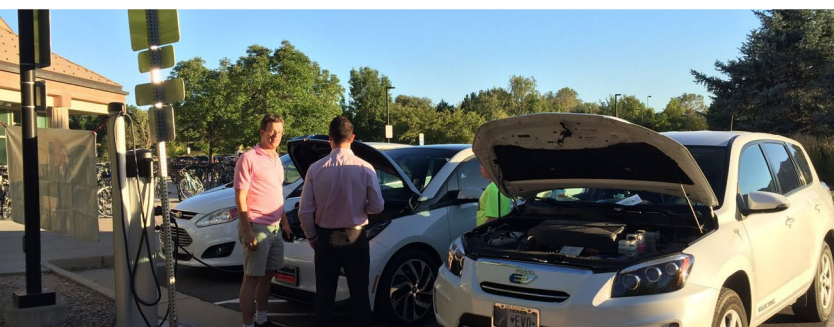




An EV Action Plan for Northern Colorado Clean Cities

September 2020



PARTNERS IN ENERGY
An Xcel Energy Community Collaboration

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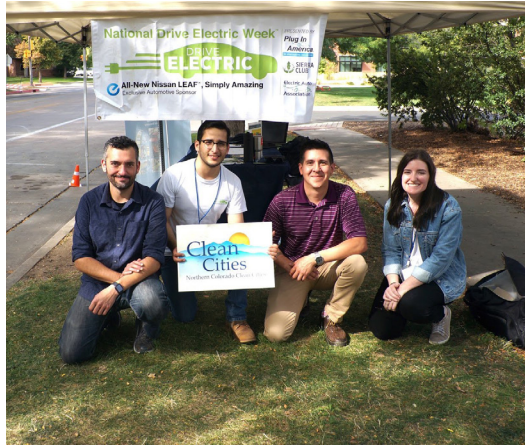


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Northern Colorado Clean Cities Electric Vehicle Action Plan



About this Plan

This Electric Vehicle Action Plan is designed to enable Northern Colorado Clean Cities (NCCC) to strategically support electric vehicle (EV) adoption as part of the broader mission to reduce petroleum use in transportation, as well as statewide efforts to promote zero-emission vehicles. The EV goals and strategies outlined in this plan were developed collaboratively with a stakeholder team, including NCCC staff and board members.

Our Electric Vehicle Vision & Goal

Vision: Northern Colorado Clean Cities supports local actions that accelerate the adoption of electric vehicles and alternative fuels across Northern Colorado to advance the region's economic, environmental, and energy security.

Goal: By 2030, there will be at least 50,000 EVs on the road in Northern Colorado with a stretch goal of 145,000 EVs on the road to align with the Colorado Electric Vehicle Plan.

Our Roadmap for Achieving this Vision & Goal

To achieve this vision, the NCCC EV Action Plan is divided into three focus areas:

- 1. Public Sector**
Strategies aimed at increasing the adoption of EVs and the installation of charging infrastructure by public entities such as local governments.
- 2. Residential Sector**
Strategies aimed at increasing the adoption of EVs for personal use, including ownership, leasing, and carshare.
- 3. Commercial Sector**
Strategies aimed at increasing the adoption of EVs and the installation of charging infrastructure by commercial entities, such as retail shops, offices, and companies with heavy duty fleets.



Strategies

Public Sector

- 1-1: Support Public Entities in the Identification and Installation of Public Charging Stations
- 1-2: Support the Development of Community EV Plans
- 1-3: Provide Guidance for Communities That Want to Adopt EV-Friendly Policies
- 1-4: Support Municipal Fleet Conversions

Residential Sector

- 2-1: Promote EV Awareness through Community Outreach and Education Efforts
- 2-2: Develop a Supported Process to Help Residents Identify and Procure the Most Appropriate EV
- 2-3: Promote Charging Infrastructure
- 2-4: Develop and Promote a Network of Professionals to Support EV Owners

Commercial Sector

- 3-1: Support Commercial Fleet Conversions
- 3-2: Encourage Businesses to Provide Workplace and Public Charging Options
- 3-3: Promote Heavy-Duty Fleet Conversions

By Reaching This Plan's Targets, We Will...



Support the installation of **20 public** EV charging stations each year.



Provide EV advisory services to **10 organizations** each year.



Achieve **40,000 impressions** each year through events and social media, with a stretch goal of **80,000 impressions**.



Engage at least **30 businesses** each year, resulting in **5 commitments** to fleet conversions and **15 commitments** to charging station installations.



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INTRODUCTION



What is an EV Action Plan?

This Electric Vehicle Plan is a strategic plan to guide Northern Colorado Clean Cities (NCCC) in preparing for and implementing actions that support increased use of electric vehicles (EVs) throughout the Northern Colorado region.

The content of the plan was developed collaboratively with a stakeholder team through two planning workshops conducted in April and June 2020 followed by targeted focus group calls in July 2020. The stakeholder team included representatives from NCCC staff, board of directors, and membership, as well representatives from Xcel Energy.

NCCC joins more than 20 other Colorado communities that have developed EV and energy action plans through Xcel Energy's Partners in Energy, an offering that provides resources for community energy planning. Partners in Energy also supports 18 months of plan implementation in the form of marketing and communications, data tracking and analysis, program expertise, and project management.

NCCC's EV Plan includes:

- **Introduction/Where We Are Now:** A look at NCCC's motivations for developing an EV Action Plan, and the relevant characteristics of Northern Colorado communities.
- **Where We Are Going:** Describes NCCC's EV vision and goals through a planning horizon of 2030.
- **How We Are Going To Get There:** Identifies focus areas and strategies to achieve the defined goals, along with targets and metrics that quantify success in each focus area.

- **How We Are Going To Get There:** Outlines how NCCC will track progress toward targets, goals, and vision, and how it will adapt to a changing landscape during the implementation period.
- **Appendices:** Provide additional information about EV basics, the planning process, and next steps, along with definitions and references.

Why an EV Action Plan?

NCCC's EV Action Plan will enable us to strategically support EV adoption as part of our broader mission to reduce petroleum use in transportation, as well as statewide efforts to promote zero-emission vehicles. While other vehicle technologies (including hydrogen fuel cells and renewable natural gas) also support these efforts, this plan focuses solely on battery electric vehicles (BEVs), which are the most accessible zero-emission vehicle solution in today's market. Future updates of this plan may include hydrogen and other zero-emission vehicle technologies.

By replacing internal combustion engine (ICE) vehicles with EVs, transportation related greenhouse gas (GHG) emissions are significantly reduced and air quality is improved. As the need for imported petroleum to support transportation decreases through the integration of EVs, domestically available fuel sources can shift into focus, resulting in energy independence and domestically regulated fuel prices. Furthermore, the individual consumer will experience lower fuel and maintenance costs with the transition to EVs and continued advancements in battery and charging technologies.

Developing an EV Action Plan is also in alignment with many local planning efforts and goals set by communities served by NCCC, including improving air quality, reducing greenhouse gas emissions, and adopting smart city concepts. Estes Park, Fort Collins, and Steamboat Springs are among the communities in NCCC's service territory that have or are planning to develop EV readiness plans.

Additionally, the state of Colorado has set a long-term vision of 100% of light-duty vehicles being electric and 100% of medium- and heavy-duty vehicles being zero emission, including a goal to increase the number of light-duty EVs to 940,000 by 2030 (State of Colorado, 2020).

Through Xcel Energy's Partners in Energy offering, NCCC was able to access resources and subject matter expertise in the area of electric vehicles that culminated in this EV Action Plan that defines an energy vision, goals, and strategies tailored to NCCC.

WHERE WE ARE NOW

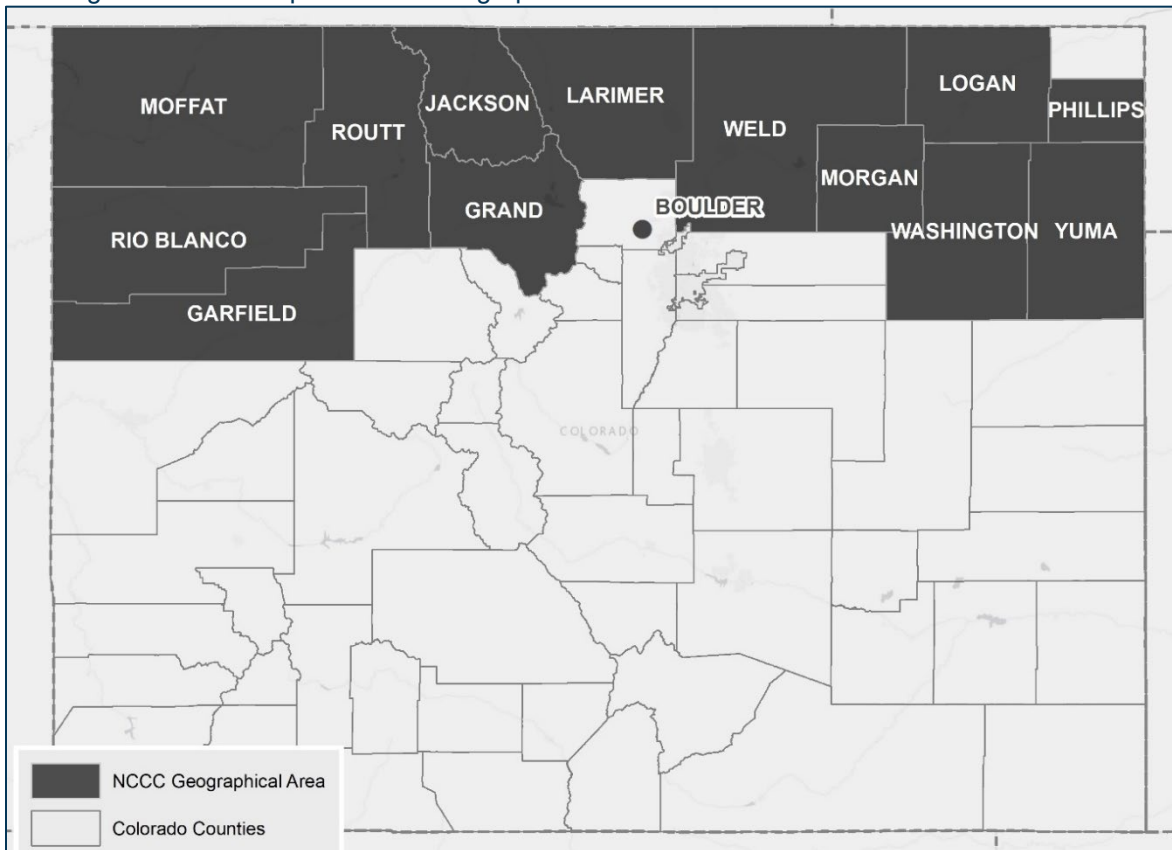


Organization Overview

NCCC is a 501(c)3 organization sponsored by the U.S. Department of Energy's Clean Cities Coalition Network. The network is comprised of nearly 100 local coalitions that provide tools and resources for voluntary, community-centered programs to reduce consumption of petroleum-based fuels. As a Clean Cities coalition member, NCCC builds partnerships with local and statewide organizations in the public and private sectors to adopt alternative and renewable fuels, idle-reduction measures, fuel economy and environmental improvements, and new transportation technologies. This plan provides a roadmap for NCCC to activate coalition strategies through the advancement of EVs. Coalition strategies include evaluating transportation needs and energy choices, shifting to domestic energy sources, improving fuel efficiency, and reducing harmful emissions.

NCCC is based in Fort Collins, Colorado, but covers 32,307 square miles, serving Garfield, Grand, Jackson, Larimer, Logan, Moffat, Morgan, Phillips, Rio Blanco, Routt, Washington, Weld, and Yuma Counties, and the City of Boulder (see Figure 1).

Figure 1: Aerial Map of NCCC Geographical Area



Community Characteristics

To better understand the opportunities for EV adoption in Northern Colorado, basic community characteristics for areas served by NCCC are outlined below. Social and economic factors - such as population growth, demographics, housing, household costs, and commuting characteristics - provide information about how the community is expected to progress and could shape potential opportunities for targeted outreach and partnerships.

Population and Demographics

The communities across the 14 counties served by NCCC vary in population size, age distribution, income-level, and household-type - resulting in different challenges and opportunities for EV adoption.

As of 2019, NCCC communities' total population is estimated at over 980,000 people and is forecasted to grow by more than 50% by 2040. Over 60% of the population is younger than 45 (State Demography Office, 2019). This young and growing population presents an opportunity to encourage EV adoption as families grow.

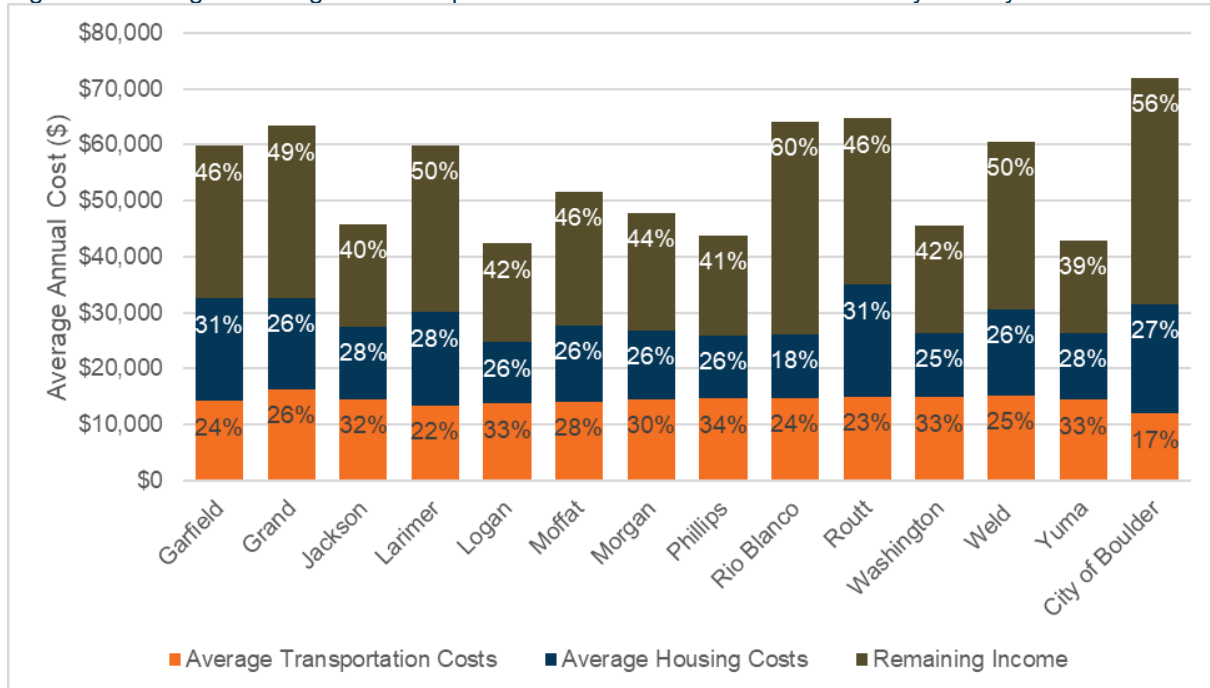
The median household income ranges from \$48,294 in more rural NCCC communities to \$74,273 in more urban areas (US Census Bureau, 2018). This difference will require tailored outreach and programs for each community, particularly for those households that cannot afford the high upfront costs associated with EV ownership.

Housing Characteristics

Two major housing factors facilitate residents’ ability to convert their personal vehicle to an EV: home ownership and single-family residence. Homeowners are more able to install EV charging because they do not need to seek permission from the homeowner, and the investment in infrastructure will likely increase the value of their property. Alternatively, renters may not have permission from the homeowner to install charging infrastructure and/or may be reluctant to invest in improving property they do not own. Single-family residences are more likely to have personal garage space or carports to facilitate installation of charging stations rather than relying on street parking or shared parking facilities. The average percentage of owner-occupied (67%) and single-family (68%) homes across NCCC communities suggest there are significant opportunities for residents to adopt EVs - using at-home charging infrastructure as the primary charging location (US Census Bureau, 2018).

Although percentages vary by community, the average household in this region (see Figure 2) spends 27 percent of household income on housing and 27 percent on transportation - leaving only 46 percent of household income for other costs such as groceries or healthcare (Center for Neighborhood Technology, 2017). Reducing the cost of vehicle maintenance, along with fuel savings associated with EV ownership (which typically costs about 50 percent less to own and operate than ICE vehicles), can alleviate some of a household’s fixed expenses (US Department of Energy, 2019).

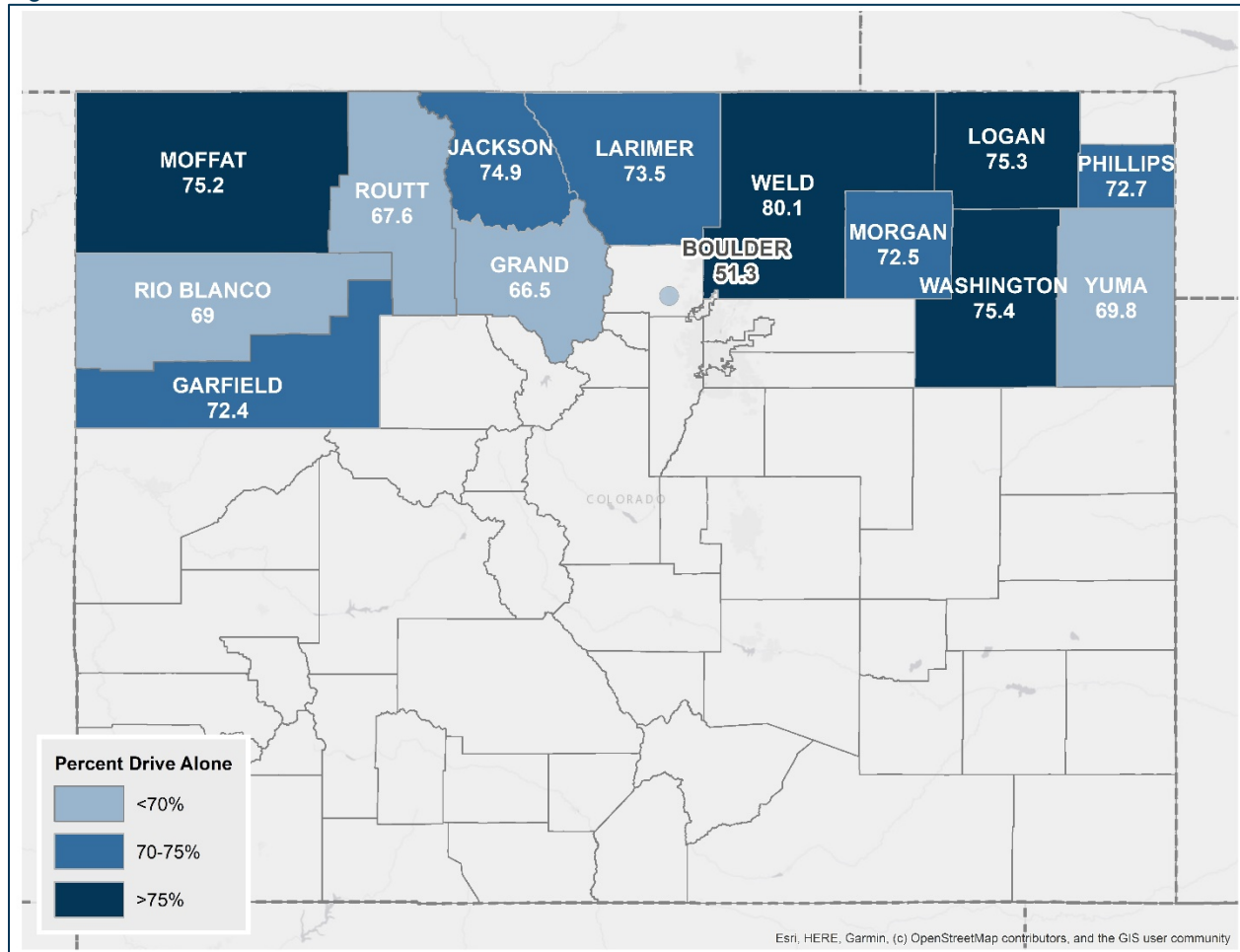
Figure 2: Average Housing and Transportation Costs as Percent of Income by County



Commuting Characteristics

An average of 71 percent of NCCC communities' commuters drive alone, and an average of 12 percent carpool. Figure 3 shows the distribution of percentage of commuters who drive alone across NCCC communities (US Census Bureau, 2018).

Figure 3: NCCC Counties Percent Drive Alone



The average household in NCCC communities has two vehicles and drives an average of 23,365 miles each year (Center for Neighborhood Technology, 2017). The reliance on personal vehicles and relatively long daily commutes present an opportunity to significantly reduce greenhouse gas emissions and improve air quality by transitioning from ICEs to EVs.

Electric Vehicles on the Road

The number of EVs on the road has rapidly increased in recent years, with Northern Colorado counties experiencing a nearly 200% increase between 2018 and 2020. With Colorado's adoption of the Zero Emission Vehicle (ZEV) rule in 2019, growth rates are expected to increase - especially as new types of EVs (including sport-utility vehicles, crossovers, and pick-up trucks) become available. (Colorado Energy Office, 2019).

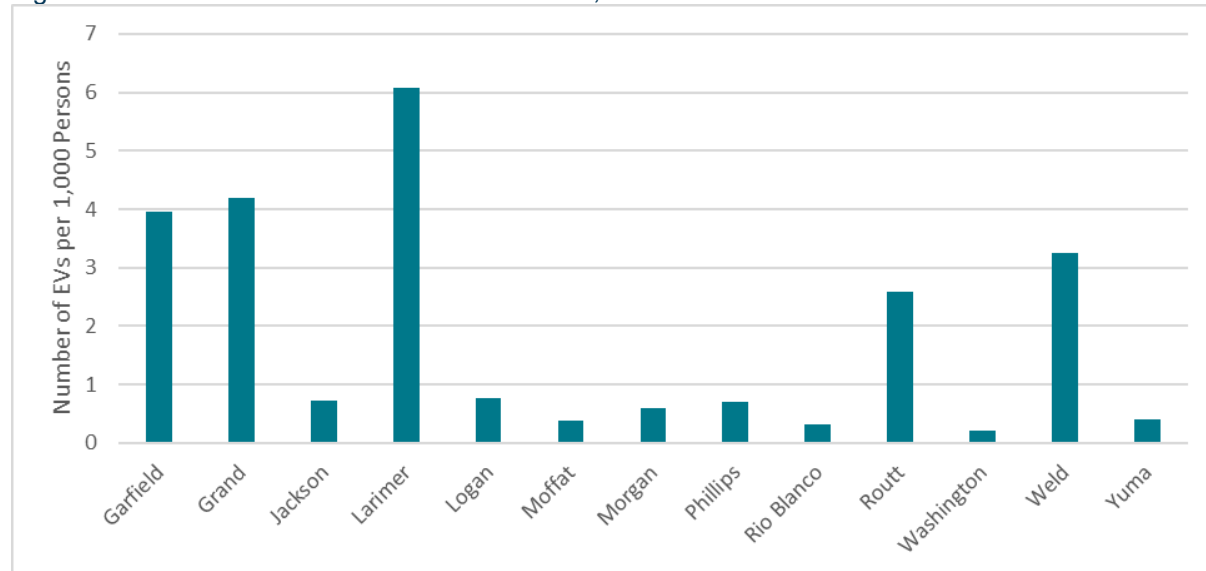
Table 1 illustrates the growth in EVs, over the past two years, in counties served by NCCC¹ (Colorado Energy Office, 2020).

Table 1: NCCC Counties EVs on the Road

	Jan 2018	Aug 2019 ²	Jan 2020	2018 – 2020 Percent Change
Battery Electric Vehicles (BEVs)	694	1,739	2,063	197%
Plug-in Hybrid Electric Vehicle (PHEVs)	553	1,111	1,230	122%
Total EVs	1,247	2,850	3,293	164%
BEVs per 1,000 persons	0.81	2	2.32	187%
PHEVs per 1,000 persons	0.65	1.27	1.39	113%
Total EVs per 1,000 persons	1.46	3.27	3.71	154%

EV adoption varies widely across the 13 counties served by NCCC, emphasizing the need for different goals and strategies by community type. Figure 4 illustrates the number of EVs on the road per 1,000 persons in April 2020³, highlighting higher adoption rates in more densely populated counties (Colorado Energy Office, 2020).

Figure 4: NCCC Counties EVs on the Road Per 1,000 Persons



¹ This dataset does not include the City of Boulder, due to dataset limitations.

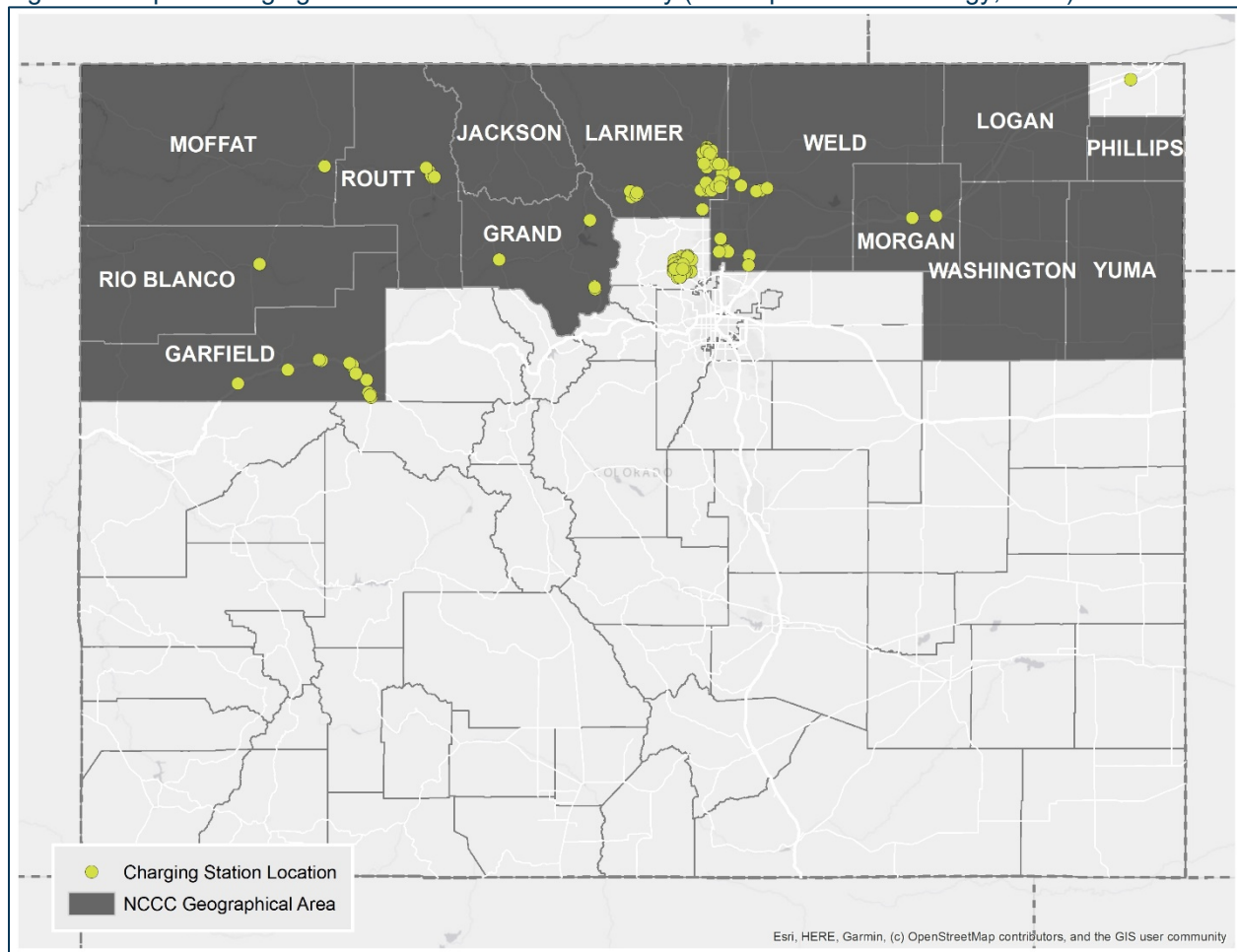
² January 2019 data not available

³ This dataset does not include the City of Boulder, due to dataset limitations.

Charging Infrastructure

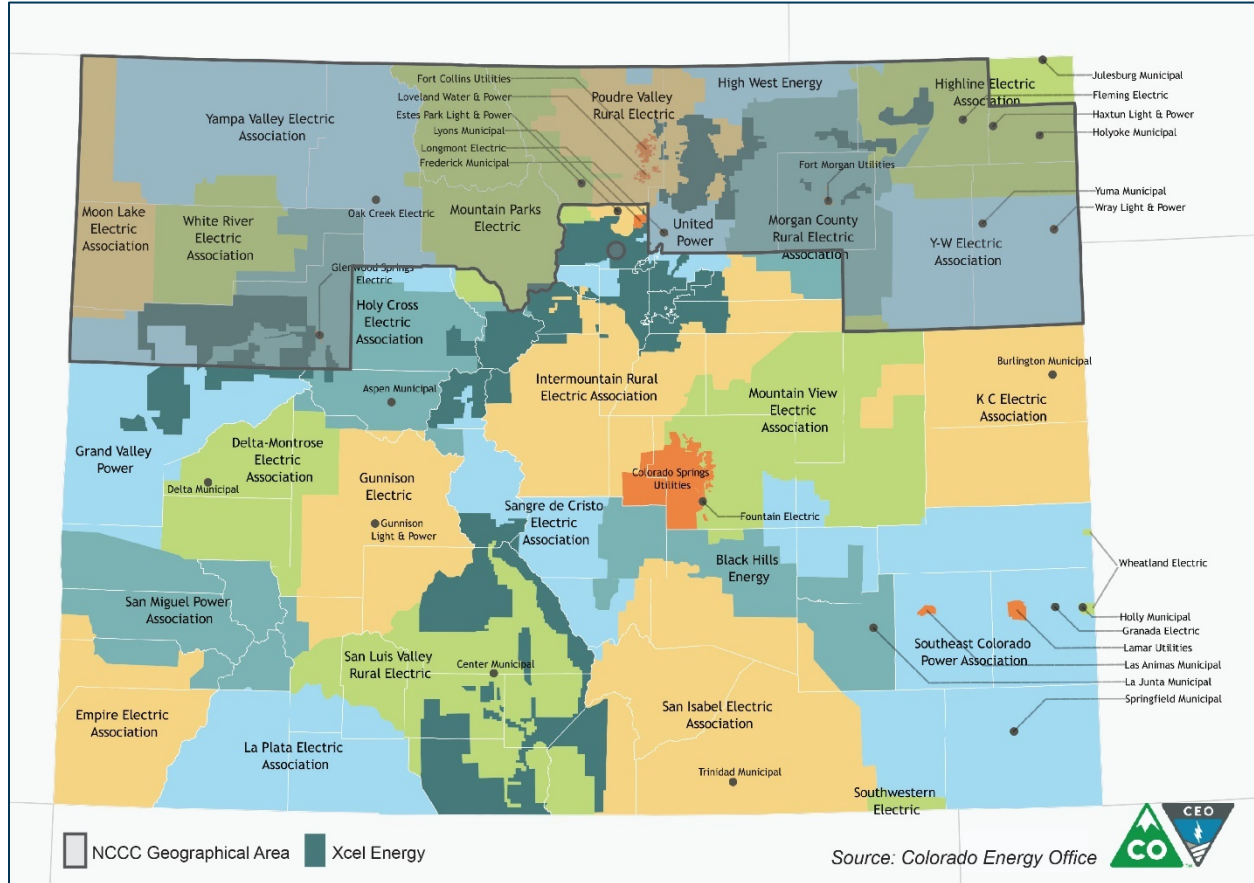
Because residential charging is convenient and inexpensive, more than 80 percent of EV drivers do their charging at home. However, for those without access to residential charging or for those on long trips, publicly available charging infrastructure is critical. Awareness and availability of public charging infrastructure has also been identified as one of the main drivers of residents' willingness to consider purchasing an EV (National Renewable Energy Laboratory, 2017). In NCCC communities, there are 218 charging station sites, providing 1,985 Level 2 outlets and 257 Level 3 outlets (US Department of Energy, 2020). The distribution of these stations is shown in Figure 5.

Figure 5: Map of Charging Stations within NCCC Territory (US Department of Energy, 2020)



Charging infrastructure planning and installation, especially banks of Level 2 and/or DC fast chargers, requires coordination with local utilities to understand available electrical service and upgrade requirements. Figure 6 shows electric utilities service territories in Colorado. Communities within NCCC counties operate not only within Xcel Energy service territory but across a wide array of municipal and rural electric authorities.

Figure 6: Colorado Electric Service Territories



WHERE WE ARE GOING



NCCC Vision Statement

During the planning process, the EV Action Team provided feedback on a vision statement for this EV Action Plan. This statement guided the planning process and reflects NCCC's intention to create an EV Action Plan.

NCCC's Electric Vehicle (EV) Action Plan Vision

Northern Colorado Clean Cities supports local actions that accelerate the adoption of electric vehicles and alternative fuels across Northern Colorado to advance the region's economic, environmental, and energy security.

EV Action Plan Goal

To measure progress toward this vision, NCCC set a long-term goal. The first part of the goal is 50,000 EVs on the road in Northern Colorado by 2030, assuming a 45% annual increase from 2020 levels. The stretch goal of 145,000 EVs on the road is based on the Colorado Electric Vehicle Plan goal of 940,000 EVs by 2030 and is scaled to NCCC's population. This goal is paired with focus area-level targets, outlined in the next section, which measure more specific outcomes.

NCCC's Electric Vehicle (EV) Action Plan Goal

By 2030, there will be at least 50,000 EVs on the road in Northern Colorado with a stretch goal of 145,000 EVs on the road to align with Colorado Electric Vehicle Plan.

EV Action Plan Focus Areas

To achieve this commitment to transportation electrification, the EV Action Team identified the following focus areas to prioritize strategies and resources.

- **Public Sector** focuses on increasing the adoption of EVs and the installation of charging infrastructure by public entities such as local governments.
- **Residential Sector** focuses on increasing the adoption of EVs for personal use including ownership, leasing, and carshare.
- **Commercial Sector** focuses on increasing the adoption of EVs and the installation of charging infrastructure by commercial entities such as retail shops and offices.

HOW WE ARE GOING TO GET THERE



The following sections detail identified targets, along with strategies selected to achieve those targets for each focus area. Strategies are sorted into three categories, reflecting the methods NCCC supports, related to local actions, to reduce consumption of petroleum-based fuels:

- **Research:** learning from public and private entities in order to identify barriers, opportunities, and best practices
- **Connect:** providing resources and educational opportunities
- **Advise:** conducting analysis, providing training, and/or providing recommendations

Special Audience Considerations

Within each focus area, there are special audience considerations that should be used to tailor strategy implementation to a community's concerns. Examples of audiences who may have specific needs or concerns are provided below:

- **Underserved Communities** may include low-income households, historically underrepresented groups, people of color, those disproportionately impacted by air pollutants, those without access to existing EV communication channels, English as a second language (ESL) households, or others facing barriers to EV ownership. Tips for communications include:
 - Include representatives from underserved communities in the design of EV programs and projects.
 - Partner with local, trusted community organizations to share information in culturally relevant and accessible formats.
 - Prioritize programs that offset the cost of EV ownership, such as carshare.

- **Rural Communities** tend to have less EV infrastructure and maintenance facilities than more urban areas, more vehicles that often travel longer distances per trip, and have a larger share of trucks and SUVs driven than do urban communities. Tips for communications include:
 - Promote shared EV charging locations that can offset cost and maximize use.
 - Provide targeted EV maintenance training for rural community mechanics.
 - Consider PHEVs instead of BEVs until the EV infrastructure is more robust.
 - Share audience specific performance information (e.g., EVs generate much more torque than ICEs, which can benefit trucks that perform hauling activities).
- **Urban Communities** tend to have a more complete transportation infrastructure, including EV charging, bicycle facilities, and transit. Trips may be shorter, enabling drivers to charge exclusively at home. However, there is often a greater percentage of residents who live in multifamily housing and therefore do not have access to at-home charging. Tips for communications include:
 - Consider co-locating EV charging - with transit and bicycle facilities, and shared mobility options - to create mobility hubs.
 - Promote workplace charging which can enable residents living in multifamily households to purchase an EV.
 - Target outreach to encourage multifamily property owners to provide charging for their residents.
- **Tourist Destinations** can use EV infrastructure to stimulate economic activity by placing charging near lodging, shopping, and dining establishments. Tips for communications from the Electric Byways Toolkit (Colorado Tourism Office, 2020) include:
 - Install EV chargers where one might want to encourage tourists to stop.
 - Create EV-specific itineraries for visitors traveling by EV, thereby capturing an entirely new niche audience for rural areas.
- **Mountain Communities** must account for steeper grades and colder climates along with the Rural Communities considerations discussed above. Tips for communications include:
 - Start integrating EVs into your vehicle replacement plan now. The State's recent adoption of the Zero Emission Vehicle standard means that more EV four-wheel driving options will likely be available in the next few years.
 - When considering EVs, account for the fact that cold weather limits the range of currently available electric vehicles.
 - Provide peer sharing opportunities so fleet managers and/or residents can hear firsthand how EVs perform in colder weather - to help ease performance concerns.

- **Bedroom Communities** have many residents who live in the community but work elsewhere. This often leads to longer commutes and range anxiety. Tips for communications include:
 - Collaborate with nearby communities to ensure workplace charging is available.
 - Provide opportunities for public education or “EV 101” to help dispel the range anxiety myth by highlighting current technology and models with a range of more than 100 miles.



Focus Area 1: Public Sector

The Public Sector focuses on increasing the adoption of EVs and the installation of charging infrastructure by public entities such as local governments. Successful implementation of the strategies in this focus area will require funding and training opportunities for fleet electrification and charging infrastructure installation, as well as opportunities to partner on community outreach activities and the expansion of public charging infrastructure. In order to avoid duplicative efforts, it is critical that NCCC coordinates with other entities working to promote EV adoption.

Targets:

- Provide support for the installation of 20 public EV charging stations each year, with a focus on DC fast chargers.
- Provide EV advisory services to 10 organizations each year.

Strategy 1-1: Support Public Entities in the Identification and Installation of Public Charging Stations

Increase the number of public charging stations by supporting local governments and other public agencies as they identify locations, leverage funding resources, and install public charging stations.

Implementation Actions

- **Research:** Explore sponsorship models to address cost-sharing barriers for grant programs, including the CEO DC Fast Charging Plaza Grant program.
- **Connect:** Provide communities with information about the CEO DC Fast Charging Plaza Grant program, providing information about the benefits as well as siting considerations.
- **Connect:** Connect communities with funding opportunities in partnership with Clean Cities.
- **Advise:** Work with local governments and utilities to map ideal public charging station locations.
- **Advise:** Build on lessons learned with Utah Clean Cities; support charging infrastructure and signage at National Parks, State Parks, and other tourist

destinations along scenic byways (e.g., Dinosaur Ridge, Dinosaur National Park, Roosevelt National Park).

- **Advise:** Support corridor-based and community-based EV charging

Partners and Resources

- [Xcel Energy EV Supply Infrastructure Program](#)
- Partners in Energy support developing outreach materials (e.g., social media content, flyers), identifying potential charging sites, and developing partnerships
- Colorado Energy Office
 - [DC Fast-Charging Plazas grant program](#)
 - [EV Fast-Charging Corridors project](#)
 - [Charge Ahead Colorado grant program](#)
 - [ReCharge Colorado program](#)
- [Colorado Tourism Office Electric Byways Toolkit](#)
- [U.S. Department of Energy \(DOE\) Office of Energy Efficiency and Renewable Energy \(EERE\) funding](#)
- Outreach Partners
 - Colorado Electric Vehicle Coalition
 - Clean Energy Economy for the Region (CLEER)
 - Southwest Energy Efficiency Project (SWEEP)
 - Northern Colorado Renewable Energy Society (NCRES)
 - Regional Air Quality Council (RACQ)
 - Sustainable Living Association

Strategy 1-2: Support the Development of Community EV Plans

Increase the number of communities with EV plans in coordination with the State, neighboring communities, and local utilities by collecting best practices, connecting communities with planning resources, participating in the planning process, spreading awareness of plan development, and helping implement community EV plans.

Implementation Actions

- **Research:** Reach out to communities in Northern Colorado with EV plans, to collect best practices.
- **Connect:** Work with CEO and SWEEP to share EV-readiness plans across Colorado.
- **Connect:** Connect communities with funding opportunities for EV planning.
- **Connect:** Connect communities with resources for setting EV goals and commitments.
- **Advise:** Participate in community EV planning efforts as a stakeholder and implementation partner.
- **Advise:** Supporting communities in the planning and development of transportation hubs that increase EV adoption for Transportation Network Companies (TNCs).

Partners and Resources

- [Partners in Energy EV Toolkit](#)
- [Partners in Energy community EV planning program](#)
- Partners in Energy support developing partnerships
- [Colorado Department of Local Affairs \(DOLA\) Renewables and Clean Energy Challenge grant program for EV planning](#)
- [GoEV City Policy Toolkit](#)
- Outreach Partners
 - Colorado Energy Office (CEO)
 - Southwest Energy Efficiency Project (SWEEP)

Strategy 1-3: Provide Guidance for Communities That Want to Adopt EV-Friendly Policies

Help local governments adopt EV-ready building codes, development standards, and permitting processes by leveraging examples from other communities and other existing resources.

Implementation Actions

- **Research/Advise:** Develop list of local agencies and committees that draft transportation, energy, and environmental policies - in order to find which levels of local government are best suited to electrification efforts and outreach. Start with mayor's offices, city councils, local committees, public works departments, and if applicable, transportation or environmental departments.
- **Connect:** Provide local governments with educational materials about EV-friendly development standards, permitting processes, and charging station policies.
- **Connect:** Promote the Colorado Energy Office Advanced Building Code Adoption Toolkit (p.20 CO EV Plan 2020) to local governments.
- **Connect:** Share examples from other communities, using the GoEV City Policy Toolkit and other Colorado community examples.
- **Connect:** Promote partial or full adoption of 2021 International Energy Conservation Code (IECC) building code, including explanation of cost/benefits. Prioritize communities that do not plan to adopt the 2021 IECC within the next five years.
- **Advise:** Help organize and facilitate local government staff trainings about EV charging standards, including building codes, parking standards, parking guidance, parking fees, permitting fees, and signage best practices.

Partners and Resources

- Partners in Energy support developing outreach materials (e.g., social media content, flyers)
- [Colorado Energy Office Advanced Building Code Adoption Toolkit](#)
- [SWEEP EV Infrastructure Building Codes: Adoption Toolkit](#)

- [GoEV City Policy Toolkit](#)
- [Colorado Department of Local Affairs Renewables and Clean Energy Challenge grant program for EV planning](#)
- Outreach Partners
 - Colorado Energy Office (CEO)
 - Southwest Energy Efficiency Project (SWEET)

Strategy 1-4: Support Municipal Fleet Conversions

Increase the conversion of municipal fleets to EVs through outreach and training for fleet managers, promoting participation in fleet EV utility programs, and providing procurement support. Support includes light-duty and heavy-duty fleets, as well as mowers, motorcycles, and other smaller electric vehicles.

Implementation Actions

- **Research:** Conduct listening sessions to learn best practices and challenges from public fleets' electrification efforts in order to develop Colorado-specific case studies and enhance Clean Cities national materials.
- **Research:** Identify fleet manager conferences and publications for partnership and outreach opportunities.
- **Research:** Work with local workforce development programs to develop supportive technical materials (e.g., recommended specs)
- **Connect:** Provide public fleets with reference materials for fleet electrification funding opportunities, including a case study of the first CEO DC Fast Charging Plaza Grant program awardees.
- **Connect:** Continue to support local governments as they navigate and apply for grant programs and other funding opportunities.
- **Connect:** Provide local governments with educational materials about utility fleet electrification programs.
- **Connect:** Provide local governments with recommended specs for fleet EV procurement.
- **Connect:** Facilitate information sharing about EV programs among electric utilities.
- **Connect:** Connect fleet technicians with EV training and certification programs, in coordination with community college automotive programs.
- **Connect:** Celebrate leaders in fleet electrification by sharing successes, lessons learned, and best practices among municipal fleet staff.
- **Advise:** Host online educational training for fleet managers, in coordination with other Clean Cities organizations.
- **Advise:** Continue to provide fleet analysis using Clean Cities tools (e.g., Alternative Fuel Life-Cycle Environmental and Economic Transportation (AFLEET), Greenhouse gases, Regulated Emissions, and Energy use in Transportation (GREET)).

Partners and Resources

- [Xcel Energy Fleet Advisory Electrification Program](#)

- Partners in Energy support developing outreach materials (e.g., social media content, flyers)
- [Clean Cities fleet analysis tools](#)
- [ALT Fuels Colorado funding program](#)
- [Colorado Department of Local Affairs Renewables and Clean Energy Challenge grant program for EV planning](#)
- State bid for telematic services
- [Aims Community College Automotive Collision Technology Program](#)
- Outreach Partners
 - Peer Clean Cities organizations
 - Fleet manager associations
 - Colorado Rural Electric Country Life publication
 - Fleet Pros newsletters
 - Colorado Division of Fire Prevention and Control safety trainings



Focus Area 2: Residential Sector

The Residential Sector focuses on increasing the adoption of EVs for personal use, including ownership, leasing, and carshare. Successful implementation of strategies in this focus area will require outreach and programs to address affordability and maintenance concerns. To avoid duplicative efforts, it is critical that NCCC coordinates with other entities working to promote EV adoption.

Target:

- Achieve 40,000 impressions each year through events and social media, with a stretch goal of 80,000 impressions.

Strategy 2-1: Promote EV Awareness through Community Outreach and Education Efforts

Increase EV awareness and ownership by developing educational content, including online materials, videos, webinars, EV 101 workshops, and Ride and Drive events. As a ReCharge Coach, NCCC committed to hosting six Ride and Drives events per 12 months, starting August 2020.

Implementation Actions

- **Research:** Develop safety precautions and explore virtual workshop options (to respond to COVID-19 limitations) in collaboration with other ReCharge Coaches.
- **Connect:** Add educational content to the NCCC website and integrate content into NCCC newsletters and other outreach channels.
- **Connect:** Create and implement a schedule of educational videos, webinars, and other virtual experiences (e.g., charging at tourist destinations) and share educational EV webinars from other organizations.

- **Connect:** Develop and implement an annual plan for educational workshops - including partners, formats, and tailored messages for each audience.

Partners and Resources

- [Xcel Energy residential EV programs](#)
- Partners in Energy support developing outreach materials (e.g., social media content, flyers) and planning workshops (e.g., developing and reviewing content, event promotion)
- Colorado Energy Office
 - Market research study
 - [ReCharge Colorado](#)
- Vehicle manufacturers' virtual driving experiences
- Outreach Partners
 - Peer ReCharge Colorado Coaches
 - Colorado Electric Vehicle Coalition
 - Northern Colorado Renewable Energy Society (NCRES)
 - Regional Air Quality Council (RAQC)
 - Sustainable Living Association
 - Forth Mobility

Strategy 2-2: Develop a Supported Process to Help Residents Identify and Procure the Most Appropriate EV

Increase EV awareness and ownership by developing educational materials that help individuals feel confident while shopping for an EV. The materials should include information about available incentives and how to select an EV based on the individual's typical commute and needs.

Implementation Actions

- **Connect:** Share the Xcel Energy Advisor tool and other tools that help individuals decide which EV and charging station type is right for their lifestyle.
- **Connect:** Develop preferred dealer partner list or share Xcel Energy's preferred dealer list.
- **Connect:** Continue to organize group buys and promote group buys hosted by other organizations.
- **Connect:** Work with outreach partners to develop educational materials that help individuals install at-home charging stations.
- **Advise:** Provide online contact information and advising services for individuals interested in purchasing an EV through group buys.
- **Advise:** Work with outreach partners and auto dealerships to provide consistent messaging.
- **Advise:** Using the results of the CEO market research study, support the development of a CEO statewide education and awareness campaign.

Partners and Resources

- [Xcel Energy EV Advisor Tool and preferred dealer list](#)
- Partners in Energy support developing outreach materials (e.g., social media content, flyers)

- Colorado Energy Office
 - Market research study
 - [ReCharge Colorado](#)
- Auto dealerships
- Outreach Partners
 - Peer ReCharge Colorado Coaches
 - Colorado Electric Vehicle Coalition
 - Forth Mobility
 - Utilities
 - Local governments

Strategy 2-3: Promote Charging Infrastructure at Multifamily Properties

Support EV ownership by multifamily property residents by increasing charging infrastructure at apartments, condos, and other multifamily properties.

Implementation Actions

- **Research:** Conduct listening sessions with multifamily property owners to learn best practices and challenges, in order to develop best practices.
- **Connect:** Provide targeted outreach to multifamily property owners who may be interested in EV infrastructure funding opportunities.
- **Advise:** Conduct site visit analysis using DOE and CEO tools, providing best practices for installing Level 2 and 3 charging stations.

Partners and Resources

- Partners in Energy support developing outreach materials (e.g., social media content, flyers)
- [Clean Cities site analysis tools](#)
- [Charge Ahead Colorado program](#)

Strategy 2-4: Develop and Promote a Network of Professionals to Support EV Owners

Support individual EV ownership by developing a network of professionals in the auto industry that understands EVs and encourages EV adoption.

Implementation Actions

- **Research:** Work with local workforce development programs to develop supportive training materials.
- **Connect:** Connect auto dealerships with EV resources and training programs.
- **Connect:** Connect auto repair shops with EV resources and training programs.
- **Connect:** Connect electricians with residential charging station installation resources and training programs.

Partners and Resources

- [Xcel Energy EV Trade Partner Resource Center](#)
- Partners in Energy support developing outreach materials (e.g., social media content, flyers) and organizing and marketing EV training programs

- [PlugStar EV Dealers Training](#)
- [Aims Community College Automotive Collision Technology Program](#)
- Outreach Partners
 - Peer ReCharge Colorado Coaches
 - Colorado Electric Vehicle Coalition
 - Forth Mobility



Focus Area 3: Commercial Sector

The Commercial Sector focuses on increasing the adoption of EVs and the installation of charging infrastructure by commercial entities such as retail shops and offices. Successful implementation of strategies in this focus area will require funding and training opportunities for fleet electrification and charging infrastructure installation. In order to avoid duplicative efforts, it is critical that NCCC coordinates with other entities working to promote EV adoption.

Target:

- Engage at least 30 businesses each year, resulting in 5 commitments to fleet conversion and 15 commitments to charging station installation.

Strategy 3-1: Support Commercial Fleet Conversions

Increase the conversion of commercial fleets to EVs through outreach and training for fleet managers - promoting participation in fleet EV utility programs and providing procurement support.

Implementation Actions

- **Research:** Conduct listening sessions with fleet managers to understand needs and priorities.
- **Research:** Identify fleet manager conferences and publications for partnership and outreach opportunities.
- **Research:** Maintain an updated list of all business EV funding opportunities.
- **Research:** Work with local workforce development programs to develop supportive technical materials (e.g., recommended specs).
- **Research:** Work with CSU and other Northern Colorado Universities to identify state or external funding mechanisms and industry partnerships in support of a research project in Colorado supporting the development of EV related technology such as battery second use cases, Colorado utility business models, IT systems associated with intelligent transportation systems and zero emission vehicles, and smart and light and heavy-duty vehicle charging.
- **Connect:** Continue to support businesses as they navigate and apply for EV tax credits, grant programs, utility programs, and other funding opportunities.
- **Connect:** Provide businesses with educational materials about fleet EV utility programs.

- **Connect:** Provide businesses with a list of available fleet vehicle options and recommended specifications for fleet EV procurement.
- **Connect:** Work with business groups to facilitate peer information exchanges about EVs.
- **Connect:** Connect fleet technicians with EV training and certification programs, in coordination with community college automotive programs.
- **Advise:** Host online educational training for fleet managers, in coordination with other Clean Cities organizations.
- **Advise:** Continue to provide fleet analysis using Clean Cities tools (e.g., AFLEET, GREET).

Partners and Resources

- [Xcel Energy Fleet Electrification Advisory Program](#)
- Partners in Energy support developing outreach materials (e.g., social media content, flyers) and providing content for online educational trainings
- [Clean Cities fleet analysis tools](#)
- [Charge Ahead Colorado grant program](#)
- [ALT Fuels Colorado funding program](#)
- [Aims Community College Automotive Collision Technology Program](#)
- [Colorado State University](#)
- [University of Northern Colorado](#)
- [Front Range Community College](#)
- Outreach Partners
 - Peer Clean Cities organizations
 - Business associations
 - Fleet manager associations
 - Colorado Rural Electric Country Life publication
 - Fleet Pros newsletters
 - Colorado Division of Fire Prevention and Control safety trainings

Strategy 3-2: Encourage Businesses to Provide Workplace and Public Charging Options

Conduct outreach to businesses regarding installing EV charging stations for employee use and public use, ensuring businesses take advantage of EV funding opportunities.

Implementation Actions

- **Research:** Create criteria (e.g., locations with a less established network of EV chargers, areas with historical underinvestment or disproportionate air pollution burden, urban areas where employees are more likely to live in multifamily housing) to help prioritize outreach to businesses.
- **Connect:** Create and implement a business outreach schedule in coordination with local economic development offices.
- **Connect:** Provide educational materials for siting, signage, and rate selection.
- **Advise:** Host EV 101 workshops for workplaces that install workplace charging.

Partners and Resources

- [Xcel Energy EV Supply Infrastructure Program](#)
- Partners in Energy support developing outreach materials (e.g., social media content, flyers) and providing content for workshops
- [Charge Ahead Colorado grant program](#)
- Outreach Partners
 - Business associations
 - Local economic development offices

Strategy 3-3: Promote Heavy-Duty Fleet Conversions

Support heavy-duty fleets, including school buses and transit buses, by using telematics to understand vehicle usage and identify vehicles that can be replaced with EVs.

Implementation Actions

- **Research:** Conduct interviews or listening sessions with heavy-duty fleet managers to understand needs and priorities.
- **Connect:** Provide resources about heavy-duty fleets on the NCCC website.
- **Connect:** Create and implement a schedule of heavy-duty fleet EV demonstrations.
- **Connect:** Work with business groups to facilitate peer exchanges on heavy-duty EVs.

Partners and Resources

- Partners in Energy support developing outreach materials (e.g., social media content, flyers)
- [ALT Fuels Colorado funding program](#)
- ChargePoint heavy duty fleet conversion advisory services
- Outreach Partners
 - Colorado Electric Vehicle Coalition
 - Business associations
 - Fleet manager associations

HOW WE STAY ON COURSE



This EV planning effort yielded ambitious yet achievable goals that align with the 2020 Colorado EV Plan. To achieve the targets and EV goals outlined in this plan, NCCC and its partners will work to maintain consistent communication to work out the details of strategy implementation, follow through with identified actions, and share progress and results. As strategies are implemented, additional resources to support the EV transition are available at xcelenergycommunities.com/evtoolkit. The most up-to-date information about Xcel Energy's EV programs and offerings, as well as basic information to help support EV adoption, can be found at XcelEnergy.com/EV.

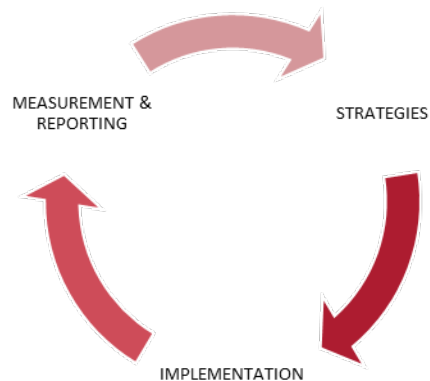


Figure 7: Actions and Tracking

Adapting to a Changing Landscape

Even though this plan outlines strategies to promote EV adoption over the next 10 years, an effective plan is cyclical in nature (see Figure 7). In addition, the nature of implementation requires staging, flexibility, and course adjustment when necessary, to be successful and to sustain progress.

Furthermore, the focus area work plans reflect the current situation for a rapidly evolving technology. It will be important to evaluate and update strategies throughout implementation to reflect advancements and new offerings from the automotive and transportation industry and Xcel Energy. Throughout the planning process, we worked

to build relationships between NCCC staff, stakeholders, and Xcel Energy staff who will foster the collaboration and cooperation required to successfully navigate the changing EV landscape.

Tracking Progress and Adjusting Course

To ensure this plan remains on track, the team will track the metrics outlined in Table 2 to review progress toward stated focus area targets on an annual basis.

Table 2: Focus Area Tracking Summary

Focus Area	Public Sector	Residential Sector	Commercial Sector
Target	Provide support for the installation of 20 public EV charging stations each year. Provide EV advisory services to 10 organizations each year.	Achieve 40,000 impressions each year through events and social media, with a stretch goal of 80,000 impressions.	Engage at least 30 businesses each year, resulting in 5 commitments to fleet conversions and 15 commitments to charging station installations.
Metric	Number of public charging stations Number of organizations	Number of impressions on social media Number of attendees	Number of businesses
Data Source	US DOE Alternative Fuels Data Center NCCC records	NCCC social media tools and event attendance sheets or count	NCCC records

Beyond the Plan Horizon

We developed this EV roadmap to focus on accelerating the adoption of BEVs and PHEVs, key pieces to near-term transportation electrification. This is a major component of NCCC's mission. As markets and technologies continue to evolve, NCCC will continue to look toward broader alternative fuels technology and will update goals, adapt existing strategies, and develop new strategy ideas in coordination with Xcel Energy and other electric providers - to continue making progress toward NCCC's overall vision.

APPENDIX A: ELECTRIC VEHICLES 101



Since electric vehicles (EVs) are an emerging technology that is rapidly changing, it is important to ensure that everyone has a common understanding of the technology and terminology involved. This section explains the basics of currently available types of vehicles and charging stations, as well as the associated uses, barriers, and benefits. Note, while electric options are available for medium- and heavy-duty vehicles, the descriptions provided in this section apply primarily to light-duty vehicles, which make up most of the electric vehicle market today.

Electric Vehicle Basics

EV refers to any vehicle that uses an electric motor. An EV can have a fully electric motor or can contain an internal combustion engine (ICE) that supports the electric motor. The travel range of each type is outlined in Table 3 and described in more detail in the following sections.

Table 3. Comparison of Types of Electric Vehicles

Electric Vehicle Type	Power Source	Travel Range
Battery Electric Vehicle (BEV)	Electric Motor	80 – 400 miles
Plug-in Hybrid Electric Vehicle (PHEV)	Electric Motor + Gasoline Engine	350 – 600 miles
Hybrid Electric Vehicle (HEV)	Electric Motor + Gasoline Engine	350 – 600 miles

Battery Electric Vehicle (BEV)

A BEV is an all-electric vehicle that does not require gasoline and, thus, has no tailpipe emissions. BEVs are fueled by plugging into charging stations or a standard 110-volt or 220-volt wall outlet. Energy is stored in the battery, to be used when the car is running.

The distance BEVs can travel on a single charge ranges from 80 to 400 miles, with longer distances promised in the future through continual advancements in battery technology. Recharging can take between 10 minutes and 12 hours depending on the type of charger, size of battery, distance of trip, and level of depletion of battery (Drive Change. Drive Electric., 2019).

Plug-In Hybrid Electric Vehicle (PHEV)

A PHEV provides a combination of both an electric motor and a gasoline engine, and produces less tailpipe emissions than a traditional ICE. PHEVs use energy from the electric motor until the battery charge is fully depleted (which can occur between 15 and 50 miles); at this point the gasoline engine takes over. The distance a PHEV can travel on a single charge and full tank of gasoline ranges between 350 and 600 miles. The battery is charged (similar to the BEV) through a charging-station plug or a standard 110-volt or 220-volt wall outlet, and the fuel tank is filled at a traditional gas station (Drive Change. Drive Electric., 2019).

Hybrid Electric Vehicle (HEV)

Similar to the PHEV, an HEV has both an electric motor and a gasoline engine. In an HEV, the gasoline engine is used to power a generator which powers the electric motor. The benefit of this system is that the ICE can run at a constant speed and greatly increase the vehicle's fuel efficiency compared to traditional ICE vehicles. However, the battery cannot be charged by an external electricity source, which means the vehicle always relies on the gasoline engine.

Charging Stations

EV charging stations are separated into three categories, based on the speed at which the vehicle is charged: Levels 1, 2, and 3. Level 3 chargers are also known as DC fast chargers. The sections below detail the appropriate application for each charger type.

Residential Charging Stations

Residents have two options for at-home charging. Level 1 chargers use standard 120-volt AC outlets and can take 8 to 12 hours to fully charge a depleted battery. Level 2 chargers require a 240-volt AC outlet and can fully charge a depleted battery in 4 to 6 hours. Residents can charge during off-peak hours to reduce the impact on the grid and can sometimes reduce charging costs with off-peak pricing. Table 4 provides a brief explanation, along with the pros and cons of both types. All currently available EVs can use either charger type.

Table 4. Residential Electric Vehicle Charging Types

	LEVEL 1	LEVEL 2
Electric Current (AC)	120 volts; 20 amps	208/240 volt; 30 amps
Charging Rate (miles range per hour of charging)	2 to 5	10 to 20
Benefits	<ul style="list-style-type: none"> • Uses standard residential wall outlet 	<ul style="list-style-type: none"> • Quicker charging

	LEVEL 1	LEVEL 2
Drawbacks	<ul style="list-style-type: none"> Little to no investment in infrastructure required Slower charging rate, but usually sufficient for residents who charge overnight or do not drive more than 30 miles per day. 	<ul style="list-style-type: none"> Some models have available Wi-Fi controls, to allow residents to take advantage of time-of-day electric rates In the case of multifamily housing, controls could be managed by property manager. Requires 240 volt outlet or hardwired charger Electrician likely required for installation Higher infrastructure investment
Estimated Costs	Low to no cost	\$500 to \$2,000 (US DOE, 2019)

Commercial Charging Stations

Commercial Level 2 and 3 chargers are most appropriate for commercial applications since the EVs are generally parked for shorter periods of time than in residential applications. Level 2 commercial chargers are the same as Level 2 residential chargers and often have the option to include two charging ports at one station. Level 3 (DC fast chargers) require an industrial DC outlet of 480 volts and can charge batteries in 20 to 30 minutes. Many commercial chargers also come equipped with software that allows the user to control when vehicles are charging and may also allow facilitation of payment in public applications. Table 5 shows the advantages and disadvantages of Level 2 and Level 3 chargers.

Table 5. Levels 2 and 3 Charging Infrastructure

	LEVEL 2	LEVEL 3 (DC Fast Charger)
Electric Current	208/240 volt; 30 amps (AC)	480 volts DC
Charging Rate (miles range per hour of charging)	10 to 25	Up to 600
Benefits	<ul style="list-style-type: none"> More economical than Level 3 Safe for long-term use 	<ul style="list-style-type: none"> Fastest charging option available
Drawbacks	<ul style="list-style-type: none"> Slower charging 	<ul style="list-style-type: none"> Very expensive to purchase and install
Estimated Costs	\$500 to \$5,000 (US DOE, 2019)	As high as \$100,000

Benefits of EVs

Benefits of EVs are both environmental and economic. By replacing ICE vehicles with EVs, transportation related GHG emissions are significantly reduced and air quality is improved. As the need for imported petroleum to support transportation decreases through the integration of EVs, domestically available fuel sources can shift into focus, resulting in energy independence and domestically regulated fuel prices. Furthermore, the individual consumer will experience lower fuel and maintenance costs with the transition to EVs and continued advancements in battery and charging technologies. The sections below provide additional details regarding the benefits of EVs.

Reduce GHG Emissions

EVs can significantly decrease GHG emissions associated with on-road transportation, which overtook electricity generation as the largest source of GHG emissions in the US in 2017 (Environmental Protection Agency, 2019). The amount of emissions reduction depends on the electricity generation fuel mix of the local electricity grid. National trends suggest that electric utilities are improving emissions from electricity generation at a faster rate than fuel economy is improving in ICE vehicles. EV charging can be paired with residential roof-top solar, commercial solar parking structures, and community solar to further reduce associated GHG emissions. Xcel Energy has goals to reduce carbon emissions 80% by 2030 and to be carbon free by 2050 (Xcel Energy, 2019). By transitioning to cleaner energy sources, Xcel Energy is supporting its customers in reaching their own community goals of achieving carbon neutrality.

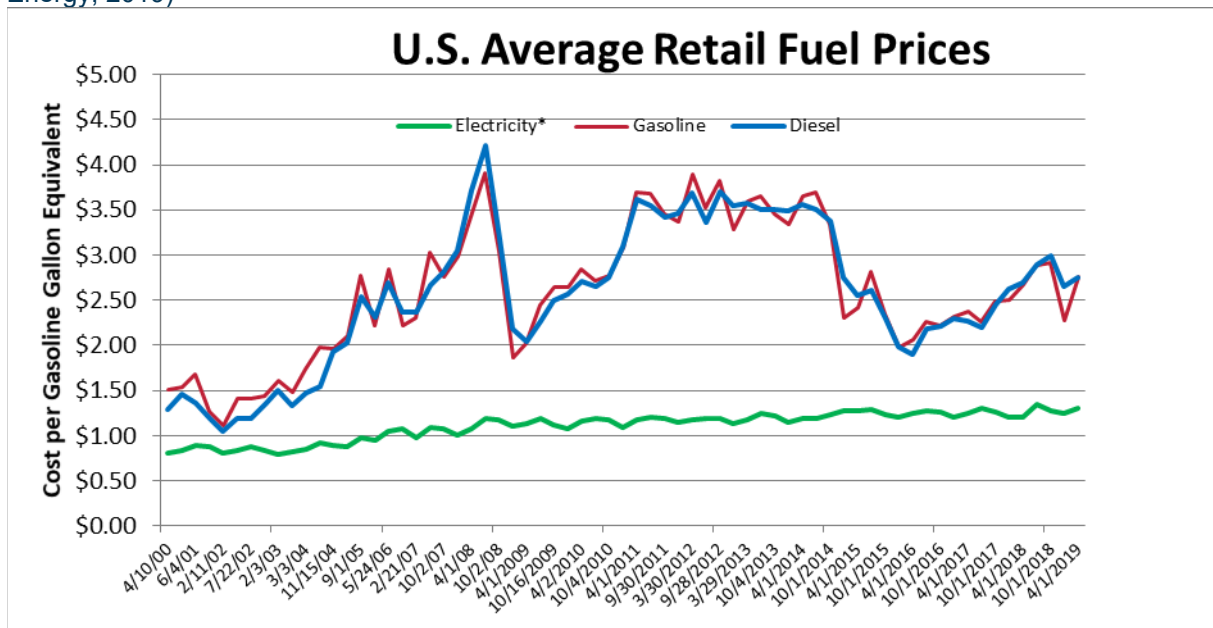
Air Quality

Use of traditional ICE vehicles contributes to Ozone and fine particulate (PM_{2.5}) air pollutants, especially along heavily traveled routes. These pollutants have been linked to respiratory problems such as asthma, cardiopulmonary disease, and premature death for people with chronic exposure. These pollutants are significantly reduced in the case of HEVs and PHEVs, and completely eliminated in BEVs. A study of the Houston area found that moderate to complete vehicle electrification would reduce Ozone by 1 to 4 ppb and PM_{2.5} by 0.5 to 2 μgm^{-3} . This change was estimated to prevent 114 to 246 premature deaths annually, significantly reduce asthma exacerbation by 7,500 cases, and reduce school loss days by 5,500 (Pan, et al., 2019).

Energy Independence and Cost Stability

Over 65% of the petroleum imported to the US in 2018 was used for transportation fuel. Transitioning to EVs shifts the fuel source to more domestically available sources such as coal, nuclear, natural gas, and renewable energy. Integration of EVs is an important strategy for reducing dependence on fuel imports and it also isolates transportation costs from the volatile petroleum market (Office of Energy Efficiency and Renewable Energy, 2018). Figure 8 illustrates the fluctuations in gasoline and diesel prices, compared to electricity prices, from 2000 to 2019.

Figure 8: US Average Retail Fuel Prices. Adapted from: (Office of Energy Efficiency and Renewable Energy, 2019)



Lower Fuel & Maintenance Costs

While cost savings vary based on vehicle type, driving patterns, and geographic region, the average EV driver spends about half as much money in fuel and maintenance costs as the traditional ICE driver (Office of Energy Efficiency and Renewable Energy, 2019). The average US household spends about 13% of their annual income on transportation costs, while the average low-income household spends about 29% of their annual income on transportation costs (Institute for Transportation And Development Policy, 2019). The transition to EVs would result in significant savings for the individual consumer.

APPENDIX B: XCEL ENERGY'S PARTNERS IN ENERGY EV PLANNING PROCESS



About Xcel Energy's Partners in Energy

Xcel Energy is an electric and natural gas utility that provides the energy to power millions of homes and businesses across eight Western and Midwestern states. Each community Xcel Energy serves has its own unique priorities and vision for energy. Energy is a dynamic topic, and it's changing rapidly with new ways to save, the growth of renewables, electric vehicles, and changing regulations. With these competing priorities and stretched resources, creating and maintaining an energy-conscious culture within your community can be a missed opportunity in meeting energy and sustainability goals. In the summer of 2014, Xcel Energy launched Partners in Energy as a collaborative solution for communities to reach their energy goals (see Figure 9). In 2019, Partners in Energy launched an EV-specific planning process to help communities develop plans to meet their EV goals.



Figure 9: Partners in Energy Process for Success

Plan Development Process

The content of this plan was developed over the course of seven months, beginning with a kickoff meeting held in February 2020. During this kickoff meeting, roles and

responsibilities of the planning team were confirmed and preliminary priorities were identified. The planning team included Partners in Energy facilitators, Xcel Energy representatives, and NCCC stakeholders.

Following this kick-off meeting, Workshop 1 was held virtually, to accommodate the social distancing response to COVID-19. During Workshop 1, NCCC stakeholders were provided baseline information about EVs in Colorado, including market share and public charging infrastructure. The planning team used this information to draft a preliminary vision for the EV Plan, confirm focus areas, draft preliminary targets for each focus area, and begin brainstorming strategies.

Following Workshop 1, the planning team participated in a survey to identify potential barriers to achieving draft targets as well as to brainstorm additional strategies to overcome these barriers. During Workshop 2, the planning team prioritized the strategies identified in the survey and drafted key details for the top strategies in each focus area. Two focus group calls were held after Workshop 2 to complete strategy details including finalizing focus area targets and identifying implementation actions and resources. This EV Plan was developed using the information identified during the two workshops and focus group calls, and was then reviewed and refined by the planning team.

Plan Implementation

Partners in Energy provides 18 months of support for implementation of an EV action plan. This support includes outreach efforts, material development, partnership development, event planning and more (see Figure 10). Throughout the plan, strategies that will be supported by Partners in Energy staff are identified, and the memorandum of understanding for this support is shown in Appendix C: Implementation Memorandum of Understanding.



Figure 10: Resources from Xcel Energy for Implementation

APPENDIX C: GLOSSARY OF TERMS



15 x 15: Xcel Energy’s privacy rule, which requires all data summary statistics to contain at least 15 premises, with no single premise responsible for more than 15% of the total. Following these rules, if a premise is responsible for more than 15% of the total for that data set, it is removed from the summary.

Alternating current (AC): The most common form of electricity used in homes and businesses uses alternating current where the current periodically changes direction. Batteries require DC electricity to charge, so EV chargers must convert the supplied AC electricity to DC power.

Amps: The measurement of the amount of electrical energy “flowing” through a charger. This is determined by the electrical load required by the equipment and can vary over time.

Battery Electric Vehicle (BEV): An all-electric vehicle, fueled by plugging into an external charger or wall outlet, that has no tailpipe emissions. Requires low maintenance costs.

Carbon-free: Carbon-free refers to sources of energy that will not emit additional carbon dioxide into the air. Wind, solar and nuclear energy are all carbon free sources but only wind and solar are renewable.

Carbon-neutral: Carbon-neutral, also described as “net zero” could include carbon-free sources but is broader and refers to energy that removes or avoids as much carbon dioxide as is released over a set period of time. Carbon-neutral is sometimes used to describe a site that produces an excess amount of electricity from a renewable energy source, such as solar, compared to what it consumes. That excess energy is put back

into the grid in an amount that offsets the carbon dioxide produced from the electricity it draws from the grid when it is not producing renewable energy.

Community Data Mapping: A baseline analysis of energy data in a geospatial (map) format across the community.

Demand Side Management (DSM): Modification of consumer demand for energy through various methods, including education and financial incentives. DSM aims to encourage consumers to decrease energy consumption, especially during peak hours, or to shift time of energy use to off-peak periods, such as nighttime and weekend.

Direct Current (DC): The form of electricity where the current only flows in one direction. This is the type of electricity that batteries supply and require to charge. EV chargers must convert the supplied AC electricity to DC power.

Direct Installation: Free energy-saving equipment, installed by Xcel Energy or other organization for program participants, that produces immediate energy savings.

Electricity Consumption: Measured in kilowatt-hours (kWh) and represents the amount of electricity that has been consumed over a certain time period.

Electric Demand: Measured in kilowatts (kW) and represents the rate at which electricity is consumed. Most commercial energy rates incorporate a charge for electric demand as well as electric consumption.

Electric vehicle (EV): A vehicle that uses an electric motor for all or part of its propulsion.

Electric vehicle supply equipment (EVSE): Infrastructure required to support EVs (e.g., chargers, electrical supplies).

Energy Burden: Percentage of gross household income spent on energy costs.

Greenhouse Gases (GHG): Gases in the atmosphere that absorb and emit radiation and significantly contribute to climate change. The primary greenhouse gases in the earth's atmosphere are water vapor, carbon dioxide, methane, nitrous oxide, and ozone.

Grid Decarbonization: The current planned reduction in the carbon intensity of electricity provided by electric utilities through the addition of low- or no-carbon energy sources to the electricity grid.

Heavy-duty vehicles: Commercial vehicles over a minimum Gross Vehicle Weight Rating (GVRW) of 8,500 lbs.

Hybrid Electric Vehicle (HEV): Contains both an electric motor and a gasoline engine. The gasoline engine powers a generator that charges the battery, which powers the electric motor. No external battery charger is used. Runs at a constant speed, which increases fuel efficiency.

Internal combustion engine (ICE): Traditional vehicle engine that uses the direct combustion of gasoline, diesel, or other fuels.

Kilowatt-hour (kWh): The amount of electricity being sent to the EV battery from the charger in one hour. This is calculated by volts times amps divided by 1,000.

Level 1 Charging Station: Uses a standard 120-volt AC outlet and can take 8 to 12 hours to fully charge a depleted battery; intended for residential use only.

Level 2 Charging Station: Uses a 220-volt or 240-volt AC outlet and can fully charge a depleted battery in 4 to 6 hours; can be used in both residential and commercial settings.

Level 3/DC Fast Charging Station: Uses an industrial 480-volt DC outlet and can charge a battery to 80% in 20 to 30 minutes; used in commercial settings where the anticipated charge time is limited (e.g., supermarket, gas station, etc.); will be used on Alternative Fuel Corridors – a national network of major thoroughfares supporting EVs and other alternative fuels.

Light-Duty Vehicles: Passenger cars with a maximum Gross Vehicle Weight Rating (GVRW) of 8,500 lbs.

Million British Thermal Units (MMBtu): A unit of energy consumption that allows both electricity and natural gas consumption to be combined.

Metric Tons of Carbon Dioxide Equivalent (MTCO_{2e}): A unit of measure for greenhouse gas emissions. The unit "CO_{2e}" represents an amount of a greenhouse gas whose atmospheric impact has been standardized to that of one unit mass of carbon dioxide (CO₂), based on the global warming potential (GWP) of the gas.

Megawatt (MW): A unit of electric power equal to 1 million watts.

Plug-in Hybrid Electric Vehicle (PHEV/PEV): Contains both an electric motor and a gasoline engine. An external plug is used to fuel the electric motor. The electric motor is used until the battery is depleted; at this point the gasoline engine takes over. Lower tailpipe emissions than traditional ICE and longer ranges than most BEVs.

Premise: A unique identifier for the location of electricity or natural gas service. In most cases it is a facility location. There can be multiple premises per building, and multiple premises per individual debtor.

Range Anxiety: Fear of running out of power in an EV before reaching a charging station or desired destination.

Range per hour (RPH): A measurement of the miles an EV can travel on one hour of charge. This is generally applied to EV charging stations and expressed in terms of typical EV efficiency.

Renewable Energy Certificate (REC): For every megawatt-hour of clean, renewable electricity generation, a renewable energy certificate (REC) is created. A REC embodies all of the environmental attributes of the generation and can be tracked and traded separately from the underlying electricity. Also known as a Renewable Energy Credit.

Resilience: The ability to prepare for and adapt to changing conditions and withstand and recover rapidly from disruptions. Resilience includes the ability to withstand and recover from deliberate attacks, accidents, or naturally occurring threats or incidents.

Recommissioning: An energy efficiency service focused on identifying ways that existing building systems can be tuned up to run as efficiently as possible.

Solar Garden: Shared solar array with grid-connected subscribers who receive bill credits for their subscriptions.

Solar Photovoltaic (PV): Solar cells/panels that convert sunlight into electricity (convert light, or photons, into electricity, or voltage).

Subscription: An agreement to purchase a certain amount of something in regular intervals.

Therm (thm): A unit of natural gas consumption.

Trade Partner: Trade Partners, also known as Trade Allies or Business Trade Partners, are vendors and contractors who work with business and residential customers servicing, installing, and providing consulting services regarding the equipment associated with utility rebate programs. Their support for utility programs can range from providing equipment and assisting with rebate paperwork, to receiving rebates for equipment sold.

Vehicle miles traveled (VMT): A way of measuring integration of EVs and associated reduction in GHG emissions by considering electric miles that replace traditional vehicle miles.

Volts: A measurement of the force pushing the flow of energy through a charger. This measurement is determined by electricity supply. Standard household outlets provide 120 volts; outlets for dryers or other high-powered household equipment supply 240 volts.

APPENDIX D: WORKS CITED

- Center for Neighborhood Technology. (2017). *Housing + Transportation Affordability Index*. Retrieved from <https://htaindex.cnt.org/map/>
- Colorado Energy Office. (2019). *Electric Vehicle Growth Analysis*.
- Colorado Energy Office. (2020). *EVs in Colorado*. Retrieved from Colorado Energy Office: <https://energyoffice.colorado.gov/zero-emission-vehicles/evs-in-colorado>
- Colorado Tourism Office. (2020). *Electric Byways Toolkit*. Retrieved from <https://industry.colorado.com/electric-byways-toolkit>:
<https://industry.colorado.com/electric-byways-toolkit>
- Drive Change. Drive Electric. (2019). *Learn the Facts*. Retrieved August 8, 2019, from Drive Change. Drive Electric. Web site: <https://driveelectricus.com/learn-the-facts/>
- Environmental Protection Agency. (2019, August 23). *Greenhouse Gas Inventory Data Explorer*. Retrieved from Greenhouse Gas Emissions: <https://cfpub.epa.gov/ghgdata/inventoryexplorer/>
- EPA. (2019, December 16). *EPA reclassifies Denver area to "Serious" nonattainment for ozone*. Retrieved from News Releases: <https://www.epa.gov/newsreleases/epa-reclassifies-denver-area-serious-nonattainment-ozone>
- EPA. (2020, April 30). *Carbon Monoxide (1971) Maintenance Areas (Redesignated from Nonattainment) by State/County/Area*. Retrieved from Green Book: https://www3.epa.gov/airquality/greenbook/anayo_co.html
- Institute for Transportation And Development Policy. (2019, May 23). *The High Cost of Transportation in the United States*. Retrieved from Institute for Transportation And Development Policy Web site: <https://www.itdp.org/2019/05/23/high-cost-transportation-united-states/>
- IPCC. (2018). *Summary for Urban Policy: What the IPCC Special Report on Global Warming of 1.5C Means for Cities*. Intergovernmental Panel on Climate Change.
- National Renewable Energy Laboratory. (2017). *The Barriers to Acceptance of Plug-in Electric Vehicles: 2017 Update*. Golden, CO: National Renewable Energy Laboratory. Retrieved April 22, 2020, from <https://www.nrel.gov/docs/fy18osti/70371.pdf>
- Office of Energy Efficiency & Renewable Energy. (2020). *Reducing Pollution with Electric Vehicles*. Retrieved from Electric Vehicles: <https://www.energy.gov/eere/electricvehicles/reducing-pollution-electric-vehicles>

- Office of Energy Efficiency and Renewable Energy. (2018, August 23). *Electric Vehicle Benefits*. Retrieved from Electric Vehicles:
<https://www.energy.gov/eere/electricvehicles/electric-vehicle-benefits>
- Office of Energy Efficiency and Renewable Energy. (2019, September 27). *Alternative Fuels Data Center*. Retrieved from United States Department of Energy Web site: <https://afdc.energy.gov/fuels/prices.html>
- Office of Energy Efficiency and Renewable Energy. (2019, August 23). *Saving on Fuel and Vehicle Costs*. Retrieved from Electric Vehicles:
<https://www.energy.gov/eere/electricvehicles/saving-fuel-and-vehicle-costs>
- Pan, S., Roy, A., Choi, Y., Eslami, E., Thomas, S., Jiang, X., & Gao, O. (2019, June 15). Potential impacts of electric vehicles on air quality and health endpoints in the Greater Houston Area in 2040. *Atmospheric Environment*, 207, 38-51. Retrieved from
<https://www.sciencedirect.com/science/article/pii/S1352231019301840?via%3Dihub>
- State Demography Office. (2019). *State Demography Office*. Retrieved from Colorado Department of Local Affairs: <https://demography.dola.colorado.gov/>
- State of Colorado. (2020). *Colorado Electric Vehicle Plan*.
- UNFCCC. (2019). *What is the Paris Agreement?* Retrieved from United Nations Framework Convention on Climate Change Web site: <https://unfccc.int/process-and-meetings/the-paris-agreement/what-is-the-paris-agreement>
- US Census Bureau. (2018). *American Community Survey 5-Year Estimates*. Retrieved from <https://data.census.gov/cedsci/>
- US Census Bureau. (2020, April 22). *Tenure by Units in Structure*. Retrieved from 2018: ACS 1-year Estimates Detailed Tables:
https://data.census.gov/cedsci/table?q=B25032%3A%20TENURE%20BY%20UNITS%20IN%20STRUCTURE&g=1600000US0883835&tid=ACSDT1Y2018.B25032&hidePreview=false&vintage=2017&layer=VT_2018_160_00_PY_D1&cid=DP05_0001E&t=Units%20and%20Stories%20in%20Structure%3AOwner%2FR
- US Department of Energy. (2019, September 20). *Charging at Home*. Retrieved from US Office of Energy Efficiency & Renewable Energy Web site:
<https://www.energy.gov/eere/electricvehicles/charging-home>
- US Department of Energy. (2020, February). *Alternative Fueling Station Locator*. Retrieved from Alternative Fuels Data Center:
<https://afdc.energy.gov/stations/#/find/nearest>

US DOE. (2019, September 20). *Charging at Home*. Retrieved from US Office of Energy Efficiency & Renewable Energy Web site:
<https://www.energy.gov/eere/electricvehicles/charging-home>

Xcel Energy. (2019). *Carbon Free 2050*. Retrieved from Xcel Energy Web site:
https://www.xcelenergy.com/carbon_free_2050

Memorandum of Understanding Phase 2 – Plan Implementation

Northern Colorado Clean Cities
P.O. Box 977
Fort Collins, CO 80522

The intent of this Memorandum of Understanding is to recognize the achievement of Northern Colorado Clean Cities in developing an Electric Vehicle Action Plan. Xcel Energy, through its Partners in Energy offering, has supported the development of this Electric Vehicle Action Plan. This document outlines how Northern Colorado Clean Cities and Xcel Energy will continue to work together to implement this Electric Vehicle Action Plan. The term of this joint support, as defined in this document, will extend from October 1, 2020 through June 30, 2022.

Xcel Energy will support the Northern Colorado Clean Cities in achieving the goals of its Electric Vehicle Action Plan in the following ways:

Public Sector

- **Strategy 1-1: Support Public Entities in the Identification and Installation of Public Charging Stations**
 - Support outreach material (e.g., social media content, flyers) development
 - Provide support identifying potential charging sites
 - Help develop partnerships between Northern Colorado Clean Cities and communities
 - Provide updated information on Xcel Energy electric vehicle infrastructure offerings
 - Support strategy team organization, meetings, and communication
- **Strategy 1-2: Support the Development of Community Electric Vehicle Plans**
 - Help connect Northern Colorado Clean Cities to communities preparing for or conducting electric vehicle plans
 - Familiarize Northern Colorado Clean Cities with Electric Vehicle Toolkit to support planning efforts
 - Provide information on Partners in Energy community electric vehicle planning program
- **Strategy 1-3: Provide Guidance for Communities That Want to Adopt Electric Vehicle-Friendly Policies**
 - Support outreach material (e.g., social media content, flyers) development
- **Strategy 1-4: Support Municipal Fleet Conversions**
 - Support outreach material (e.g., social media content, flyers) development
 - Connect Northern Colorado Clean Cities to potential workforce development opportunities to help develop supportive technical materials (e.g., recommended specs)
 - Provide updated information on Xcel Energy fleet electric vehicle offerings

Support funded by Xcel Energy for this strategy is not to exceed 60 hours. These hours will include those provided through our Partners in Energy team from Brendle Group and do not include support provided by Xcel Energy internal program staff.

Residential Sector

- **Strategy 2-1: Promote Electric Vehicle Awareness through Community Outreach and Education Efforts**
 - Support outreach material (e.g., social media content, flyers) development
 - Provide event planning support by developing and reviewing content and developing event marketing plans
 - Provide updated information on Xcel Energy residential electric vehicle offerings
- **Strategy 2-2: Develop a Supported Process to Help Residents Identify and Procure the Most Appropriate Electric Vehicle**
 - Support outreach material (e.g., social media content, flyers) development
 - Provide updated information on Xcel Energy resources and tools
- **Strategy 2-3: Promote Charging Infrastructure at Multifamily Properties**
 - Support outreach material (e.g., social media content, flyers) development
- **Strategy 2-4: Develop and Promote a Network of Professionals to Support Electric Vehicle Owners**
 - Support outreach material (e.g., social media content, flyers) development
 - Connect Northern Colorado Clean Cities to potential workforce development opportunities to help develop training materials
 - Support the organization and marketing of electric vehicle training opportunities for auto dealerships and repair shops within Xcel Energy territory

Support funded by Xcel Energy for this strategy is not to exceed 65 hours. These hours will include those provided through our Partners in Energy team from Brendle Group and do not include support provided by Xcel Energy internal program staff.

Commercial Sector

- **Strategy 3-1: Support Commercial Fleet Conversions**
 - Support outreach material (e.g., social media content, flyers) development
 - Connect Northern Colorado Clean Cities to potential workforce development opportunities to help develop supportive technical materials (e.g., recommended specs)
 - Provide updated information on Xcel Energy fleet electric vehicle offerings
 - Provide content for online educational trainings for fleet managers
- **Strategy 3-2: Encourage Businesses to Provide Workplace and Public Charging Options**
 - Support outreach material (e.g., social media content, flyers) development
 - Provide updated information on Xcel Energy electric vehicle infrastructure offerings
 - Provide content for electric vehicle 101 workshops
- **Strategy 3-3: Promote Heavy-Duty Fleet Conversions**
 - Support outreach material (e.g., social media content, flyers) development

Support funded by Xcel Energy for this strategy is not to exceed 45 hours. These hours will include those provided through our Partners in Energy team from Brendle Group and do not include support provided by Xcel Energy internal program staff.

Project Management, Reimbursed Expenses and Bonus

- Facilitate regular check-in meetings, track and report electric vehicle adoption rates and activities and help coordinate implementation kick-off activities
- Serve as point of connection to Xcel Energy programs, including, but not limited to the Fleet Electrification Advisory Program and the Electric Vehicle Supply Infrastructure Program
- Provide updated information to Northern Colorado Clean Cities as new electric vehicle programs become available and adjust outreach materials accordingly.
- Provide up to \$1,500 for reimbursed expenses related to electric vehicle training within 50 miles of Xcel Energy’s electric service area for auto dealerships, repair shops, and similar entities and expenses related to printing and distribution of co-branded marketing materials, venue fees, food, and other related needs associated with outreach and education. Xcel Energy funding will not be provided for the purchase of alcohol.

Support funded by Xcel Energy for project management is not to exceed 39 hours. These hours will include those provided through our Partners in Energy team from Brendle Group and do not include support provided by Xcel Energy internal program staff.

Northern Colorado Clean Cities commits to supporting the Electric Vehicle Action Plan to the best of its ability by:

- Achieving the targets outlined in the electric vehicle action plan and shown in the table below:

Northern Colorado Clean Cities Electric Vehicle Action Plan Targets and Goal

Focus Area	Target
Public Sector	Provide support for the installation of 20 public electric vehicle charging stations each year. Provide advisory services to 10 organizations each year.
Residential Sector	Reach 40,000 people each year through events and social media, with a stretch goal of 80,000 people
Commercial Sector	Engage at least 30 businesses each year, resulting in 5 commitments to fleet conversions and 15 commitments to charging station installations

- Performing the coordination, tracking, and outreach duties as outlined in the Electric Vehicle Action Plan that include but are not limited to the following:

Public Sector

- **Strategy 1-1: Support Public Entities in the Identification and Installation of Public Charging Stations**
 - Research funding models for public charging infrastructure
 - Lead outreach efforts to public entities to share electric vehicle charging infrastructure funding opportunities
 - Work with public entities to map ideal charging station locations
 - Continue working with Utah Clean Cities to support charging infrastructure on scenic byways
- **Strategy 1-2: Support the Development of Community Electric Vehicle Plans**
 - Research best practices for electric vehicle planning efforts
 - Lead outreach efforts to connect communities to electric vehicle planning opportunities
 - Participate in community electric vehicle planning efforts as a stakeholder and implementation partner
- **Strategy 1-3: Provide Guidance for Communities That Want to Adopt Electric Vehicle-Friendly Policies**
 - Maintain a contact list for local agencies and committee who are responsible for electric vehicle-related policies
 - Prepare informational materials related to electric vehicle-friendly policies targeted toward public entities
 - Lead outreach efforts to connect communities to electric vehicle-friendly policy resources
 - Lead community staff trainings for electric vehicle-friendly policies
- **Strategy 1-4: Support Municipal Fleet Conversions**
 - Lead outreach efforts to public entities to learn fleet electric vehicle best practices and share fleet electric vehicle opportunities
 - Work with local workforce development programs to develop supportive technical materials (e.g., recommended specs)
 - Provide advisory services to local governments interested in fleet electric vehicle procurement

Residential Sector

- **Strategy 2-1: Promote Electric Vehicle Awareness through Community Outreach and Education Efforts**
 - Create and share educational content related to electric vehicle ownership
 - Host educational opportunities related to electric vehicle ownership
- **Strategy 2-2: Develop a Supported Process to Help Residents Identify and Procure the Most Appropriate Electric Vehicle Promote Electric Vehicle Awareness through Community Outreach and Education Efforts**
 - Share existing tools to help individuals select the right electric vehicle for their lifestyle
 - Continue to organize group buys
 - Provide advisory services for individuals interested in purchasing electric vehicles
 - Work with outreach partners to provide consistent messaging

- **Strategy 2-3: Promote Charging Infrastructure at Multifamily Properties**
 - Lead outreach efforts to multifamily property owners to share electric vehicle charging infrastructure opportunities
 - Provide advisory services to multifamily properties interested in electric vehicle charging infrastructure opportunities
- **Strategy 2-4: Develop and Promote a Network of Professionals to Support Electric Vehicle Owners**
 - Work with local workforce development programs to develop supportive training materials
 - Create and share educational content related to electric vehicle resources and training programs for the auto industry

Commercial Sector

- **Strategy 3-1: Support Commercial Fleet Conversions**
 - Lead outreach efforts to commercial entities to learn best practices and share fleet electric vehicle opportunities
 - Work with local workforce development programs to develop supportive technical materials (e.g., recommended specs)
 - Host online educational trainings for fleet managers
 - Provide advisory services to commercial entities interested in fleet electric vehicle procurement
- **Strategy 3-2: Encourage Businesses to Provide Workplace and Public Charging Options**
 - Create criteria to prioritize outreach to businesses
 - Lead outreach efforts to businesses to share electric vehicle charging infrastructure opportunities
 - Provide advisory services to businesses interested in electric vehicle charging infrastructure opportunities
 - Host electric vehicle 101 workshops for workplaces that install charging stations
- **Strategy 3-3: Promote Heavy-Duty Fleet Conversions**
 - Lead outreach efforts to heavy duty fleet managers to learn best practices and share heavy duty fleet electric vehicle opportunities
 - Host workshops and learning opportunities for heavy-duty fleet staff

Project Management

- Participate in coordination and tracking of scheduled check-ins, activities, and events
- Provide Xcel Energy an opportunity to review marketing materials to assure accuracy when they incorporate the Xcel Energy logo or reference any of Xcel Energy's products or services
- Share the plan document, supporting work documents, and implementation results from the Electric Vehicle Action Plan with the public—the experience, successes, and lessons learned from this community will inform others looking at similar or expanded initiatives
- Track progress toward the Electric Vehicle Action Plan goals

Single Points of Contact


All communications pertaining to this agreement shall be directed to Diego Lopez, on behalf of Northern Colorado Clean Cities and Tami Gunderzik, on behalf of Xcel Energy.

Legal Applicability and Waiver

This is a voluntary agreement and not intended to be legally binding for either party. This Memorandum of Understanding has no impact, nor does it alter or modify any existing Franchise Agreement or other existing agreements between Xcel Energy and Northern Colorado Clean Cities. Parties agree that this Memorandum of Understanding is to memorialize the intent of the Parties regarding Partners in Energy but does not create a legal agreement between the Parties. It is agreed by the Parties that nothing in this Memorandum of Understanding will be deemed or construed as creating a joint venture, trust, partnership, or any other legal relationship among the Parties. This Memorandum of Understanding is for the benefit of the Parties and does not create third party rights. Nothing in this Memorandum of Understanding constitutes a waiver of Northern Colorado Clean Cities’s regulatory jurisdiction or Colorado’s utility regulatory jurisdiction.

Xcel Energy is excited about this opportunity to support Northern Colorado Clean Cities in advancing its goals. The resources outlined above and provided through Partners in Energy are provided as a part of our commitment to the communities we serve and Xcel Energy’s support of electric vehicles as important resources to meet your future needs.

For Northern Colorado Clean Cities:

Signature: 

Name: Adrian "Diego" Lopez

Title: Executive Director

Date: 9/30/2020

For Xcel Energy:

Signature: 

Name: Kelly Flenniken

Title: Director, Community Relations

Date: 10/05/2020