

Agenda

- Progress Updates
 - Partnership Work Plan
 - Partnership project highlights
 - Working Group recommendations
 - Climate tax
- Next Quarter Lookahead
- Advisory Panel Terms & Renewals

Partnership Workplan

Energy Partnership Priorities and Deliverables

2022-2023

- Solar Hack-a-thon Workshop (Summer of '22)
- Quick Wins and CX enhancement for solar connection (Summer of '22)
- Equity Lens Development (Summer of '22)
- Customer Journey Mapping Split Incentives for Renters (Summer of '22)

Community
Advisory
Panel



- 19th Street Overhead to Underground Project 1% (Fall '22)
- Arapahoe Overhead to Underground 1% Project (End of '22)
- Chautauqua (Fall '23)
- Reliability, Electrification and OH to UG conversion planning (Fall '23)
- Undergrounding opportunities (Xcel and Private funding)

Distribution
System
Planning



- Boulder County Regional EV Cohort (June '22)
- EV Supply Infrastructure (August '22)
- Regional Fleet Charging Hub (Ongoing '22-'23)
- Vehicle-to-Building Pilot (Ongoing '22-'23)

Transportation
Electrification

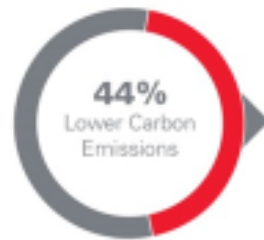


- Data sharing and ideation sessions (Current)
- Program design and modeling (May-June)
- PUC tariff filing supporting a Community owned solar and/or storage offering to decarbonize hours during the year that are fossil positive (Summer '22)

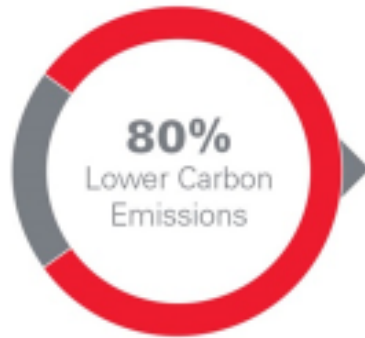
Zero
Emissions
Communities



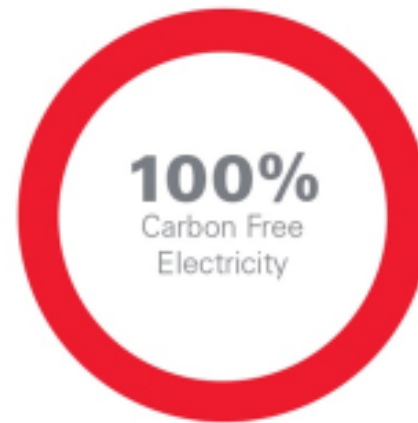
2019 Results



2030 Goal



2050 Vision



(Company-wide carbon reductions)

Evaluating the 20% Gap

- For 2030 our projections are that Boulder would need to offset 175,448 tons of CO₂.
 - The hybrid solution of a 450 MW solar array along with a 150 MW battery would offset 191,478 tons of CO₂.
- Evaluation of resources, technology and cost related to address the 20% gap emission.

Zero Emissions Communities

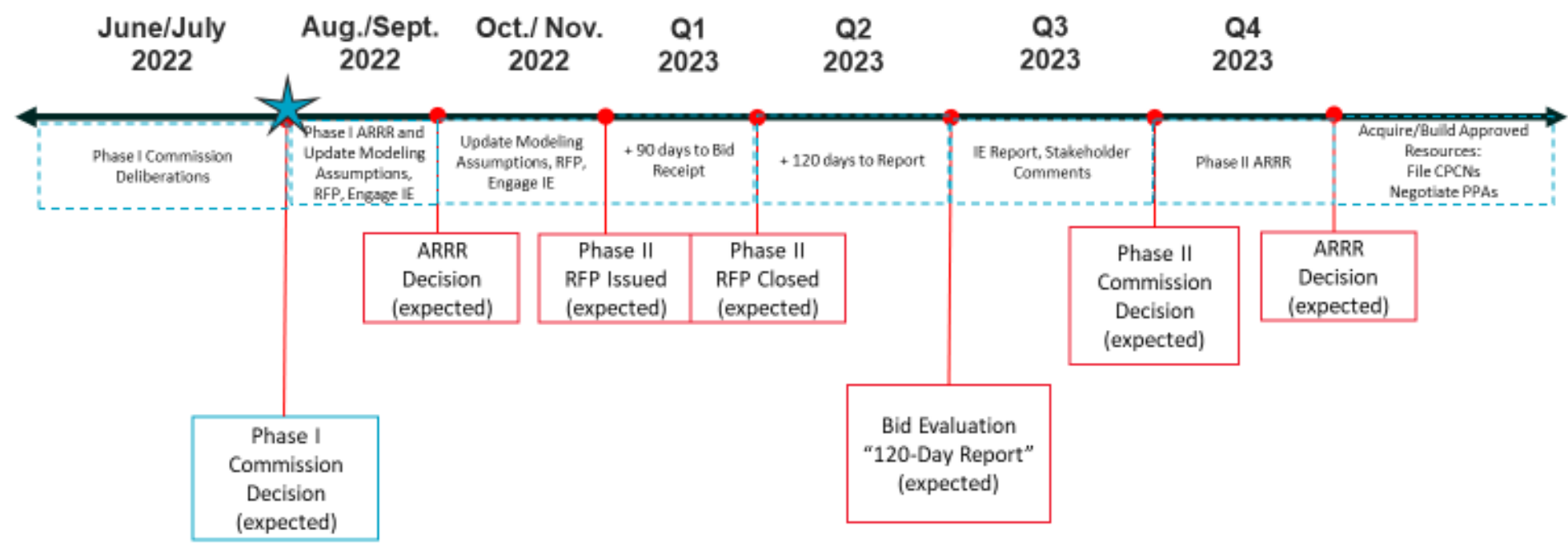


PSCo ERP & CEP Procedural Timeline

Phase I Decision was issued on August 3 and requests for rehearing, reargument, or reconsideration (ARRR) are due by August 23

Phase II – Competitive Solicitation, Bid Evaluation, Presentation of Resource Portfolios

★ We are here

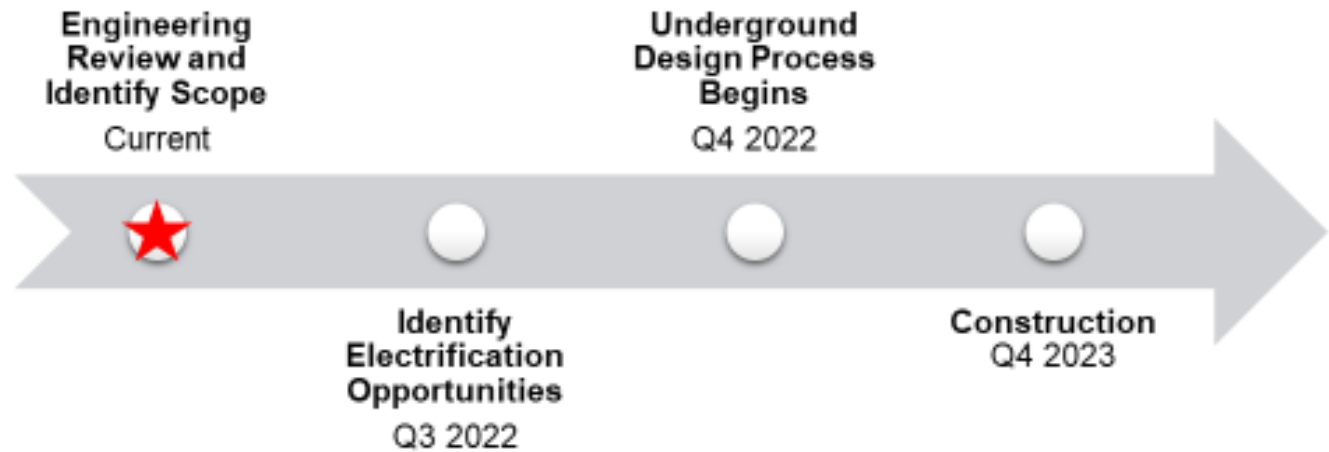


Project Highlights

Chautauqua

The project goals are to:

- Improve reliability and resiliency
- Reduce the risk of wildfire
- Preserve the viewshed
- Prepare for electrification



Distribution System Planning



Transportation Electrification and Grid Resilience

- Vehicle-to-Grid Pilot
 - Partnership with BHP and Car Share
 - Builds are current Boulder demand management pilot
 - Test multi-vehicle and use change impacts
- Transit Charging Hub
 - Partnership with Via Mobility, CU and BVSD
 - Charging infrastructure buildout and management
 - Site micro-gridding



Working Group Recommendations

BEL-CO



Beneficial Electrification League of Colorado (BEL-CO): Co-led by the Colorado Energy Office (CEO) and Southwest Energy Efficiency Project (SWEET)

Key Participants:

- Xcel Energy
- Tri-State Generation (and their members)
- Platte River Power Authority
- Holy Cross Energy
- Energy Efficiency Business Coalition
- City of Denver
- City of Boulder
- Boulder County

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[Let's Get Started!](#)

COOKING

HEATING

We are glad you found us. Feel the love for electric today and learn about efficient, electric heating, hot water and cooking solutions for your home.

- + Reduce your carbon footprint and environmental impact
- + Improve indoor air quality throughout your home
- + Enhance the overall comfort of your home

All at the same or lower cost!

Building Electrification - General

Recommendation: Set more stringent building codes and performance standards, with a focus on low-to-no emissions (CO2 and other pollutants) requirements.

Adopted as a Work Plan Item: Yes (COB)

Key Tasks:

- Analysis of Best Practices and Opportunities
- Community/Architect/Builder Engagement
- 2023 Code Adoption

Current Progress:

- HB22-1362, Building Greenhouse Gas Emissions, signed into law
- Backfilling Energy Code Coordinator position
- Site Review Criteria updates
- Preliminary strategies developed for 2023 code update
- DOLA Code Cohort

Building Electrification - Commercial

Recommendation: Explore pathways to develop commercial rebates and incentives through a 2023 pilot program, cost impact studies, a status programs (labeling), and forums to dispel myths & misconceptions. Explore how C-PACE might be more appealing to building owners.

Adopted as a Work Plan Item: Yes (Partnership)

Key Tasks:

- Inventory and enhance education on what is already available
- Identify key gaps
- Conduct case studies
- Implement pilots
- As applicable, file application(s) with the PUC

Current Progress:

- New BEL-CO working group focused on commercial building electrification
 - Inventorying and publishing (on Love Electric) Xcel, Tri-State, PRPA and Holy Cross incentives
 - Publishing and Educating on successful Case Studies
 - Workshop planning
- Demand Side Management Strategic Issues filed with PUC

Building Electrification - Commercial

Recommendation: Upgrade existing Xcel Energy commercial energy audit programs to provide proactive assessment, engineering and technical solutions to building owners with in-depth energy analysis, technology options, financing, and capital planning purposes. Consider how the Partnership can make programs proactive, possible costs share on analysis, employ preapproved service providers. Look at proactive interventions to provide analysis to target properties that are candidates for upcoming rehabs. Get into capital improvement plans and identify needed incentives.

Adopted as a Work Plan Item: Yes (Partnership)

Key Tasks:

- Case studies
- Energy Assessment pilots
- As applicable, file application(s) with the PUC

Current Progress:

- BEL-CO Commercial Electrification Working Group
- Denver Partnership
- Q3 Launch for Affordable Multi-Family Engineering Assessment Pilot

Building Electrification - Commercial

Recommendation: Catalyze proactive turnkey commercial real estate solutions including opportunity analysis, financing, design, installation, etc.

Adopted as a Work Plan Item: Yes (Partnership)

Key Tasks:

- Case Studies
- Contractor Partnerships
- Turnkey Financing Solutions

Current Progress:

- BEL-CO Commercial Electrification Working Group
- Denver Partnership
- Engineering Assessment Pilot
- Industry Outreach

Building Electrification - Commercial

Recommendation: Take a deep dive to understand leverage points and strategies that address split incentives (i.e., where tenants pay for utilities and owners pay for upgrades) for multifamily and commercial leased spaces. Begin with a commercial forum that includes advisory panel members and a residential customer journey mapping.

Adopted as a Work Plan Item: Yes (Partnership)

Key Tasks:

- Split-Incentive Workshops
- TBD

Current Progress:

- First Workshop Scheduled

Building Electrification - Commercial

Recommendation: Evolving Building Performance Ordinance (BPO) 2.0, which is the next iteration of Boulders building performance ordinance. Understand energy use and identify key opportunities based on what the data reveals. Out of the ~4,000 C&I buildings in Boulder, which ones are most worth targeting (owner-occupied, gas HVAC, high fossil use, etc.) City staff develop a clear roadmap that prioritizes and tracks progress on the 4,000 commercial and industrial buildings.

Adopted as a Work Plan Item: Yes (City with future Partnership opportunities)

Key Tasks:

- Analyze existing building data
- Analyze best practices and opportunities
- Develop roadmap
- Engagement
- Ordinance Update/Implementation

Current Progress:

- Comments provided to state for state BPS
- Agreement in place with Building Electrification Institute (BEI) to support roadmap development
- Preliminary analysis of existing data complete
- Member of National BPS Coalition, along with CEO, Fort Collins and Denver

Building Electrification - Residential

Recommendation: Incentivize A/C replacements to be cold climate (air source or ground source) heat pumps. Can we identify where there are end of life A/C units and proactively target neighborhoods or homes? Inventory past building permits for A/C replacements or new construction that are 12-15 years old and target them for electrification education. Loosen current EnergySmart eligibility requirements to incentivize any heat pumps over A/C.

Adopted as a Work Plan Item: Yes

Key Tasks:

- Enhanced campaigns and consumer education
- Reduce incentive barriers
- Contractor outreach and education

Current Progress:

- City exploring revamping residential building stock analysis
- EnergySmart requirements revised
- Xcel Energy bonus rebate campaign
- BEL-CO Residential Quality Installation Working Group

Building Electrification - Residential

Recommendation: Assess effectiveness of incentive and financing programs including low-interest on-bill financing (e.g., RENU and how we tie into that?).

Adopted as a Work Plan Item: Yes

Key Tasks:

- Develop new/enhanced financial tools
- Consumer and contractor education and awareness

Current Progress:

- DSM Strategic Issues proposed tariff on-bill financing
- Expanded financing tools part of new Climate Tax proposal

Building Electrification - Residential

Recommendation: Build awareness for personal health and climate benefits; Dispel myths and misconceptions about heat pumps and gas stoves; Provide information about costs, payback, rebates, incentives and financing options.

Adopted as a Work Plan Item: Yes (Partnership)

Key Tasks:

- Consumer education and awareness
- Partnership development

Current Progress:

- Ongoing contractor education and training
- BEL-CO workshops, case studies, LoveElectric.org
- Induction cooking incentives and cooktop loaner program
- Campaign planning

Building Electrification - Residential

Recommendation: Explore city-backed volume purchases of electric appliances including heat pumps, water heaters, and range ovens to bring down costs.

Adopted as a Work Plan Item: Yes (COB)

Key Tasks:

- Analyze best practices and opportunities
- Partnership development
- Develop financial tools

Current Progress:

- Regional and national partnerships underway
- Early concept development

Building Electrification - Residential

Recommendation: Explore expanding low-income residential weatherization programs to include electrification.

Adopted as a Work Plan Item: Yes (Partnership)

Key Tasks:

- Develop expanded program models
- Expand workforce capacity
- Establish financial tools
- As applicable, file application(s) with the PUC

Current Progress:

- Xcel Energy heat pump pilot
- DSM Strategic Issues filing
- COB, Boulder County CARES program
- COB Manufactured Housing Initiative

Building Electrification - Residential

Recommendation: Continue contractor education programs & provide list of approved installers.

Adopted as a Work Plan Item: Yes (Partnership)

Key Tasks:

- Contractor recruitment, education and training
- Consumer education

Current Progress:

- Xcel Energy heat pump training initiative
- Mid-stream incentives
- BEL-CO Residential Quality Installation Working Group

Building Electrification - Residential

Recommendation: Explore changing electrical rate structure to better support electrification such as shifting to focus more charges on use and moving away from flat service/facility fees to better capture benefits of reducing gas use.

Adopted as a Work Plan Item: Yes (Partnership)

Key Tasks:

- Collect real-time data on heat pump energy use
- Analyze electrification impacts on rates and emissions
- TBD

Current Progress:

- Xcel Energy/NREL Heat Pump Pilot
- Encompass modelling based on future generation mix and load growth

Building Electrification – Service Upgrades

Recommendation: Analyze the expected service capacity constraints that would be realized based on the state’s GHG roadmap

Adopted as a Work Plan Item: Yes (Xcel Energy)

Key Tasks:

- Develop load growth forecasts
- Analyze grid and grid-edge impacts
- Analyze feeder and service level impacts

Current Progress:

- Preliminary case developed based on modeled growth
- “Will the grid be ready” presentation (previously shared)
- Distribution System Plan filed with PUC

Building Electrification – Service Upgrades

Recommendation: Develop business case for a rate-based solution; Develop and implement legislative and/or regulatory strategy

Adopted as a Work Plan Item: Yes (Partnership)

Key Tasks:

- Data collection and case studies
- Service capacity constraint modeling
- Program design
- As applicable, file application(s) with the PUC or seek legislative solution

Current Progress:

- Marshall rebuild
- DSM Strategic Issues filing
- System capacity study
- Benchmarking

Building Electrification – Service Upgrades

Recommendation: Identify opportunities for grid capacity optimization, including technology solutions that allow us to optimize existing capacity.

Adopted as a Work Plan Item: Yes (Partnership)

Key Tasks:

- Investigation, benchmarking and analysis
- Pilots
- As applicable, file application(s) with the PUC
- As applicable, update code and regulation

Current Progress:

- Benchmarking smart panel and similar solutions
- Proposals to expand battery programs (multiple filings)
- BEL-CO Heat Pump Water Heater quality install initiative

Renewable Electricity

Recommendation: Develop a clear plan of action that outlines the strategies, timeline, and resource needs necessary to achieve zero emissions electricity through 100% firm zero emissions capacity and 100% zero emissions energy for Boulder by 2030.

- Complete development of baseline model
- Update local generation targets based on what is necessary to close the gap
- Identify discreet projects that would be advanced through the partnership
- Define key milestones, measures of progress and go/no-go decision points
- Develop financial model to forecast necessary community and utility investment
- Identify and secure any necessary sources of revenue to advance identified projects

Adopted as a Work Plan Item: Yes

Key Tasks:

- Modeling and gap analysis
- Update local generation target
- Roadmap development

Current Progress:

- Baseline modeling complete
- Roadmap development launched

Renewable Electricity

Recommendation: Pursue multiple pathways to advance local renewable energy installations.

- Provide immediate and robust education and awareness to potential solar adopters (residential and commercial) around declining tax credits and current residential and commercial incentives.
- Host a “solar hack-a-thon” with local installers, city and utility officials, and building owners to identify barriers and solutions to expedite local solar installations, including developing sustainable models for off-site solar and master metering. Identify ways to reduce soft costs. Explore why financial tools, such as C-PACE is underutilized.
- Expedite the renewable energy production and storage installations on city-owned property (potentially including open space) and buildings.
- Explore barriers to market segments with currently low adoption rates, to include multifamily residential properties, rentals, affordable housing and multitenant commercial, and promote solutions at legislative and local community level.
- Explore public private partnerships to develop local renewable generation for customers that do not have market options available to them.

Adopted as a Work Plan Item: Yes

Key Tasks:

- Education and awareness campaigns
- Workshops
- Development projects

Current Progress:

- Solar Hack-a-thon scheduled
- 2023 Campaign planning
- Pending announcement

Renewable Electricity

Recommendation: Develop new program models (i.e., Zero Emissions Communities) that add utility-scale renewable generation and energy storage to increase emissions reduction above and beyond Xcel business as usual on the scale of Boulder's annual electricity emissions.

- Complete financial, emissions and engineering analysis to provide comparative information to facilitate community engagement to identify one or more priority solutions.
- As applicable, advance concepts through the necessary regulatory and legislative processes.
- Enable community action and improve customer agency: Explore strategies including possible emissions reductions for making publicly available and easily accessible real-time renewable energy production information with the aim to facilitate Boulder consumer decisions about when to use electricity.

Adopted as a Work Plan Item: Yes

Key Tasks:

- Modeling
- Financial Model Development
- Community Engagement
- As applicable, file application(s) with the PUC

Current Progress:

- Baseline model complete and emissions gap calculated for 2026 and 2030
- Battery, Solar+Battery and Wind+Battery test cases run
- Financial model refinement underway
- Proposed expanded battery program and 24/7 emissions tracking incorporated in COB Answer Testimony filed with PUC

Climate Tax

Context

CAP Tax

- Set to expire March 2023
- If we do nothing, climate funding will decrease by ~\$2 million annually



Proposal

- Replace CAP and Utility Occupation Tax (UOT) taxes which collect \$4M annually
- Raise funds from \$4 to \$6.5 million per year
- Change rates for customers
- Collect on Xcel Energy bills
- Collect through 2040, issue debt

Next Quarter Lookahead

Next Quarter Lookahead

Equity Working Group

- Educational Webinar, first scheduled 8.16.22
- Focus Groups, TBD

Customer Experience Meetings & Recommendations

Split-Incentives Meeting – September

Solar Hack-a-Thon – October 4th or 14th

Winter working groups?

- Reconvene Solar or Electrification Working Groups?
- Microgrids

Advisory Panel Terms

Outgoing

- Erik Abrahamson

Renewals

- George, Wayne, Bryn, Peter, Pat

Up for renewal next year

- Dennis, Ramesh, Justin, Stephanie, Jack, Andy

Next Meeting

November 7th or 14th