



**CITY OF BOULDER
CITY COUNCIL AGENDA ITEM**

MEETING DATE: October 26, 2021

AGENDA TITLE

Xcel Energy Partnership Update

PRESENTER(S)

Nuria Rivera-Vandermyde, City Manager
Jonathan Koehn, Interim Director, Climate Initiatives
Carolyn Elam, Energy Systems Senior Manager
Matthew Lehrman, Energy Utilities Policy Advisor
Lex Telischak, Electrical Engineer
Robert Harberg, Project Manager
Michael Sweeney, Transportation Engineer
Emily Sandoval, Communication Specialist

EXECUTIVE SUMMARY

Through its long-standing commitment to local climate action, the Boulder community has adopted aggressive goals to mitigate the role energy plays in global greenhouse gas (GHG) emissions and to strengthen the community's resilience in the face of the changing climate. Reducing emissions associated with electricity use has long been a priority for the community's climate action work. This is reflected in community goals of achieving 100% renewable electricity and 100 MW of local generation, both by 2030.

When the 100% renewable electricity goal was first established, the gap between the goal and what was forecasted to be achievable through the city's electricity provider, Xcel Energy (Xcel), was significant. This caused the city to pursue several actions, including ongoing advocacy for state-level legislation and regulation, and exploring establishing its own municipal electric utility through the process of municipalization.

For more than 15 years, the city and Xcel had a contentious and largely adversarial relationship. In the November 2020 election, however, after months of negotiation between the city and Xcel, the community elected to open a new chapter in its relationship with Xcel, voting to approve a new Franchise Agreement and Energy Partnership.

The Franchise Agreement and Energy Partnership provide the framework for and solidify the shared commitment to advancing Boulder’s clean energy and climate goals. Priorities include reducing greenhouse gas emissions associated with gas and electricity consumption, electrifying buildings and transportation, and improving resilience and equity in Boulder. The key elements of the partnership include:

- Statewide emission reduction targets for Xcel:
 - 2005 Baseline: 33.9 million tons emitted
 - 2019 42% reduction: 19.5 million tons emitted (actual)
 - 2022 52% reduction: 16.6 million tons emitted (target)
 - 2024 61% reduction: 13.6 million tons emitted (target)
 - 2027 67% reduction: 11.5 million tons emitted (target)
 - 2030 80% reduction: 6.9 million tons emitted (requirement)
- A 20-year franchise agreement between the City of Boulder and Xcel, with opportunities to opt out in:
 - 2023 if Xcel fails to meet the interim emissions target
 - 2025 if Xcel fails to meet the interim emissions target
 - 2026 for any reason
 - 2028 if Xcel fails to meet the interim emissions target
 - 2031 for any reason
 - 2036 for any reason
- Collaborative distribution-level planning for local projects that will:
 - Support the community’s energy goals, including goal for 100% renewable electricity, and updated emissions reduction targets
 - Increase access to local renewable energy
 - Improve resilience and reliability
 - Design solutions that are accessible and equitable
- A framework and process for collaboration between the city and Xcel, including:
 - Guiding principles of the partnership
 - Information-sharing
 - Governance
 - Community engagement
- ~\$33 million in undergrounding investment by Xcel

[Full partnership details are available online.](#)

As the one-year anniversary of the community’s decision approaches, this memo is intended to provide council and the community an update on progress to date and outline priorities for the coming year. Key milestones and achievements include:

- Gaining Public Utilities Commission (PUC) approval of the Franchise
- Implementing partnership governance, including launching the Community Advisory Panel
- Progress towards Xcel’s emissions targets
- Constructing the first 1% undergrounding project and establishing a plan for future undergrounding investments
- Launching a streetlight acquisition project
- Progressing project work:
 - Removing barriers to electrification and solar adoption
 - Closing gap on 100% renewable electricity goal
 - Chartering distribution system planning
- Improving overall communications and coordination

PROGRESS

Franchise Approval

On Dec. 21, 2020, Xcel [filed its application](#) requesting the Colorado Public Utilities Commission’s (PUC) approval of the voter-approved franchise agreement. As allowed under the process, three parties filed to intervene in the case – the Office of the Utility Consumer Advocate (UCA)¹, PUC Staff and a Boulder resident. The city also [filed to intervene](#) to ensure it was party to any proceedings and able to provide any necessary support to Xcel and the PUC during the litigation process. The PUC accepted intervention from the UCA, PUC Staff and the city and assigned the matter to an Administrative Law Judge (ALJ). The ALJ led the litigation process and, following an evidentiary hearing and case review, issued his recommendation that the PUC approve the franchise. The city also filed testimony supporting the approval of the franchise, and the PUC formally adopted that recommendation and approved the franchise without change effective September 13, 2021. Approval of the franchise was a critical element of the partnership process, as many of the activities were dependent on its adoption.

Governance

The Energy Partnership Agreement (Agreement) provides for a joint governance structure between the city and Xcel, consisting of three main bodies:

- Executive Team
- Project Oversight Team
- Advisory Panel

Executive Team

The Executive Team is responsible for oversight of the partnership and for ensuring the successful communication and collaboration necessary to achieve the identified programs, projects, initiatives, and goals. The Executive Team, and its members as represented in Table 1, ensure that the partnership activities are in support of Boulder’s goals and directs the remedy of challenges through adjustments to workplan priorities and resource allocations.

¹ Previously, and at the time, known as the Office of Consumer Counsel (OCC).

The Executive Team appointed one member (denoted by an “*” in Table 1) to serve as the Executive Sponsor. The Executive Sponsors oversee the Project Oversight Team and are responsible for ensuring the Executive Team is apprised of progress in between formal meetings.

Table 1 – City of Boulder-Xcel Energy Partnership Executive Team

City of Boulder	Xcel Energy
Nuria Rivera-Vandermyde, City Manager	Alice Jackson, President, Xcel Energy-Colorado
Chris Meschuk, Deputy City Manager	Hollie Velasquez-Horvath, Regional Vice President, State Affairs and Community Relations *
Sarah Huntley, Director of Communications and Engagement	Rachael Nance, Senior Director, Customer Relations and Strategic Accounts
Carl Castillo, Chief Policy Advisor	
Jonathan Koehn, Interim Director of Climate Initiatives *	

* Executive Sponsor

The Executive Team held its first formal meeting on May 21, 2021, during which they were provided an update from the Project Oversight Team on project chartering efforts, briefed on the status of Franchise approval, and reviewed the cadence and approach to future meeting. The second Executive Team meeting had been delayed in the hopes that it could held in-person and joint with the Community Advisory Panel. Due to ongoing COVID concerns, this event is now being scheduled as a virtual meeting and will take place later this fall. In addition to meetings of the full Executive Team, the Executive Sponsors meet weekly to track progress and address any emerging areas of concern.

Project Oversight Team

The Project Oversight Team provides the organizational authority to implement programs and projects, to include the assignment of staff and allocation of financial resources. The Project Oversight Team oversees the individual project teams and is responsible for the day-to-day work within the Partnership. The city and Xcel have each designated a Partnership Manager. The respective Partnership Managers are responsible for overall project management of the partnership work and serve as primary liaisons to the Community Advisory Panel and Executive Team.

Table 2 – City of Boulder-Xcel Energy Partnership Project Oversight Team

City of Boulder	Xcel Energy
Carolyn Elam, Senior Manager, Climate Initiatives **	Iffie Jennings, Area Manager, Community Relations-Boulder Region & Mountain Communities **
Matthew Lehrman, Policy Advisor, Climate Initiatives	Susan Davis, Account Manager
Lex Telischak, Electrical Engineer, Climate Initiatives	Cheriese Marczyk, Builder Developer Representative

**Partnership Manager

The Project Oversight Team members meet regularly. Early work focused on reviewing the potential project lists that were developed during partnership negotiations and through community engagement leading up to the franchise vote. The Project Oversight Team has consolidated these lists and will work with the Community Advisory Panel to develop and prioritize future partnership projects. Additionally, sub-teams of the Project Oversight Team have been formed to focus on four main areas – Distribution System Planning, Data Sharing, 100% Renewables Gap Analysis, and Customer Communications. The work of these sub-teams is discussed later in this memo.

Advisory Panel

The [Advisory Panel](#) (Panel) is to serve as the touchpoint to the community to make sure that anticipated effects of projects on various customers within the city are considered and evaluated prior to a decision by the Project Oversight Team. The Panel is not a decision-making body. The Panel is not intended to be composed of experts in electric utility operations or energy technology, but rather a representative customer base for services provided by the electric and gas utility and of residents and businesses impacted by electric and gas utility operations. Its purpose is to assimilate information from various sectors of the community to make recommendations after considering varying viewpoints that inform the final decision on the projects identified by the Project Oversight Team.

In January 2021, the application process was opened to community members and business representatives interested in serving on the Panel. The application period closed Feb. 26, 2021. Ninety-four (94) applications were received. The applications were reviewed by staff who then selected thirty-five (35) for formal interviews. [Panel selections were announced](#) on May 26, 2021. In total, eighteen (18) community members were selected to serve on the panel. Since that time, one Panel member withdrew due to employment change. All other members remain active.

To provide support and facilitation services to the Panel, the city issued a competitive request for proposals and subsequently contracted with the [Institute for a Built Environment, Colorado State University](#) (IBE). IBE brings extensive experience in facilitating community engagement and

strategic planning efforts, including the recent work they did for the City of Longmont on Equitable Climate Action Planning. IBE will support both the Panel and working groups associated with the Partnership.

The first phase of the Panel’s work has been on team building and information sharing to help all Panel members start their work from a common point of understanding. The first Panel meeting was held on July 28, 2021. At this meeting the Panel was introduced to the facilitation team and to members of the Project Oversight Team. In addition to getting to know each other, Panel members had the opportunity to provide feedback on the Panel Charter and to establish working agreements for how Panel members will work with each other going forward. This was not held as a public meeting due to its team-building purpose and structure. City and Xcel staff also hosted a webinar for Panel members to answer any background questions they had on the initial set of projects included in the documentation that was shared with the community prior to the November 2020 franchise vote.

With the initial phase of background work complete, the Panel will be moving to the formal business phase of their work. The first effort will be to establish an initial set of priority topics that they want to focus on. This will take place at the first formal business meeting, to be held in November. It is expected that this meeting will be streamed live and recorded for members of the public to watch. A joint meeting of the Panel and the Executive Team will be held later this year to review the initial set of priority focus areas and six-month work plan for the Panel.

Progress on Emissions Targets

A unique aspect of the city’s Franchise Agreement with Xcel is the inclusion of state-wide GHG emission reduction targets, along with ability of the city to opt out of the Franchise if those targets are not met. The targets are based on a 2005 baseline year in which Xcel’s recorded emissions were 33.9 million tons. From that baseline, the targets are:

- 2019 42% reduction: 19.5 million tons emitted
- 2022 52% reduction: 16.6 million tons emitted
- 2024 61% reduction: 13.6 million tons emitted
- 2027 67% reduction: 11.5 million tons emitted
- 2030 80% reduction: 6.9 million tons emitted

The 2030 target reflects the emissions reduction requirement imposed on Xcel through state legislation². The interim targets, however, are ones agreed upon by the city and Xcel.

² House Bill 19-1261 requires cuts in greenhouse gas emissions over 2005 levels of 26% by 2025, 50% by 2030 and 90% by 2050.

At the time the Franchise Agreement was negotiated and presented to voters, Xcel's 2019 reported emissions reduction matched the target of 42% reduction (19.5 million tons emitted). Third party verification of that figure has since been completed.³ Third party verification is also complete for the 2020 year in which Xcel reported a 46% reduction and 18.7 million tons emitted.

On March 31, 2021, Xcel filed their Clean Energy Plan (CEP) and Electric Resource Plan (ERP) with the PUC. The filing outlines Xcel's forecasted electricity needs and their proposed options for obtaining and delivering resources to meet those needs. Alice Jackson, President, Xcel Energy-Colorado, provide council and the community an overview of and answered questions about the filing at the [June 8, 2021, Council Study Session](#). The city is an intervener in the proceeding and on October 11, 2021, staff filed ninety (90) pages of testimony outlining areas of support for elements of Xcel's proposal, opportunities for refinement or improvement and additional areas that the PUC might consider to better support advancing the goals of communities, like Boulder, who have adopted goals that exceed state requirements.

Included in the testimony is a proposal that the city and Xcel are excited to advance and discuss with the PUC. This is discussed in more detail later in this memo.

Grid Modernization

Modernizing the grid to improve reliability, enhance resilience and enable a zero-carbon electricity future is a priority of the partnership. Key focus areas include:

- Improving Reliability through Undergrounding and System Betterment
- Identifying and hardening critical infrastructure
- Planning for the Distribution System of the Future

The project team has been working to review historical reliability data for Boulder's distribution system to identify the areas of greatest vulnerability. The team has also begun charter work for the upcoming deployment of [advanced grid and smart meter infrastructure](#) through Xcel's Advanced Grid Intelligence and Security (AGIS) initiative.

Undergrounding – 1% Fund

The Boulder community has long been committed to undergrounding the distribution system to improve reliability and enhance resilience, as well as for aesthetic reasons. Under the franchise, 1% of the electric revenues Xcel Energy collects from the community are to be reinvested through community-identified undergrounding projects. Available funds include 1% of the revenues since the expiration of the 1990 franchise, plus annual amounts going forward. This amounts to an estimated \$33 million available for investment in the next 20 years, with approximately \$16 million of that to be invested in the next five years. Recognizing that this is a fraction of what will be required to underground the system, staff have developed criteria for

³ Xcel reports their emissions annually as part of their [Corporate Responsibility Report](#). They subsequently submit their data to [The Climate Registry](#) for independent review and certification. This typically results in the final certified number being published at the end of the year following the reporting year (so in the case of 2022 target year, Xcel would report their emissions during the first quarter of 2023 and the certification of the reported number would be completed towards the end of 2023).

project selection and are using these criteria to establish a priority undergrounding plan for the next five years.

The first undergrounding project is underway and expected to be completed during fall 2021. The project is being completed in conjunction with the city's [North Broadway Reconstruction Project](#) and is focused on undergrounding the electric mainline from Violet to U.S. 36. This mainline serves a significant number of customers along the North Broadway corridor and the surrounding communities; it also provides extensive backup capability for other circuits serving the area. This project was realized on an expedited timeline to accommodate the city's North Broadway reconstruction project and its undergrounding is expected to improve overall reliability in that area, as well as facilitate future redevelopment along North Broadway.

Xcel has also developed preliminary designs for what is expected to be the second undergrounding project. That project would underground the overhead distribution lines along 19th Street in conjunction with the city's [Fourmile Canyon Creek Flood Mitigation](#) and [19th Street Multi-modal Improvements](#) projects. The final decision to proceed will be made subsequent to receipt of Xcel's designs for the corridor, anticipated in the coming month.

Undergrounding – Betterment Investments

In addition to coordinating 1% undergrounding work with city infrastructure projects, the city and Xcel are also reviewing Xcel's planned upgrade and replacement betterment projects to identifying potential undergrounding opportunities, where the work already planned can serve as a credit towards the cost of undergrounding.

Undergrounding – Community Programs

Advancing the community's undergrounding goals by facilitating privately funded undergrounding is another area the Partners are exploring. As a first step, staff have been developing a How-To guide for residents who are seeking to underground their own services. Staff have identified multiple neighborhood groups that are working towards undergrounding distribution lines that abut their properties, along with the service lines to their homes. Staff have spoken with these groups to gather lessons learned and understand the challenges and barriers to these projects. Staff are also working on developing a service undergrounding checklist to assist residents, contractors and staff with city permitting and inspection. The city and Xcel are also exploring the potential of an undergrounding tariff that could be used to help finance projects.

Critical Infrastructure

A list of critical city facilities and infrastructure has been developed. These sites will be prioritized for restoration efforts in events of power outages. In the coming months, the project team will also be identifying those sites with the greatest vulnerability based on information such as historical fault and outage data, and infrastructure type and age. The results will be used to inform future improvements.

Advanced Grid Planning

Advanced Grid Planning is embedded throughout the partnership work, from undergrounding, to accelerating electric vehicle adoption, to increasing the amount of local generation, to planning for future demand-side management programs. The efforts also include planning for the rollout of smart meters⁴ and for exploring opportunities to improve reliability and resilience through integration of other advanced grid technologies, such as fault location, isolation, and service restoration (FLISR). FLISR technologies are one of the distribution automation tools utilities have begun deploying to provide operators greater visibility into disturbances and automatically reroute power to reduce the number of affected customers from a localized outage. The project team is exploring the possibility of deploying FLISR as a potential pilot project in Boulder to better understand its benefits and opportunities. During 2022, the team will identify one or more candidate locations, along with cost estimates for each recommended location where FLISR could be beneficially deployed.

Streetlights

The city's streetlighting system uses more than 4 million kWh of electricity and costs the city over \$1 million to operate annually. While the city has installed high-efficiency LED fixtures for all new city streetlights, the legacy system, approximately 4,500 fixtures that are owned by Xcel Energy, has yet to be converted. The city and Xcel launched a project to explore solutions to achieving the community's vision for a streetlighting system that is reliable, delivers the performance and lighting quality needed to provide for the safety and security of the community, that mitigates the community's GHG emissions and that is cost effective to the city.

Multiple pathways are being considered to include:

- LED conversion through Xcel Energy's existing program with and without up-front investment from the city
- Developing an alternative program offering and rate design in coordination with Xcel Energy and other communities that could be presented to the PUC
- Acquisition of the streetlighting system by the city and subsequent retrofit

Xcel has provided the city with a preliminary cost analysis for converting the streetlights under their existing program – the option that requires no up-front cost to the city.⁵ Based on the analysis, approximately 60% of the city's lights could be converted to LED; however, despite the reduced energy consumption, the city is not expected to realize annual bill savings due to the structure of the rates associated with streetlights. The study serves as a baseline for comparison for the other pathways.

As an intervener in PUC Proceeding No. 20AL-0432E dealing with Xcel's 2020 Phase 2 electric rate case, the city joined a coalition of local governments in filing testimony on the streetlighting tariff and, more specifically, the requirements associated with the acquisition of streetlights from

⁴ Boulder is currently scheduled for smart meters to be deployed in the 2023-2024 timeframe.

⁵ Xcel Energy's current program is only available for cobra-head-style lights. These are the ones typically found along streets and roadways. They do not currently offer a retrofit option for the styles of lights that are commonly found in pedestrian areas.

Xcel. The parties reached settlement with Xcel in early May 2021. The changes implemented through this effort create much more favorable financial terms for municipalities, like Boulder, who are seeking to acquire their streetlighting system. Specifically, the changes allow for a simpler, and substantially lower-cost, separation design to be temporarily implemented so that municipalities can immediately start to realize savings through the much lower energy-only tariff. Municipalities are then afforded up to 15 years to complete the final separation. This reduces the initial funds needed to acquire the system and allows for separation to be done over time in conjunction with other repairs and improvements.

Through Xcel, the city secured the services of Pike Engineering to complete an audit and separation study of the Xcel streetlighting system. The audit and separation report has been received and is currently being reviewed by staff. The city is also currently in contract negotiations with a firm who specializes in streetlighting. The firm will assist the city in developing a cost estimate for the acquisition, separation, LED conversion and long-term operation of the streetlighting system. Once complete (likely in first quarter 2022), the cost estimate will be presented to council for a decision on acquiring the system from Xcel.

Advancing Local Generation and Building Electrification Goals

One of the priority opportunities identified for the partnership was revision or elimination of the so-called 120% rule for sizing solar systems. This rule specially constrained the size of the solar system based on historically electricity usage. That limit has been a particular barrier to residents and businesses who are converting from natural gas space and water heating systems to electric and looking to add solar at the same time. The limit is imposed through state regulation, requiring legislative action to modify it.

Boulder and Xcel worked closely with State Senator Stephen Fenberg, District 18, representing Boulder, who led the effort to modify the rule and incorporated that change as part Senate Bill [SB21-261, Public Utilities Commission Encourage Renewable Energy Generation](#). In addition to raising the solar system sizing limit to 200%, SB21-261 also advanced other important changes for renewable energy generation and in support of the community's goals. Since many of these changes will require rule making through the PUC, Xcel and the city are working with other stakeholders to try and accelerate the rulemaking process.

100% Renewable Electricity

A critical component of the franchise and partnership is the ability of the Boulder community to achieve its goals of 100% renewable electricity and 100 MW of local generation by 2030. The purpose and guiding principles of the partnership are, in part, to:

- Identify specific options that address the gap between Xcel Energy's 80% carbon emissions reduction by 2030 and Boulder's 2030 goal of 100% renewable electricity
- Prioritize reducing greenhouse gas emissions associated with gas and electric consumption, electrification, resilience, and equity
- Work together to help Boulder add renewables to achieve its 100% renewables goal by 2030 and to reach zero electricity sector emissions

To advance these principles, the city and Xcel will work together on projects and initiatives that help accelerate Xcel's system-wide emissions reduction efforts; increase adoption of local generation, storage and demand management reduce Boulder's electricity needs and to better align those needs with when renewable electricity is available; and lead to new or expanded programs and services to close the remaining gap between what Xcel can achieve at the system level and the community's electricity needs. The partners have been working on multiple efforts and initiatives to advance this effort.

The litigation of Xcel's CEP/ERP through the PUC is an important opportunity for the city to lend its support to elements of Xcel's plan that best support the community's goal. Staff did just this in the city's testimony, which included support for the pursuit of longer lead time zero-emission assets like pumped hydro and innovate solutions such as hydrogen and advanced storage. The testimony also presented an opportunity for the partners to bring PUC attention to challenge of meeting the needs of the many communities who, like Boulder, have adopted 100% renewable electricity or zero-emission electricity goals. In total, these communities represent more than 35% of Xcel's retail sales. The emissions reduction needs of these communities cannot be met by current programs such as Windsource or Renewable*Connect. Meeting the needs of these communities will require the addition of large, utility-scale projects. In staff testimony, staff proposed a mechanism for enabling communities to acquire new utility-scale renewable generation and battery storage aligned with demand-side flexibility. Specifically, the staff testimony proposes a new Clean Energy Plan Rider that pays for and receives the benefits of new utility-scale renewable generation and battery storage while also providing credits for community members to participate in programs that reduce demand at critical times and that shift usage to align with times of day when more renewable generation is available. The intent is to add new renewable generation and avoid the need for new fossil fuel generation. This proposal is currently under review by all intervenors and the PUC. While this proposal and how it will be addressed will ultimately be decided by the PUC, the city and Xcel are excited to work together to advance the concept and to further vision the design of such a program. The timeline for this process is outlined in the "Next Steps" section below.

The project team has also been working to develop a model that will be used to forecast the expected emissions gap between Xcel's total 2030 emissions and Boulder's goal of zero emissions. The model will then be used to analyze the impacts of different strategies for closing the gap. This includes establishing a baseline of current electricity use by customer type and participation by those customers in renewable and demand management program, and then developing forecasts for load growth based on different electrification, renewables adoption and demand management scenarios. Staff will be sharing the results of this work with Community Advisory Panel and will work with the Panel to explore different strategies and projects that can advance the community towards its 100% renewable electricity and local generation goals.

NEXT STEPS

Staff will continue to update council and the community on progress made through the partnership. The table below highlights some key events that may be of interest to council and the community.

2021 Key Milestones for the Partnership

Timeframe	Event
Early November	<ul style="list-style-type: none">• Community Advisory Panel – First Business Meeting
November/Early December	<ul style="list-style-type: none">• Joint Executive Team/Community Advisory Panel Meeting
December 2, 4-7pm	<ul style="list-style-type: none">• PUC Remote public comment hearing on Xcel’s Electric Resource Plan <p>To participate, call 346-248-7799 Enter meeting ID 834 7935 7567 Passcode 652541</p>
Q1/Q2 2022	<ul style="list-style-type: none">• Council review of potential streetlight acquisition
Q1/Q2 2022	<ul style="list-style-type: none">• Community Advisory Panel presentation to Executive Team on project recommendations