their demand charges. Policymakers might start first with a policy that provides grants to pilot projects, and/or that targets existing solar system owners. Financial incentives should be designed to ensure that the state meets other goals including emissions and peak demand reductions, and equitable access to clean energy.

3. Clear data access policies that allow third parties to provide energy management services based on signals from the utility can greatly increase the value of efforts to monetize the value stream offered by energy storage. (See discussion above, under Grid Modernization.)

MAINSTREAMING RENEWABLES

As the renewable energy industry matured, technology improved, and global production of generating equipment increased. Renewable energy is increasingly seen as the least cost and lowest risk form of energy (excluding energy efficiency). A 2021 Energy Information Administration report predicts that the share of the United States' electricity generation mix supplied by renewable energy resources will increase from 21% in 2020 to 42% 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 interest 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, policymakers in Colorado might consider several options.

Customer-Oriented Policies

1. **Interconnection, Net Metering, and Streamlined Permitting** – In general, customers want a clear, streamlined, affordable, and predictable process 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. In Spring 2021, the PUC approved amendments the state's interconnection rules, which will "make it faster and easier to connect solar and storage systems to the grid." These recent amendments will increase not only deployment, but also transparency and choice for customers. Additionally, Senate Bill 21-261 expanded access to solar for customers without access under the current net-metering policy. Prior to the bill's adoption, net metering regulations limited the size of a solar system to 120% of a customer's previous year's energy use. Senate Bill 21-261 removes most of the limitations on the size of distributed energy systems and prohibits IOUs from limiting the size of on-site renewable energy systems solely based on past use. The bill also allows a customer's overproduction at the end of the year to be donated to low-income energy assistance and bill reduction programs, or the customer can elect to carry the credits forward.

   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 and ownership issues, many customers are unable to install renewable energy technologies where they live or work. Allowing shared, or community, renewable energy projects addresses these barriers. These projects have multiple owners or subscribers who pay for a portion of the project or the generation provided by the system. 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. Enacted in 2019, HB 19-1003 removed restrictions on Community Solar Gardens (CSG) and increased the maximum size of a CSG from two MW to 10 MW.

   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 a national leader in bringing the benefits of renewable energy to LMI households.[4] The state has pursued low-income solar energy programs since 2015 and is on track to have 20 MW installed by the end of 2020. 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 was the first in the nation to have been granted permission by the Department of Energy to use rooftop solar as an approved measure to reduce household energy burdens.

[4] Colorado enacted House Bill 1342 in 2010, authorizing community solar gardens, requiring that community solar developers include at least five 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; eligible participants must be at 80 percent or less of the area's median income.

Enacted in June, Senate Bill 21-246 requires IOUs to file beneficial electrification plans that must incorporate programs targeted at low-income and disproportionately impacted communities (with at least 20% of funding going to these households) every three years. Additionally, IOUs must create an outreach plan for engaging with these households and communities at every phase of their beneficial electrification plans. This includes offering incentives to multifamily buildings with low-income households. Senate Bill 21-261 requires that the PUC "encourage" utilities to offer a standard rebate whereby "customers are offered a specified amount per watt for the installation of eligible solar electric generation on the customer's premises". Utilities must also be encouraged to develop other incentive programs, and these should target low-income and traditionally underrepresented customers.

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. Since 2016, nearly 31 gigawatts (GW) of renewable contracts have been announced by corporate entities. In 2020 alone, corporations signed 100 agreements for over 10 GW of 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 shared renewable energy projects, 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 and the state was ranked 22nd overall in the Retail Industry Leaders Association's 2020 rankings of state corporate procurement policies. One area for improvement for Colorado is to allow businesses to keep the RECs that they accrue from these projects. This is a key incentive for a business to participate. It is prudent to integrate corporate renewable purchase commitments into the IRPs 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. In 2004, Colorado passed the first voter-initiated Renewable Portfolio Standard (RPS) in the country, requiring utilities to obtain a certain percentage of their power from renewable energy sources.[5] Colorado's largest utility, Xcel Energy, plans to increase renewable energy sources to 55% of its energy portfolio by 2026 and to achieve 100% carbon-free electricity by 2050.

The Sunset Public Utilities Commission Bill (Senate Bill 19-236) requires an IOU, when submitting a filing to the commission that includes a proposed retirement of an electric generating facility, to include in the filing a workforce transition plan that provides estimates of workforce transitions that will occur because of retiring the electric generating facility. The bill also includes provisions for the refinancing of aging coal plants to support the transition toward clean energy with a policy tool called securitization. Securitization restructures utilities' unpaid debt on non-competitive coal plants, allowing them to pay reduced interest rates with ratepayer-backed bonds to minimize the economic effects of closures for coal communities. A portion of bond proceeds goes toward funding jobs-focused transition assistance programs and renewable energy initiatives. This enables coal-owning utilities to retire coal plants ahead of schedule while also promoting a more just energy transition.

Colorado might see a clean peak standard as the next step in a progression from its RPS. Clean Peak Standards aim to increase the share of clean energy resources used to meet peak demand and decrease energy bills over the long-

[5] 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.

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 requirements that focus 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 58% of new car sales will be electric by 2040. Therefore, a key part of building a modernized grid involves designing infrastructure that will facilitate easy connection of electric vehicles (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. The good news is that both supportive policies for developing charging infrastructure and technological advancements have eased "range anxiety."

Colorado has a few financial incentives for citizens to purchase EVs, such as a plug-in EV (PEV) tax credit. A partnership between the Colorado Energy Office (CEO) and the Regional Air Quality Council supports grant programs for EV charging stations. 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). ReCharge Colorado advances EV adoption and the installation of charging infrastructure by assisting consumers, local governments, businesses, and housing developments to identify grant opportunities and other incentives related to EVs. PEV owners are required to pay an annual fee of $50 to use public EV supply equipment (EVSE) in Colorado. Fees contribute to the Highway Users Tax Fund and the EVSE Grant Fund. In 2021, Senate Bill 21-260 added additional fees for plug-in hybrids ($3) and PEVs ($4) that start in 2022 and increase annually through 2032, to fund and promote sustainability of the transportation system.

Colorado has a goal to have 940,000 electric cars (light-duty EVs) on Colorado's roads by 2030, and the state adopted California's low-emission vehicle (LEV) standards and zero-emission vehicle (ZEV) standards. In an ongoing effort to address the lack of EV chargers in the state, a partnership with Rivian will enable the building of a minimum of two, level two, EV chargers at up to 50 Colorado Parks and Wildlife locations, including all 42 state parks, the initiative is set to begin summer 2021. In January 2021, in what was dubbed "the largest single utility transportation electrification program approval outside of California and New York recorded so far," the PUC approved Xcel Energy's Transportation Electrification Plan. The utility's plan, the first approved in the state, will invest $110 million in transportation electrification and will support the deployment of more than 20,000 charging stations. In 2020, Colorado joined 14 other states and the District of Columbia in signing an MOU to support the deployment of medium- and heavy-duty ZEVs. The American Council for an Energy-Efficient Economy (ACEEE) published a State Transportation Electrification Scorecard evaluating 29 states' progress in electrifying transportation in six key policy areas. Colorado ranked 8th in the 2021 report.

There are several policy opportunities to further encourage and prepare for increased market penetration of EVs in the state, including:

1. **Financing and Financial Incentives** – Providing additional financial incentives and innovative financing options can help spur greater market penetration of EVs. Sales, property, and income tax credits are some of the simplest methods for addressing high up-front costs of EVs and EV charging equipment. While sales tax credits are typically applied at the time of purchase, property and income tax credits may do less to address upfront cost barriers as the credit is not applied at the time of purchase.[6] States have adopted other financial incentives including low-interest loans, grants, vouchers, and rebates. A handful of states qualify EV charging equipment 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.

2. **Charging Infrastructure Plan** – Locating charging infrastructure is different from locating conventional fueling stations. While some drivers will need to charge more quickly, others will refuel when they are parked

[6] A study by the Congressional Research Service suggests that tax credits are important tools for ensuring increased adoption of alternative-fueled vehicles.

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for longer periods of time, for example when shopping at the mall or going to work. Charging infrastructure plans should attempt to pair the appropriate level of charging (level 2 or direct current fast charging) with a reasonable amount of time a person will be at that location. Legislation could direct a state agency to develop an infrastructure plan through a stakeholder process. Colorado's existing registration fee for EVs could help fund these efforts.

Regional collaborations around the U.S. are emerging to coordinate the development of EV infrastructure. Colorado is a signatory of the REV West Plan, a collaborative effort among western states to construct a regional EV charging corridor. The memorandum of understanding (MOU) intends to reduce transportation sector carbon emissions, bolster EV adoption, increase consumer awareness about the benefits of EVs, coordinate development of charging infrastructure, and incentivize manufacturing of EVs. Colorado is also a member of Drive Electric USA, a coalition of states committed to serving as examples of how to build successful statewide strategies to incentivize the purchase and use of EVs.

In 2018, the Colorado Energy Office, Regional Air Quality Council, Department of Public Health and Environment, and Department of Transportation released the Colorado Electric Vehicle Plan, which outlines actions for the state to take to accelerate EV adoption, including charging infrastructure build-out. Executive Order B-2019-002 directed the Transportation Electrification Workgroup to develop strategies and programs to support transportation electrification and the deployment of ZEVs in the state.

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. Hawaii, for instance, requires that for every 100 parking spaces, there must be at least one EV charging space. States and local governments are also updating building standards and codes to require that new buildings be EV ready, meaning that all conduit and wiring can accommodate EV charging equipment. States can also implement programs to provide parking incentives for owners of EVs. Typically, these programs provide access to carpool parking, preferential spaces, reduced fees, and/or access to charging stations.

NEWS

- July 7, 2021: Colorado Has Among Lowest Energy Bills in The Country, Study Finds
- July 6, 2021: Xcel Energy-Colorado Seeks Another Rate Increase, This One For $343 Million to Pay for Improvements, Updates
- July 2, 2021: Energy Chief's Visit Spotlights Colorado Clean-Energy Advances
- July 1, 2021: Solar Power, Federal Infrastructure Funding and Colorado's Renewable-Energy Future
- June 23, 2021: Guzman Energy Signs PPA for 145-Mw Colorado Wind Project of Leeward
- June 11, 2021: Rail District Gets Colorado Ready to Build Front Range Line
- June 8, 2021: CO Legislators Direct All Transmission Utilities to Join an Organized Wholesale Market by 2030
- June 7, 2021: Democrats Compromise with Governor, Passing Major Changes to Greenhouse Gas Bill
- May 21, 2021: Colorado Makes It Easier to Connect Solar and Storage Projects to the Grid
- May 12, 2021: Colorado Springs Utilities to Join Larger Energy Market
- April 1, 2021: Xcel Energy Accelerates Clean Energy Transition, Coal Exit in Colorado
- March 1, 2021: Xcel Energy Plans Up To 2.9 GW Of Additional Solar In Colorado By 2030

OTHER RESOURCES

- Colorado Energy Office: https://www.colorado.gov/energyoffice
- American Clean Power Association, Colorado State Fact Sheet: https://cleanpower.org/wp-content/uploads/2021/05/Colorado_clean_energy_factsheet_Q2-2021.pdf
- 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. Department of Energy's Alternative Fuels Data Center, Colorado: https://www.afdc.energy.gov/states/co
- U.S. Energy Information Administration, Colorado: https://www.eia.gov/state/?sid=CO
- SPOT for Clean Energy, Colorado: https://spotforcleanenergy.org/state/colorado/

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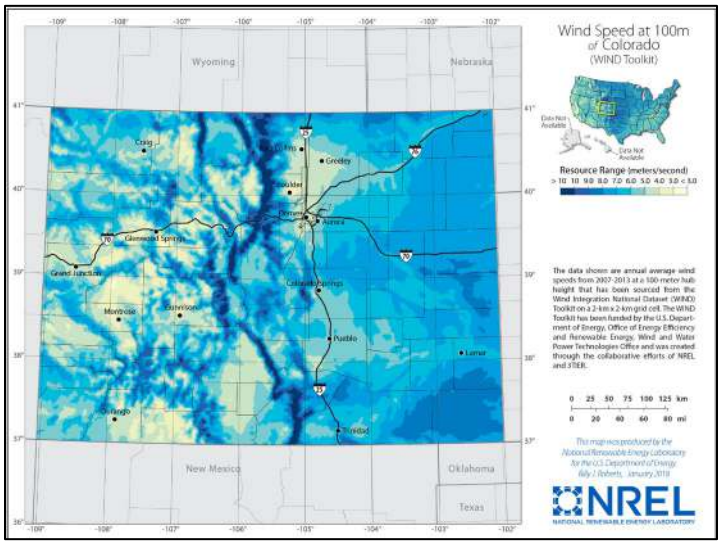
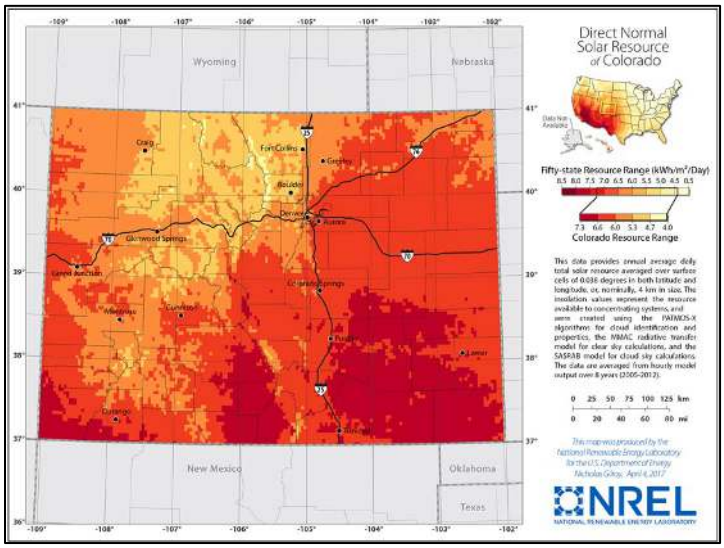
COLORADO'S WIND AND SOLAR RESOURCES
WIND https://windexchange.energy.gov/states/co





Our Resources

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

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

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

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