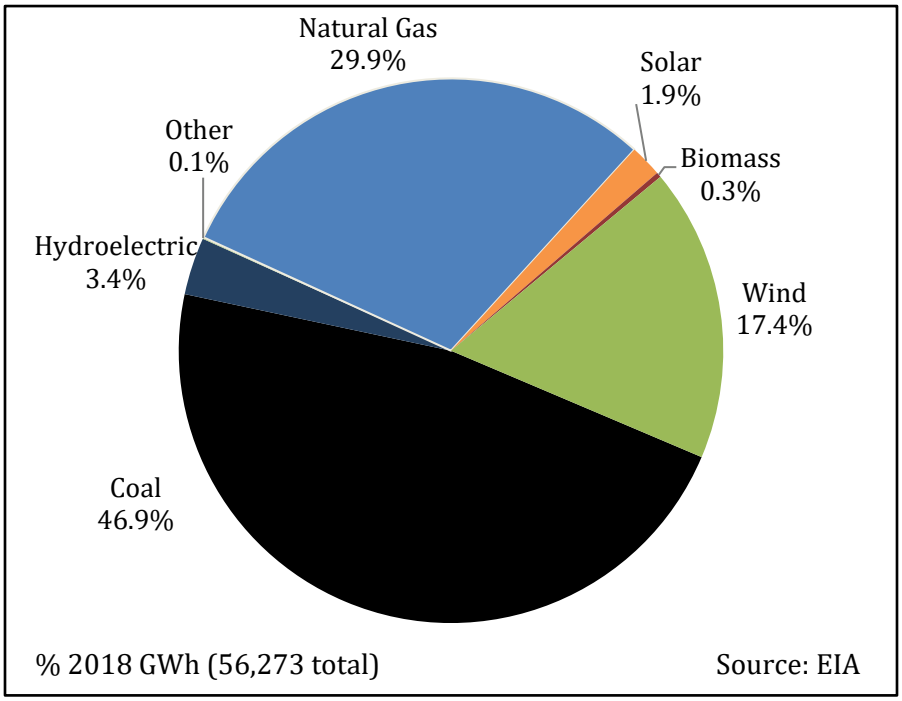
State Brief: Colorado

BACKGROUND

Colorado's Net Annual Electric Generation, 2018



Colorado relies heavily on coal and natural gas. In 2017, annual production of coal increased for the first time in six years, due to increased demand from foreign countries. Overall, Colorado's energy generation from coal has declined in the last decade (68% in 2010 versus 46% in 2019). The state is the seventh-largest producer of natural gas in the country and is home to 11 of the nation's 100 biggest natural gas fields.

Renewable energy production has doubled since 2010 to over 20% of the state's net electricity generation in 2018. Colorado was ranked 12th in the nation for solar and eighth for wind electricity generation in 2019. The Centennial State boasts a strong wind industry, employing 7,318 citizens. 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 2020 U.S. Energy and Employment Report found that Colorado has 92,586 traditional energy workers (3.3% of total state employment) and an additional 36,092 workers employed in energy efficiency. The solar industry in the state is also prominent, providing 7,775 jobs. Currently, Colorado is ranked sixth nationwide for renewable energy jobs and the renewable energy industry employs almost 60,000 Coloradans.

In 2019, Senate Bill 236 was enacted. The bill includes a requirement to investigate performance-based incentives. The bill also requires Xcel Energy to submit a plan for approval by the PUC for reducing greenhouse gas emissions 80% by 2030 and includes provisions allowing electric utilities to finance closures of fossil fuel-fired power plants. In June 2019, Xcel filed a Clean Energy Plan Portfolio proposing to close two coal plants and replace them with solar, wind, storage, and natural gas assets.

The Colorado Public Utilities Commission (PUC) regulates the state's investor-owned utilities (IOUs). All three commissioners of the PUC are appointed by the governor, and confirmed by the state senate. The former director of the Colorado Energy Office, Jeff Ackermann (D) is the Chairman. Democratic Governor Jared Polis took office in January 2019. At the Colorado General Assembly, a Democratic majority controls both the House and the Senate.

POLICY STRENGTHS AND OPPORTUNITIES

The National Renewable Energy Laboratory (NREL) developed the notion of "policy stacking,"[1] 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

[1] 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.

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

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.

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

In the most recent (2018) Grid Modernization Index, Colorado jumped from 18th to 11th position for overall grid modernization efforts. In June 2017, the PUC approved Xcel Energy's $612 million grid modernization investment proposal, under which the utility will equip homes and business with advanced metering infrastructure (AMI) and roll 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 grid 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 "Smart Grid Deployment in Colorado," a 2010 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 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.

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 to flatten

peak demand requirements. 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, storage can dispatch power to better integrate 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 a number of economic and environmental gains.

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

In March 2018, Colorado became one of the first states to grant 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 utility customers.

In June 2018, HB 18-1270 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 additional policy opportunities for supporting the energy storage market.

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 2019 Bloomberg New Energy Finance report predicts that renewable resources will

generate at least 60% of total global electricity and 43% of U.S. electricity 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 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. 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 removes restrictions on Community Solar Gardens (CSG) and increases 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.[2] 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 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 household energy burdens.

[2] 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.

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. Over the last five years, over 20 gigawatts (GW) of renewable contracts have been announced by corporate entities. 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 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. 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. In addition, 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.[3] 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-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.

PATHWAYS TO A LOW CARBON FUTURE

The international scientific community has determined that steep and rapid reductions in global greenhouse gas (GHG) emissions are needed to avoid the worst impacts of global warming and climate change. Federal and state policy interventions are necessary to transform our energy systems and rapidly reduce GHG emissions in the U.S. In general, effective policies will:

[3] 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.

1) Establish performance standards and place enforceable limits on carbon pollution;
2) Provide financial incentives for individuals, businesses, and industry to choose clean energy and greatly improve energy efficiency;
3) Spur public and private investment in clean energy infrastructure, including investment in advanced transportation systems for the movement of people and goods; and
4) Provide funding for research, development, and demonstration of technologies that will underpin the de-carbonization of the U.S. economy.

Colorado has taken an important first step by enacting mandatory GHG Emissions Monitoring and Reporting with the passing of passing SB19-096. The bill requires annual GHG reporting and establishes emissions baselines from which to measure progress. In 2019, Governor Polis Signed the Climate Action Plan which sets goals to reduce 2025 greenhouse gas emissions by at least 26%, 2030 greenhouse gas emissions by at least 50%, and 2050 greenhouse gas emissions by at least 90% below statewide GHG emissions in 2005. Xcel Energy, also set exemplary targets. It plans to reduce its emissions to 80% below 2005 levels by 2030 and to achieve 100% carbon-free electricity by 2050. This target was codified with the enactment of the Climate Action Plan (HB19-1261). To compliment this, Colorado's policymakers might consider the following:

1. Cap-and-Trade / Cap-and-Invest – These policies place enforceable limits on carbon emissions that cannot be exceeded by regulated entities without penalty. Emissions allowances are allocated or sold to companies by the state and sources must hold an allowance for each ton of carbon they emit in a given year. Emissions caps and available allowances are reduced every year, requiring that industries reduce their emissions or pay higher market prices for available allowances. States might choose to invest the revenue associated with emissions allowances in renewable energy, public transportation, zero-emission vehicles, environmental restoration, sustainable agriculture, recycling, and other actions.

   States might consider joining an existing program like the Western Climate Initiative (WCI) or the Regional Greenhouse Gas Initiative (RGGI), as joining an established network can remove administrative barriers to entry.

2. Carbon Tax – Carbon taxes impose a price on each ton of carbon emitted and are levied on the purchase and use of fossil fuels by business and industry. That cost is subsequently reflected in consumer prices. If carbon taxes are levied at a high rate, they will discourage the use of GHG emitting resources and technologies, encouraging a market switch to new technology. Alternatively, carbon taxes can be set at a lower rate, which will have a limited impact on market behavior, but the revenue can be substantial and that revenue can be invested in energy efficiency and emission reduction technologies which will result in lower emissions. States considering this option might examine British Columbia's existing tax structure or the federal proposals from the Citizen's Climate Lobby and the Climate Leadership Council.

3. Emissions Performance Standards – Transportation sources now emit more GHGs than any other sector, and rapid reductions from all types of vehicles, engines, and equipment is critical to achieving carbon reduction goals. The Low Carbon Fuel Standard (LCFS) implemented by both Oregon and California is another example of a flexible, market-based approach to regulating carbon emissions at the state level. LCFSs regulate the carbon intensity of transportation fuel in order to reduce the use of petroleum-based fuels and promote investment in low-carbon options (electrification, biofuels, hydrogen, etc.). The market mechanism LCFSs use is a crediting system where each fuel type is assigned a carbon intensity (CI) score. The allowable CI score is decreased yearly, requiring a switch to lower CI fuels. Entities who provide fuel below the regulated CI score earn credits. These credits can be sold to providers who operate at a deficit (above the mandated CI score), creating a market incentive for investment in cleaner fuels

ELECTRIFICATION OF THE TRANSPORTATION SECTOR

Bloomberg New Energy Finance estimates that 58% of all new passenger vehicle sales will be electric by 2040 and that price parity with conventional vehicles will be met for most segments in the mid-2020s. 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. 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.

Colorado has a few 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 grant programs for EV charging stations. Refuel Colorado is an education and outreach program that helps fleet owners 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. Fees contribute to the Highway Users Tax Fund and the EV Grant Fund. Colorado adopted California's low-emission vehicle (LEV) standards and zero-emission vehicle (ZEV) standards.

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 financial incentives and innovative financing options can help increase market penetration of EVs. Sales, property, and income tax credits are some of the simplest methods for addressing the up-front costs of EVs and EVSE. 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 receipt of the credit is typically removed in time from the purchase.[4] Some states have adopted other financial incentives including low-interest loans, grants, vouchers, and rebates. A handful of states qualify EVSE 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 for longer periods of time, for example when shopping, eating at a restaurant, 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. States with existing registration fees for EVs could use a portion of this revenue to fund charging infrastructure development efforts, as Washington has done.

   In December Colorado agreed to the revised Intermountain West EV Corridor Memorandum of Understanding (MOU).[5] The mutual intention of the signatories (Arizona, Colorado, Idaho, Montana, Nevada, New Mexico, Utah, and Wyoming) is to update their Regional Electric Vehicle Plan for the West (REV West Plan) based on progress to date. Under the MOU, the signatory states agree to create best practices and procedures that will enhance EV adoption; create voluntary minimum standards for EV charging stations; identify and develop opportunities to incorporate EV charging station infrastructure into planning and development processes; encourage EV manufacturers to stock and market a wide variety of EVs in the states; and identify, respond to, and where possible, collaborate on funding opportunities to support the development of the REV West Plan.

   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 are

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

[5] Colorado's former Governor John Hickenlooper signed the original Intermountain West EV Corridor Memorandum of Understanding (MOU) in 2017.

EV ready, meaning that all conduit and wiring are able to accommodate EVSE. 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.

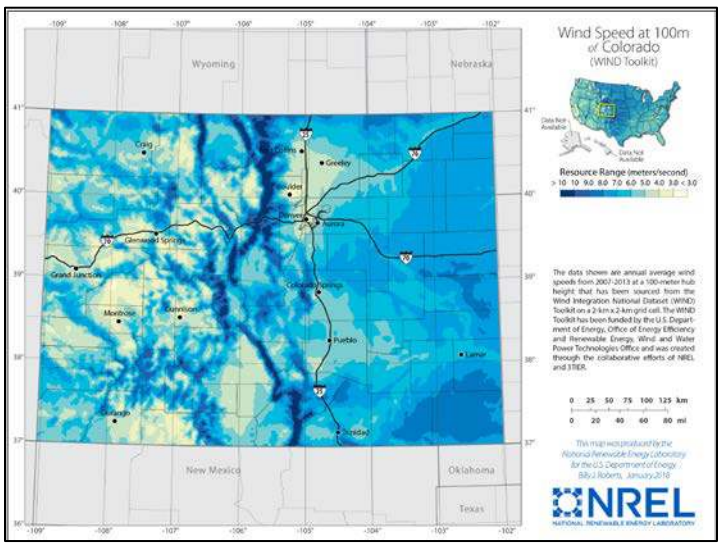
4. Utility Investment in "Make-Ready" Infrastructure – "Make-ready" means building and upgrading the infrastructure necessary for the installation of a charging station. The Rocky Mountain Institute (RMI) recommends that policies providing incentives for utilities to invest in make-ready infrastructure or charging infrastructure itself should be performance-based and encourage investments in locations that are unlikely to be targeted by the private sector, such as low-income and multi-unit dwellings.

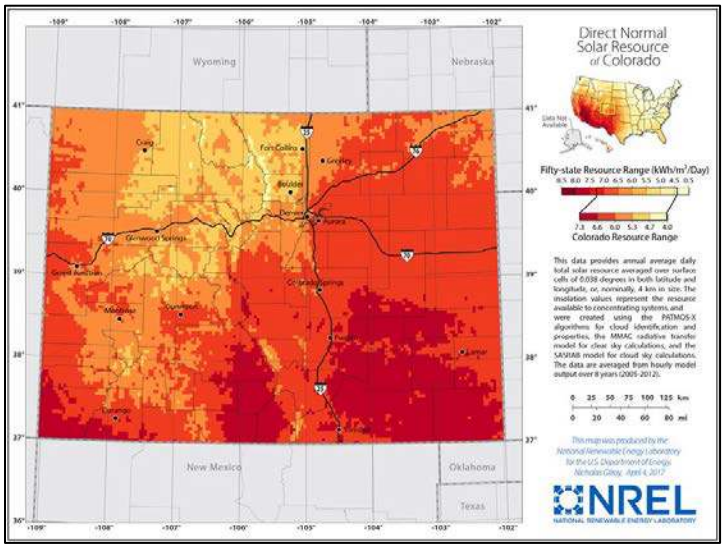
NEWS

- February 11, 2020: Colorado legislators take up proposal for renewable natural gas standard
- April 3, 2020: Opinion: Colorado is poised to boost innovation in clean energy
- April 24, 2020: Colorado unveils new plan to get more electric vehicles – of all sizes – onto its roads
- May 27, 2020: Coronavirus cost Colorado's solar industry thousands of jobs, but there's one bright spot
- June 16, 2020: Larimer County coal-fired power plant will close 16 years early
- July 1, 2020: Colorado cooperative reaches $136.5M agreement to exit Tri-State service
- July 8, 2020: Acceleration of the energy transition
- July 9, 2020: Deloitte: Intermittent renewables pass COVID-19 grid reliability test

COLORADO'S WIND AND SOLAR RESOURCES

WIND https://windexchange.energy.gov/states/co





OTHER RESOURCES

- 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
- American Wind Energy Association (AWEA): https://www.awea.org/resources/fact-sheets/state-facts-sheets
- National Renewable Energy Laboratory Biomass Maps: https://www.nrel.gov/gis/biomass.html
- U.S. Department of Energy's Alternative Fuels Data Center, Colorado: https://www.afdc.energy.gov/states/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: https://rmi.org/wp-content/uploads/2017/10/RMI-From-Gas-To-Grid.pdf
- 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/
- The Interstate Renewable Energy Council, A Playbook for Modernizing the Distribution Grid, Volume 1: https://irecusa.org/publications/a-playbook-for-modernizing-the-distribution-grid-volume-1/

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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