CITY OF BOULDER – XCEL ENERGY
ENERGY PARTNERSHIP AGREEMENT WORK PLAN

COMMUNITY ADVISORY PANEL – NOVEMBER 14, 2022

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MEETING OBJECTIVES AND AGENDA

Time	Topic
5 min	Overview
5 min	Gap Analysis Update
30 min	Strategy & Work Plan Development
5 min	Wrap up and Next Steps

Objectives

- Share proposed approach for developing the Energy Partnership Agreement work plan
- Analytics: Share preliminary results and gather input on targets
- Planning: Confirm strategies and work plan approach
- Confirm next steps

ENERGY PARTNERSHIP AGREEMENT WORK PLAN

The partners agree to identify and pursue specific initiatives that address the gap between Xcel Energy's 80% carbon emissions goal and the Boulder community's goal of 100% renewable electricity and 100 MW of local generation by 2030.

Specifically, Xcel Energy and the City of Boulder commit to work collaboratively on projects, programs, and initiatives that:

- Eliminate electricity-sector greenhouse gas emissions and reduce natural gas-sector greenhouse gas emissions
- Increase accessibility to local renewables
- Test and promote innovative technology
- Are structured to be accessible and equitable

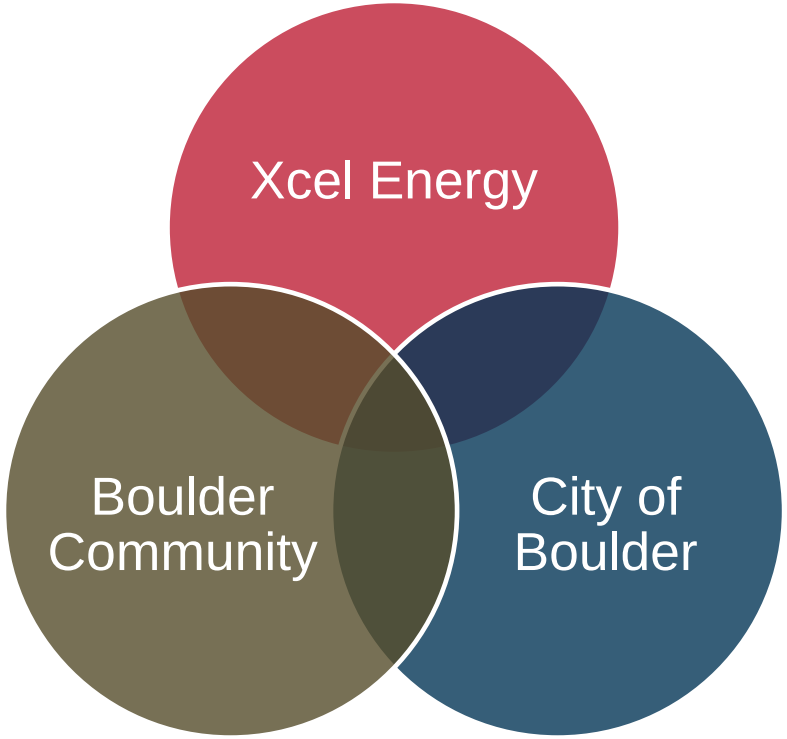
PLAN OF ACTION

1. Gap Analysis and Roadmap

- Quantify the anticipated emissions gap between Xcel Energy's 80% emissions reduction goal and Boulder's 100% renewable electricity goal in 2030
- Include baseline model, targets, identification of strategies and projects

2. Energy Partnership Agreement Work Plan

- Strategic 2-Year Work Plan document to guide implementation of strategies to meet City of Boulder goals
- Identify milestones, metrics, roles, and resource opportunities for strategies and discreet projects.



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PROJECT TIMELINE

Q1-2 2022

- Zero Emissions Communities Concept Planning Initiated (Ongoing Effort)

Q3 2022

- Gap Analysis and Modeling
- Strategy and Work Plan Development

Q4 2022

- Community Advisory Panel (11/14)
- Work Plan Development

Q1 2023

- Approve 2023-2025 Work Plan (Executive Committee)
- Begin Work Plan Implementation

WHAT

IS THE GAP BETWEEN XCEL ENERGY'S 80% CARBON EMISSIONS REDUCTION BY 2030 GOAL AND THE CITY OF BOULDER'S 2030 GOAL OF 100% RENEWABLE ELECTRICITY?

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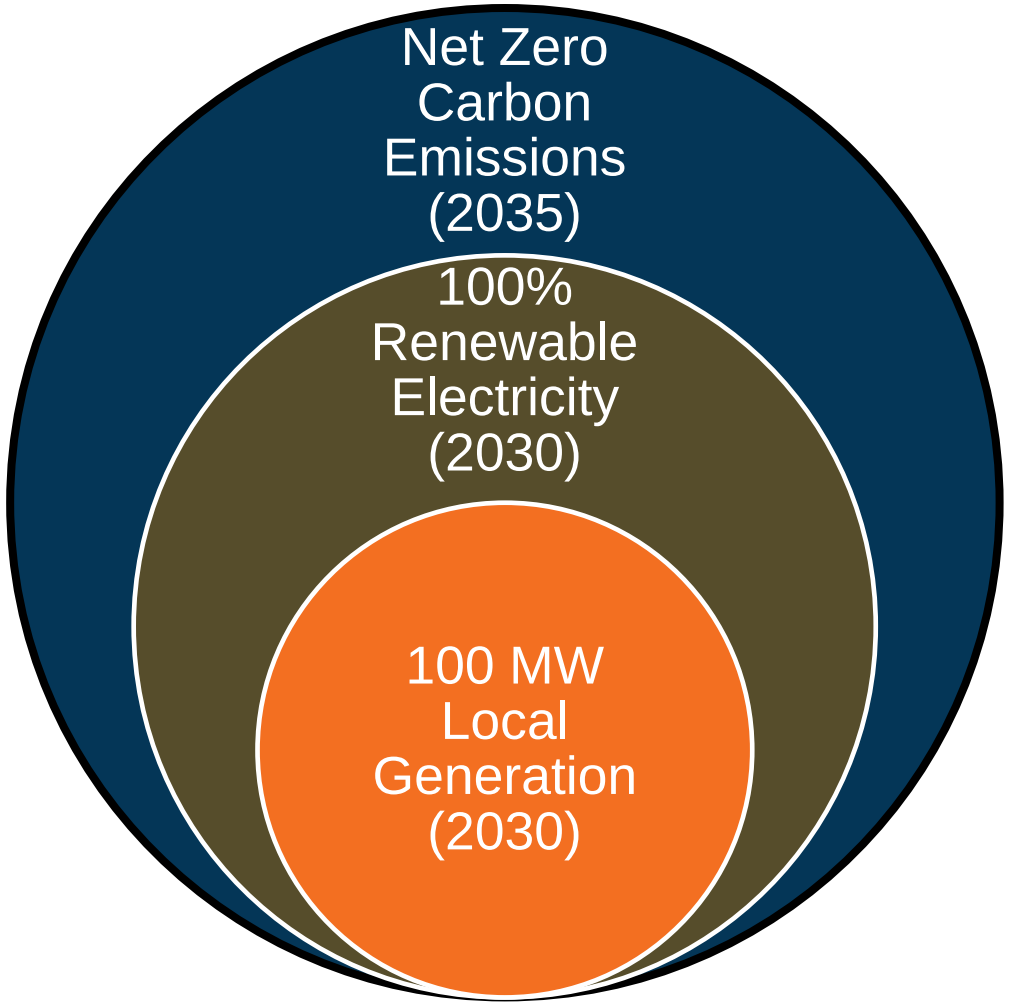
CITY OF BOULDER GOALS



- **Reduce greenhouse gas emissions from buildings and transportation**
  - 70% reduction by 2030 from 2018 baseline
  - Carbon-positive by 2040
- **Vision of achieving 50% locally produced renewable clean electricity by 2050**
- Make progress towards a **resilient system that prioritizes the most vulnerable members** of the community.

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PRELIMINARY ANALYSIS: HOW FAR DO WE GET WITH THE DRAFT TARGETS (IN 2030)?

Toward 100MW Local Renewable Electricity (2030)

- **Target Achieved?** Yes
- **145MW of local** on-site solar & hydro in 2030
  - 51MW on-site solar added between 2022-2030

Toward 100% Renewable Electricity (2030)

- **Target Achieved?** Yes
- **100% renewable electricity** through
  - 85% grid-supplied renewable electricity
  - 6% existing renewable programs
  - 9% new zero emissions programs

Toward 70% Lower Carbon Emissions from 2018 (2030)

- **Target Achieved?** No
- **68% lower carbon emissions** in 2030 from 2018*
  - 100% lower electricity emissions
  - 24% lower natural gas emissions
  - 55% lower transportation emissions

* Waste emissions are excluded from the percent reduction in carbon emissions

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HOW

WILL THE CITY OF BOULDER AND XCEL ENERGY PARTNER TO BRIDGE THE GAP?

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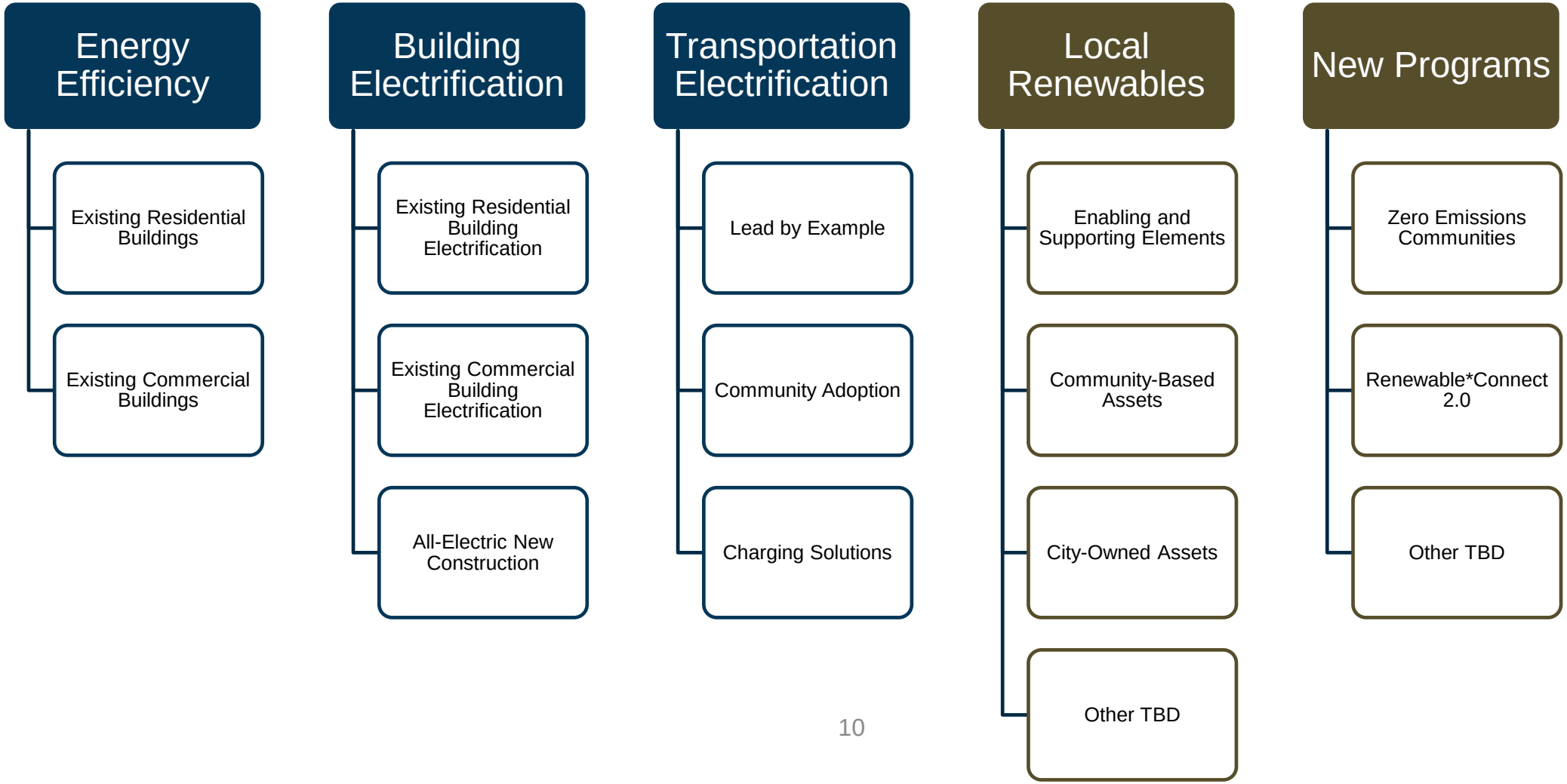
STRATEGIES AND INITIATIVES



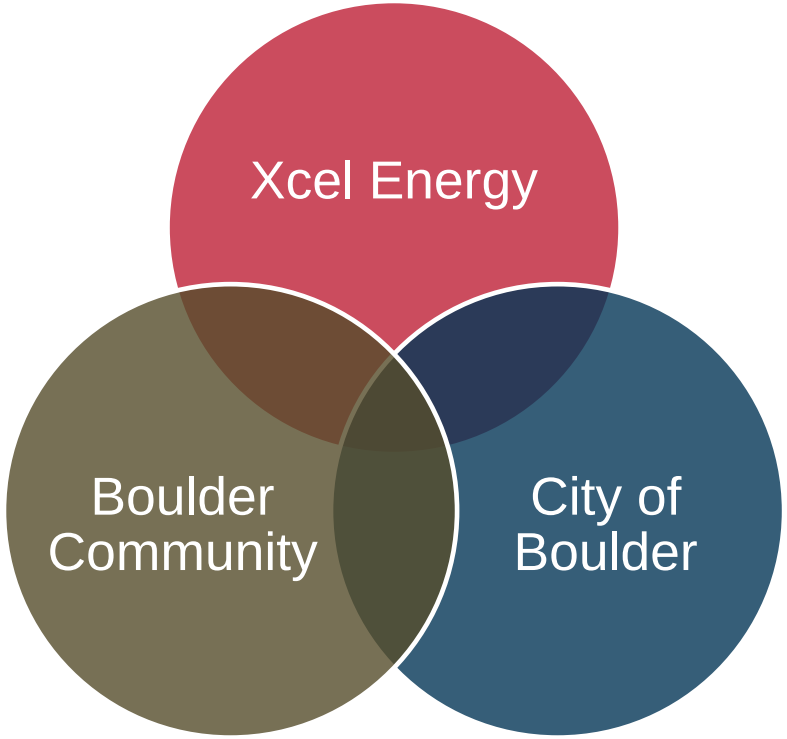
IMPLEMENTATION COLLABORATION

Xcel Energy will provide (across strategies)

Programs & Resources
- Xcel Energy programs and services (including Home Energy Squad® promotions and customized “bundling” of programs & rebates)
- Pilot programs
- Key account involvement for large customers
- Group buy program coordination support
- Collaborative implementation of funding

Marketing & Outreach
- Joint marketing campaigns (with City of Boulder, Boulder County, etc.)
- Outreach and education support
- Ambassador kits for Community Advisory Panel (and others)

Tracking & Reporting
- Tracking and reporting of program participation and savings
- Tracking and reporting to align with other plans



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FUNDING & FINANCING

Energy Partnership Agreement Details

- The Parties will work together to identify and utilize both existing and new funding sources that may be available for each project.
  - To the extent Boulder financially funds 100% of a project or pilot program which are then offered by PSCo Energy, within the 10 years of project or pilot launch, to other Colorado PSCo Energy customers, PSCo shall reimburse Boulder as necessary. Such reimbursements may be subject to PUC approval.
  - Examples of 8 funding opportunities to be explored include but are not limited to DSMCA, RESA, CAP Tax, Participant Investment, Tariff-based Financing, Third-party Grant Funds, PSCo funded projects.

Proposed “Collaborative Funding Team”

- Regular meetings
- Subset of experts from City, Xcel Energy, etc. to identify, vet, screen, and pursue potential funding opportunities

ENERGY EFFICIENCY

EXISTING RESIDENTIAL AND COMMERCIAL BUILDINGS

ENERGY EFFICIENCY

Objective: Increase the efficiency of existing residential and commercial buildings.

Preliminary Target

1.7% energy savings per year
(starting in 2023)

Residential: 6.5% annual DSM participation rate

Commercial: 20% emissions savings by 2030 (per Building Performance Standard)

2030 Impact Estimate

Emissions Savings from 2018:
3% reduction in overall emissions
(7% reduction in electricity emissions)

Annual Energy Savings:
44.7 GWh (electricity),
284 thousand therms (natural gas)

DSM Participants:
3,550 annually

Can we hit these targets?

DSM = Demand Side Management Programs offered by Xcel Energy.
Note that Water Heating and Heating Efficiency DSM programs are excluded here to avoid double counting with Building Electrification targets and impacts.

ENERGY EFFICIENCY

Existing Residential Buildings

- Targeted marketing and outreach to increase DSM participation
- Additional residential efficiency incentives (City-funded)
- Residential demand response battery pilot
- City policy/codes that encourage and/or require energy efficiency upgrades

Existing Commercial Buildings

- Targeted marketing and outreach to increase DSM participation
- Additional commercial efficiency incentives (City-funded)
- City policy/codes that encourage and/or require energy efficiency upgrades to existing commercial buildings
- LED streetlight conversions (City-led)

Are the right strategies and initiatives identified? What's missing?

New offering from Xcel Energy

ENERGY EFFICIENCY: 2023 MOBILIZING STEPS 2023 (DRAFT)

Q1 & Q2

- Joint marketing campaign development for energy efficiency programs
- Ambassador kit development
- Identification of potential case studies
- Consideration of city-funded and administered incentives

Q3 & Q4

- Marketing campaign launch and implementation
- Ambassador kit training and deployment
- Launch and administration of city-funded incentives

Ongoing

- City policy development and adoption
- Streetlight acquisition and upgrades (City-led)
- Implement efficiency projects at City-owned properties

BUILDING ELECTRIFICATION

EXISTING RESIDENTIAL AND COMMERCIAL BUILDINGS

NEW CONSTRUCTION

BUILDING ELECTRIFICATION

Objective: Transition new and existing building systems to clean electricity.

Preliminary Target

Residential:
5% premises electrified annually,
40% electrification by 2030

Commercial:
2% premises electrified annually,
15% electrification by 2030

2030 Impact Estimate

Emissions Savings from 2018:
3% reduction in overall emissions

(5% increase in electricity emissions)

Annual Energy Change:
3% annual decrease in natural gas use through 2030
3% annual increase in electricity use through 2030

Premises Electrified:
2,467 (5%) annually

Can we hit these targets?

BUILDING ELECTRIFICATION

Existing Residential Building Electrification

- Education and outreach
- Income qualified electrification pilot
- Additional incentives for residential building electrification
- Electric equipment group buys
- City policy/code to encourage and/or require electrification

Existing Commercial Building Electrification

- Education and outreach
- Income qualified electrification pilot for nonprofit organizations
- Additional incentives for beneficial electrification of commercial buildings
- City policy/code to encourage and/or require electrification

All-Electric New Construction

- Outreach and education to increase uptake of Xcel Energy new construction offerings
- Additional incentives for all-electric new construction
- City policy/code to encourage and/or require electrification of new buildings

Are the right strategies and initiatives identified? What's missing?

New offering from Xcel Energy

BUILDING ELECTRIFICATION: 2023 MOBILIZING STEPS (DRAFT)

Q1 & Q2

- Joint marketing campaign development for beneficial electrification programs and opportunities
- Group buy program scoping
- Consideration of city-funded incentives

Q3 & Q4

- Marketing campaign launch and implementation
- Group buy program launch and administration
- Launch and administration of city-funded incentives

Ongoing

- Align/update City building and development code to achieve all-electric new construction
- Implement electrification projects at City-owned properties
- Xcel Energy pilot program development and rollout

TRANSPORTATION ELECTRIFICATION

LEAD BY EXAMPLE

COMMUNITY ADOPTION

CHARGING SOLUTIONS

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TRANSPORTATION ELECTRIFICATION

Objective: Collaboratively implement strategies identified in the city's Electric Mobility Work Plan in order to achieve adopted EV goals.

Preliminary Target

EV Adoption:
30% electric vehicle adoption by 2030
(3.2% annual increase through 2030)

2030 Impact Estimate

Emissions Savings from 2018:
8% reduction in overall emissions

Annual Energy Change:
1% increase in electricity use annually

EVs on the road:
29,300 EVs by 2030
3,100 new EVs on the road annually through 2030

Can we hit these targets?

TRANSPORTATION ELECTRIFICATION

Lead by Example

- Fleet electrification & EV supply infrastructure
- City of Boulder work travel trips

Community Adoption

- EV outreach and communications
- Micromobility incentives
- EV resale market
- Workforce development
- Zero- or Low-Emissions Zones
- Rideshare and vanpool electrification

Charging Solutions

- Regional fleet charging hub
- Vehicle-to-building carshare pilot
- Community charging Hub(s)
- Curbside / neighborhood charging policies and program
- Multifamily charging incentives

Are the right strategies and initiatives identified? What's missing?

New offering from Xcel Energy

TRANSPORTATION ELECTRIFICATION: 2023 MOBILIZING STEPS (DRAFT)

Q1 & Q2

- Memorandum of Understanding (MOU) for implementation of Electric Mobility Work Plan
- Development of EV marketing and communication approach
- Stakeholder engagement
- Consideration of city-funded incentives
- Identification of pilot opportunities
- Vehicle-to-Building Equitable CarShare pilot launch

Q3 & Q4

- Launch of EV communications
- Launch and administration of micromobility incentives
- Identify location and funding sources for Community Charging Hub(s)
- Launch program to support curbside/neighborhood charging

Ongoing

- Continued municipal light-duty fleet electrification
- Coordination and development of Regional Fleet Charging Hub
- Implementation of strategies identified in Boulder County Regional Transportation Electrification Plan

LOCAL RENEWABLES

ENABLING AND SUPPORTING ELEMENTS

COMMUNITY- BASED ASSETS

CITY-OWNED ASSETS

OTHER

LOCAL RENEWABLE ENERGY

Objective: *Achieve 100% renewable/zero emissions electricity and target 100 MW of local generation.*

Preliminary Target

Renewable Energy:

Double historic renewable energy adoption annually between 2023-2030

Local Generation:
100MW local generation by 2030

2030 Impact Estimate

Emissions Savings from 2018*:
0.5% overall emissions savings
(1% reduction in electricity emissions)

Local Generation:
18% of total electricity use by 2030

Percent Renewable:
91% Renewable
9% Gap to fill

Can we hit these targets?

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* Emissions savings related to additional on-site solar systems.

LOCAL RENEWABLE ENERGY

Enabling and Supporting	Community-Based Assets	City-Owned Assets
Outreach and education	Incentives and financing for community solar & storage	Collaborative solar and storage procurement
City policy/codes including standard “Green Lease”	Solar & storage group purchase	Additional Community Solar Gardens on city property
Address capacity constraints	Income qualified local community solar & storage	Off-site city-owned solar and storage
Process efficiencies	Neighborhood microgrid	Hydrogen electrolysis pilot

Are the right strategies and initiatives identified? What’s missing?

Preliminary Concept for Exploration

LOCAL RENEWABLE ENERGY: 2023 MOBILIZING STEPS (DRAFT)

Q1 & Q2

- Joint marketing campaign development for local renewable energy options
- Group buy program scoping
- Pilot program development and rollout
- Consideration of city-funded and administered incentives

Q3 & Q4

- Pilot project scoping
- Marketing campaign launch and implementation
- Group buy program launch and administration
- Launch and administration of city-funded incentives

Ongoing

- Align/update City codes and standards including “green lease”
- Procure/develop City-owned solar and storage on city-owned properties and buildings
- Explore public-private partnerships to develop local solar options

NEW PROGRAMS

ZERO EMISSIONS COMMUNITIES

RENEWABLE CONNECT 2.0

FUTURE OPPORTUNITIES

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NEW PROGRAMS

Objective: *Build and leverage new systems-level solutions to close the remaining gap between Xcel Energy and City of Boulder emissions and renewable electricity goals.*

Preliminary Target

Utility-scale zero emissions generation and energy storage to close the energy, capacity, emissions gaps.

2030 Impact Estimate

Emissions Savings:

171 thousand tons of electricity emissions

- Zero Emissions Communities
- Renewable*Connect 2.0
- Others TBD

ZERO EMISSIONS COMMUNITY – REFRESHER ON PROCEEDING

57. City of Boulder Zero Emissions Community Portfolio Program. The Company will work with the City of Boulder and other interested Parties, to develop a program design for the “Zero Emissions Community Portfolio Program” and, if agreement is reached on program design, the Company will present it to the Commission no later than June 2022.

- November 24, 2021 – OG Settlement Agreement signed.
- December 1, 2021 – Settlement Agreement Testimony filed.
- April 26, 2022 – Updated Settlement Agreement filed.
- August 3, 2022 – Commission Phase I Decision.
- September 21, 2022 – Commission Decision on ARRR.
- **March 21, 2023** – Six months from Commission’s final Decision.

ZERO EMISSIONS COMMUNITY – WHAT HAS BEEN DONE THUS FAR…

- April 2022 – Provided emissions heat maps.
- June 2022 – Presented modeling results for Solar, Wind, Hybrids, and Battery.
- July 8, 2022 – Answer Testimony filed in 2022-25 RE Plan
  - R*C Connect Community Energy Storage program
    - Interested communities and customers would invest in one or more utility-scale storage projects.
    - Transmission or distribution.
    - Curtailment reduction.
  - R*C 2.0:
    - Look at pairing with storage.
    - Communities with 100% Renewable Energy Goals or Zero Emissions – Priority Subscriptions
- September 1, 2022 – RE Plan Settlement
  - R*C 2.0 to be filed after ERP Phase II 120-Day Report [or]
  - A separate application.

PROJECT TIMELINE

Q1-2 2022

- Zero Emissions Communities Concept Planning initiated (0ngoing effort)

Q3 2022

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