

Sustainability Advisory Board

Agenda

February 21, 2024

**Louisville Public Library, Second Floor Board Room
951 Spruce Street
6:30 PM**

Members of the public are welcome to attend and give comments remotely; however, the in-person meeting may continue even if technology issues prevent remote participation.

- You can call in to +1 408 638 0968 or 833 548 0282 (Toll Free)
Meeting ID **#829 8194 5389**
Meeting Password # **741017**
- You can log in via your computer. Please visit the City's website here to link to the meeting: www.louisvilleco.gov/sustainabilityboard.

The Board will accommodate public comments during the meeting. Anyone may also email comments to the Board prior to the meeting at KBetzold@LouisvilleCO.gov.

- I. Call to Order
 - John is February secretary.
- II. Roll Call
- III. Approval of Agenda
- IV. Approval of Minutes
- V. Public Comments on Items Not on the Agenda – 10 minutes
 - 3 minutes per comment
- VI. Staff Updates – 15 minutes
- VII. Discussion Item: Youth Advisory Board Collaboration – 15 minutes

Persons planning to attend the meeting who need sign language interpretation, translation services, assisted listening systems, Braille, taped material, or special transportation, should contact the City Clerk's Office at 303.335-4536 or MeredythM@LouisvilleCO.gov. A forty-eight-hour notice is requested.

Si requiere una copia en español de esta publicación o necesita un intérprete durante la reunión, por favor llame a la Ciudad al 303.335.4536 o 303.335.4574.

City of Louisville

City Manager's Office 749 Main Street Louisville CO 80027
303.335.4534 (phone) www.LouisvilleCO.gov

- Staff/YAB Update
- Public Comment (3 minutes per comment)
- LSAB Discussion

VIII. Discussion Item: Community Decarbonization Plan – 45 minutes

- Staff Update
- Public Comment (3 minutes per comment)
- LSAB Discussion and Direction

IX. Discussion Item: Solid Waste Contract RFP – 15 minutes

- Staff Update
- Public Comment (3 minutes per comment)
- LSAB Discussion

X. Discussion Item: LSAB Work Plan at Council – 15 minutes

- Staff and Chair Update
- Public Comment (3 minutes per comment)
- LSAB Discussion

XI. Sub-Committee and Board Member Updates

XII. Administrative Tasks

- Allison to write next Spotlight, due March 15

XIII. Discussion Items for Next Meeting

- Residential/Neighborhood Engagement Strategies
 - i. City engagement strategy
 - ii. Neighborhood sustainability program research
 - iii. Sustainable Neighborhood Network
- Potential new memos

XIV. Adjourn

Sustainability Advisory Board

Meeting Minutes

January 17, 2024
Louisville Public Library, 2nd Floor Board Room
951 Spruce Street
6:00 PM

Call to Order – Todd Budin, LSAB Chair called the meeting to order at 6:05 pm.

Roll Call was taken and the following members were present:

Board Members Present: Tiffany Boyd, Todd Budin, Josh Cooperman,
John Cowley, Allison Kay, Kevin Lombardo and Megan Ottesen

Board Members Absent: None

Staff Members Present: Kayla Betzold (remote), Hannah Miller, Jeff Hirt

Approval of Agenda –

Tiffany moved to approve the agenda; Megan seconded the motion. The agenda was approved by all members.

Approval of Meeting Minutes –

Josh moved to approve the meeting minutes; Tiffany seconded the motion. The meeting minutes were approved by all members.

Approval of 2024 Agenda Posting Locations –

Tiffany inquired about the possibility of posting meeting notifications at Kestrel. Kayla replied that she would inquire with the City clerk. Tiffany motioned to approve the posting locations; Megan seconded her motion. The 2024 agenda posting locations were approved by all members.

Public Comments –

There were no public comments.

Staff Update –

Kayla explained the process for and purpose of staff updates at Board meetings. She highlighted the Sustainability Division's upcoming appearances at City Council meetings in March, notably the presentation of the Community Decarbonization Plan the night before the Board's March meeting. Tiffany asked for clarification on the Division's intention not to ask for adoption of the Community Decarbonization Plan but to ask for updates of the City's climate action goals. Kayla explained that updates of these goals would likely be more impactful than adoption by resolution of the Community Decarbonization Plan.

John asked for further information on the study of Louisville's commercial buildings that students from CU-Anschutz will conduct this spring. Kayla explained that the idea came from the Community Decarbonization Stakeholder Group. The students will use Boulder County data to explore the ages of buildings and their likely HVAC equipment replacement schedules so that the City can target its outreach, particularly to support the City's collaboration with PACE this year. The students will attempt to research all commercial buildings in Louisville.

Kevin inquired about the building energy code amendments that City Council will soon consider. Kayla explained that the codes recently adopted by the City require a few administrative changes, particularly regarding bringing equipment replacement requirements in line with legal standards.

Todd clarified how the Board typically approaches the staff updates at its meetings: Board members read the updates beforehand, and discussion at the meeting is limited to Board member's questions.

Kayla brought to the Board's attention the documents concerning open government rules and expectations for Board members.

Tiffany inquired about Board members attending the City Council meetings in March at which the Sustainability Division will present. Kayla encouraged Board member participation, especially at the presentation of the Community Decarbonization Plan.

Kayla gave a brief overview of how the Board typically approaches discussion items during its meetings.

Discussion Item: Comprehensive Plan –

Jeff Hirt, with the City's Planning Division, presented on the Comprehensive Plan update process. See his slides in the meeting packet.

Public Comment

There was no public comment on this item.

Board Discussion

Todd inquired about what notable changes occurred with the previous Comprehensive Plan update. Jeff replied that most of the City's land-use regulations did not change with the last update. He volunteered that the current Comprehensive Plan is perhaps too complex with too many layers, making it less user-friendly.

John inquired about forums to discuss details of the update. Jeff replied that the City will start with high-level surveys for residents to help to identify issues, especially concerning values and visions, that need the most attention. The City will use responses to direct the next level of discussion regarding potential

resolution, trade offs, and compromises on these issues. Josh pointed out that the City will hold many opportunities for public engagement.

Each Board member offered specific feedback for the Comprehensive Plan update. Tiffany offered that the current Comprehensive Plan's vision and values lack statements on climate action, climate resiliency, climate preparedness, and climate justice. More specifically, she mentioned such examples as mitigating urban heat islands, planting trees, ensuring resilience of infrastructure, replacing turf with native plants, conserving water, and electrifying everything. She recommended that this should be a lens for viewing the entire updated Comprehensive Plan. She also recommended that consideration of diversity, equity, and inclusion should be another such lens. In particular, she mentioned a need to reflect on the City's history of displacement of indigenous people and of coal mining. She also advocated for moving away from usage of "small-town character" as this phrase is often viewed as meaning "white".

Kevin placed emphasis on diversity, language justice, affordable housing (as well as more generally allowing accessory dwelling units), incentivizing development to meet high sustainability standards, and multimodal transportation, especially safe walking, bicycling, and bus stops.

John placed emphasis on reducing the City's carbon footprint in measurable ways, especially in relation to transportation by encouraging electric vehicle adoption through expanded and strategic charging locations.

Allison placed emphasis on providing a socioeconomic diversity of housing options in part through mixed-use development and providing electric vehicle charging at multifamily and socioeconomically diverse housing. She also suggested the deployment of local stories of decarbonization as a means to further such efforts.

Megan places emphasis on development of more affordable housing, a move away from the small-town narrative, which thwarts mixed-use development, and climate-wise infrastructure like bus stop canopies.

Josh stated that, while the current Comprehensive Plan's vision and values contain a lot of good material and intentions, the updated Comprehensive Plan should be based on the guiding principles of environmental sustainability and diversity, equity, and inclusion. More specifically, he stated his interest in rezoning and upzoning to make progress on affordable housing. He also suggested that the City consider form-based rather than zoning-based land-uses.

Todd recommended consideration of how other cities approach this type of planning effort and what sorts of ideas other cities are adopting. He hoped that such considerations would help to push the limits on possibilities for Louisville. He advocated for dispensing with the mining-town narrative and pushing the limits on residential development to make more livable, sustainable neighborhoods. Todd mentioned Ithaca, New York as an example of a city that has committed to full decarbonization over the next decade or two. Ithaca has developed incentives, created workforce training, and arranged financial partnerships with companies like Fujitsu, all with considerable stakeholder engagement.

Tiffany inquired about the possibility that important issues, particularly according to scientific evidence, are not identified as important to residents. Jeff replied that the City's consultants will work to raise these issues. Tiffany also suggested that model communities (in various respects) be exhibited during the process.

Megan inquired whether City Council will eventually adopt the updated Comprehensive Plan. Jeff replied that City Council does have this role. John added that consideration of rail service to Louisville is important, and Kevin added that consideration of water reuse is important.

Discussion Item: 2024 LSAB Work Plan –

Kayla reviewed the Board's 2024 work plan ideas developed during its November meeting: regular updates on and monitoring of implementation of the Internal Decarbonization Plan and support for implementation of the Community Decarbonization Plan. She then gave an overview of the Sustainability Division's draft of the Board's 2024 work plan. See the meeting packet.

Public Comment

There was no public comment on this item.

Board Discussion

Tiffany expressed her support for the draft work plan. Allison inquired about traditional community outreach efforts on the part of the Sustainability Division and the Board. Hannah explained that the Sustainability Division is responsible for all sustainability communications for the City, and she mentioned a few examples. Todd noted that the Board has moved towards relying on City staff for communication efforts. Tiff volunteered that there is a need for systemic change in how the City performs communication and outreach and that the Board can help to drive changes.

Josh stated that he would like the Board to identify specific, concrete decarbonization activities and efforts that the Board could address over the next year. Todd asked for clarification. Josh gave a couple of examples. John built on Josh's comments: he would like to quantify how much greenhouse gas emissions the Board's efforts prevent. Moreover, he would like the Board to engage in meaningful work with concrete goals, not merely education and outreach. Todd questioned how the Board could determine how much greenhouse gas emissions the Board itself prevented. There are many efforts to reduce greenhouse gas emissions; disentangling the Board's work from other efforts would be difficult. Kayla volunteered that the Board's February and March meetings will inform this discussion and that the Board should remember that it

serves an advisory role. John put forward the uptake of the City's electrification rebates as a possible metric for the Board's efforts. Kevin interjected that workshops for and engagement with homeowners does work as evidenced by rebuilding in the City.

Todd motioned to approve the draft 2024 work plan. Megan seconded his motion. All Board members agreed.

Discussion Item: Sustainability Spotlight –

Kayla reviewed the nature, purpose, and mechanics of the Sustainability Spotlight.

Public Comment

There was no public comment on this item.

Board Discussion

Tiffany volunteered to write the Sustainability Spotlight for February. Board members volunteered as follows for other months: Allison for April, Kevin for June, John for August, Todd for October, and Megan for December. Kayla noted that all of the past editions are available on the City's website.

Discussion Item: 2024 LSAB Officer Election –

Kayla reviewed the two offices: chair and vice-chair. The chair meets monthly with Kayla to set the meeting agenda and runs the meetings. The vice-chair serves as chair in case the chair is absent. Both offices have one-year terms.

Public Comments

There were no public comments on this item.

Board Discussion

Todd delivered his pitch for reelection as chair. He noted that he had initially promised to keep meetings to ninety minutes; he kept this promise quite well in his first year as chair, but meetings have run a bit longer in his second year as chair. He noted that he works well with Kayla and that he would maintain the course of the past two years. The Board now has the Internal and Community Decarbonization Plans on which to draw.

Megan endorsed Tiffany for vice-chair.

All Board members voted for Todd for chair. All Board members voted for Tiffany for vice-chair.

Sub-Committee and Board Member Updates –

John put forward four ideas for the Board's next meeting: a letter to the relevant State agencies or representatives expressing support for stricter regulations on gasoline-powered landscaping equipment, a letter to relevant agencies or representatives about planning for a rail station in Louisville, a change in the Board's mission statement to explicitly reference decarbonization, and an inquiry with Public Works about methane capture at the wastewater treatment plant. Kayla replied that she could address the last idea.

Administrative Tasks –

Tiffany to write the next Sustainability Spotlight, due January 23.

Discussion Items for Next Meeting –

The Board did not discuss future agenda items.

Adjourn –

Kevin moved to adjourn the meeting and Megan seconded the motion. The meeting was adjourned at 8:03 p.m.

Memorandum

To: Louisville Sustainability Advisory Board
From: Kayla Betzold, Sustainability Manager
Date: February 21, 2024
Re: Staff Updates

Projects and Programs

- Resource Central
 - The City is partnering with Resource Central to offer water conservation programming for residents **and businesses** in 2024. Programs include: Lawn Replacement, Garden in a Box, Waterwise Yard Seminars, Slow the Flow Sprinkler Assessments and Smart Controller Installations. More information about these programs can be found [here](#).
- Solar United Neighbors
 - There are 60 Louisville residences registered through the solar co-op. 21 of the residences have signed the installation contract, accounting for 141 kW of PV.
- City of Louisville/EnergySmart rebates
 - City of Louisville rebates are still available for residential energy efficiency and electrification projects.
- Commercial Research
 - The CU-Anschutz graduate class has started conducting research on Louisville's commercial building stock in an effort to target businesses with PACE rebates and programming.

Council Work Plan Items

- The City's Comprehensive Plan project has begun. Stay up to date with the project [here](#).
 - First Comprehensive Plan online survey will be available soon, through early April.
 - In person Comprehensive Plan Open House **tentatively** scheduled for Wednesday, March 20 from 4:30 – 6:30 p.m. at the Louisville Recreation & Senior Center.



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- The City's [Downtown Vision](#) project will host an open house event on Thursday, February 22 from 5:30 – 7:00 p.m. at City Hall Council Chambers. LSAB members are invited to join, learn more about the project and provide input. Additionally, there is a [survey open now](#).
- Solid waste contract proposals will go to Council on March 5.
- LSAB's 2024 Work Plan will go to Council on March 12.
- The Community Decarbonization Plan will go to Council on March 19.
- Energy code amendments will go to Council on April 2.

Grants

- The City of Louisville, in collaboration with Boulder County and municipalities, have been awarded \$4.9 million from the U.S. Department of Transportation (DOT) Federal Highway Administration (FHWA) Charging and Fueling Infrastructure (CFI) Discretionary Grant.
 - The grant will support the installation of 94 public level 2 chargers and 20 public level 3 chargers throughout the county, prioritizing areas where multifamily residences lack accessible charging.
- The City of Louisville, in collaboration with the Front Range Beneficial Electrification Network (FRBEN) and the Denver Regional Council of Governments (DRCOG) are applying for the EPA's Carbon Pollution Reduction Grant (CPRG) to accelerate building electrification in the region.
 - The application is due April 1, 2024 and the group will likely be applying for \$100M+ in funding.
- The City is applying for the Department of Revenue's Alternative Transportation Option Tax Credit to support the purchase of e-bikes for a municipal e-bike library, to encourage employees to reduce VMT throughout the work day.
- The Sustainability Division is collaborating with the Public Works Fleet team to assess electric vehicle options for fleet upgrades, funding from the Colorado Energy Office is available to support conversion to EVs.

LSAB (January meeting follow up)

- The City is not able to post board agendas at Kestrel, as it's not a city-owned facility. The board may be interested in creating a flyer that directs people to the LSAB webpage for information about meetings. The City is required to review and approve any potential flyer before publication and posting.



City of Louisville

City Manager's Office

- The City explored biogas options in 2014 when designing the current wastewater treatment plant, constructed in 2017. Biogas was not considered feasible at the plant due to its small size, although it proves feasible at larger treatment plants with more potential. For comparison, Boulder's plant has 13 million gallons per day with capacity of 26 million gallons. Louisville has 1.8 million gallons per day with capacity of 2.5 million gallons.
- Discussion of LSAB bylaws is included in the 2024 Work Plan in July.
- The Front Range passenger rail and state lawn equipment memos will be added to the March LSAB agenda.



A Community Decarbonization Plan for Louisville

DRAFT January 2024



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An Xcel Energy Community Collaboration

ACKNOWLEDGEMENTS

Thank you to the following individuals who contributed many hours of service to developing this Community Decarbonization Plan. The individuals who contributed to this planning process are collectively referred to as the Community Decarbonization Stakeholder Team (stakeholder team).

The content of this plan is derived from a series of planning workshops hosted by Xcel Energy's Partners in Energy. Xcel Energy is the main electric and gas utility serving Louisville. Partners in Energy is a two-year collaboration to develop and implement a community's energy goals. For more information about the planning workshops, see **Appendix A: Xcel Energy's Partners in Energy Planning Process**.

Community Decarbonization Stakeholder Team

Ryder Bailey	City of Louisville, Finance Director
Kayla Betzold	City of Louisville, Sustainability Manager
Austin Brown	City of Louisville, Economic Vitality Specialist
Todd Budin	Louisville Sustainability Advisory Board, Chair
Audrey DeBarros	Commuting Solutions, Executive Director
Elizabeth French	Boulder County Partners for a Clean Environment, Manager
Jennie Geiger	Louisville resident
Marina La Grave	Boulder County, Climate Equity Specialist
Eric Lund	Louisville Chamber of Commerce, Executive Director
Erin Lynch	Louisville resident
Gregory Maring	Commercial property owner
Scott Reichenberg	Commercial developer and property owner

Partners in Energy Team

Iffie Jennings	Xcel Energy, Area Manager
Sofia Troutman	Xcel Energy, Partners in Energy Program Manager
Joe Limone	Xcel Energy, Louisville Account Manager
Sarah Kaye	Partners in Energy, Community Facilitator
Terry Hartfield	Partners in Energy, Community Facilitator
Idalia Cabrales	Partners in Energy, Community Facilitator
Andrea McCarthy	Partners in Energy, Community Facilitator

DRAFT

This Community Decarbonization Plan was funded by and developed in collaboration with Xcel Energy's Partners in Energy. Partners in Energy shall not be responsible for any content, analysis, or results if Louisville has made modifications to the plan.

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City of Louisville Community Decarbonization Plan

About this Plan

This Community Decarbonization Plan was developed in collaboration with Xcel Energy Partners in Energy. This plan focuses on decarbonizing Louisville's energy supply, improving the efficiency of and electrifying existing buildings, and increasing the adoption of electric vehicles (EV).

The City of Louisville recruited nine stakeholders with diverse community perspectives to inform the contents of this plan. Stakeholders met over the course of seven months and provided input through four in-person workshops and one stakeholder survey. Additionally, City staff sought plan feedback through a community survey.

Louisville's Vision & Goal for Community Decarbonization

A plan's vision defines a community's desired future state. It can also serve as a "north star," helping to guide action and prioritize resources. The stakeholder team collectively defined the following vision.

Vision

Louisville will take a measured, equitable approach to reducing carbon emissions from the building, energy supply, and transportation sectors.

Goal

The City of Louisville will reduce energy-related emissions 60% below 2016 levels by 2030 and will be carbon-neutral by 2050.

How Are We Going to Get There

The stakeholder team identified the following strategies to implement over the next 18-months. These strategies focus on addressing low-hanging fruit and laying the groundwork for future, high-impact action. Louisville will need to take additional actions beyond this 18-month implementation period to achieve their 2030 and 2050 goals.



Decarbonizing Our Residential Sector

- R-1 Single-Family Homeowner Engagement
- R-2 Rental and Multifamily Engagement
- R-3 Mobile Home Engagement



Decarbonizing Our Commercial and Industrial Sector

- B-1 Business Research
- B-2 Business Advisement

INTRODUCTION



Defining Decarbonization

A lot of our daily activities have carbon dioxide emissions associated with them—from the natural gas we use to heat our homes to the gasoline or diesel used to power our vehicles. Carbon dioxide, referred to as carbon in this plan, is a greenhouse gas that traps heat in the earth's atmosphere and is a main driver of climate change. The Sixth Assessment Report published by the Intergovernmental Panel on Climate Change (IPCC) in 2023 found that human activities have “unequivocally” caused global warming of 1.1°C above pre-industrial levels (IPCC, 2023). The report also points to gaps between emissions projected in the context of current policy commitments and the levels needed to keep warming below 1.5°C (IPCC, 2023).

Decarbonization is the act of reducing carbon from human activities. So, what does this process look like? As part of Louisville's Internal Decarbonization Plan, engineering firm McKinstry used **Figure 1** Error! Reference source not found. to define the key components of decarbonization. While the steps shown don't always occur in sequence, considering them sequentially can help draw an efficient roadmap for decarbonization.

It starts with reducing “embodied carbon”, which refers to carbon emissions associated with production of raw materials needed to create



Source: City of Louisville Internal Decarbonization Plan (McKinstry, 2023)

Figure 1. Shows how City of Louisville's Internal Decarbonization Plan defines decarbonization.

our buildings and vehicles. Next comes improving the efficiency of our buildings, building equipment, and modes of transportation. Next, we make sure anything that's powered – like HVAC equipment, stoves, water heaters, or vehicles – can be powered renewably, by converting fossil fuel systems to electric. Finally, we power all equipment with renewable energy, like solar or wind energy.

Though there are also decarbonization opportunities in the waste, water, and agricultural sectors, this plan is focused on building efficiency and electrification, transportation electrification, and renewable energy supply. The following section further describes the specific scope of this plan.

Scope of This Community Decarbonization Plan

This Community Decarbonization Plan was developed in collaboration with Xcel Energy Partners in Energy. Xcel Energy is the natural gas and electric utility that serves the City of Louisville. Partners in Energy is a two-year collaboration to develop and implement a community's renewable energy, energy efficiency, building electrification, and transportation electrification goals. The City of Louisville recruited nine stakeholders with diverse community perspectives to inform the contents of this plan. This Community Decarbonization Stakeholder Team (see Acknowledgements) met over the course of seven months and provided input through four in-person workshops and one stakeholder survey.

As such, this plan focuses on decarbonizing Louisville's energy supply, improving the efficiency of and electrifying existing buildings, and increasing the adoption of electric vehicles. Decarbonization of additional sectors is addressed through other City plans, policies, and programs, such as the Sustainability Plan, the Comprehensive Plan, support for those rebuilding after the Marshall Fire, and the City's energy code. Decarbonization of City fleet and facilities is addressed through the City of Louisville's Internal Decarbonization Plan, adopted by City Council in October 2023.

Marshall Fire

In December of 2021, over 500 Louisville homes and businesses were burned in the Marshall Fire. With support from federal, state, utility, and local partners, Louisville began the slow process of recovering and rebuilding.

The reconstruction of these homes presents an important opportunity for decarbonization in Louisville. This Community Decarbonization Plan focuses solely on existing homes and businesses, however, there are substantial resources available to help Marshall Fire victims rebuild in alignment with Louisville's decarbonization goals. The Resilient Rebuild collaboration was formed in the wake of the Marshall Fire to connect residents with essential reconstruction information and resources. A critical function of this effort is to support the construction of energy efficient homes.

Electrification and Grid Readiness

Xcel Energy's Clean Heat Plan and 2023 Demand-Side Management and Beneficial Electrification Plan (filed, but not yet approved as of January 2024) in Colorado will help lay the groundwork for customers seeking to electrify their homes through new utility programs and initiatives launching in 2024. These programs include robust insulation and air sealing rebates, which help improve the building envelope before electrification. These plans also include programs and rebates for electric equipment, including additional rebates for projects that pair

insulation, air sealing, and heat pumps. The goal in both plans is to reduce carbon emissions and increase energy efficiency across multiple sectors, from residential to business to industrial, while maintaining reliability and affordability.

In addition to offering equipment rebates for electrification, Xcel Energy is preparing for electrification and increased electricity demand in a variety of ways, including advanced grid investments and demand side management programs. Xcel Energy's Advanced Grid Initiative is bringing digital technology to electric service with a smarter, more resilient electric distribution grid (see the Partners in Energy [Advanced Grid Community Playbook](#) for more details). Compared to traditional distribution systems, the advanced grid enhances visibility and control of the grid via modern system technology. Demand side management strategies, like time-of-use rates (also known as time-of-day rates) in Colorado, will allow Xcel Energy customers to use electricity in off-peak hours and give customers more control over bills.

What Makes Louisville Unique for Decarbonization?

During the first Community Decarbonization planning workshop, Partners in Energy developed a community decarbonization baseline (see Appendix B for details) and asked stakeholders to reflect on the question “What makes Louisville unique for decarbonization?”. The following section summarizes some of the unique aspects of Louisville that present barriers and opportunities for decarbonization.

Louisville Community Members Are Community-Focused and Sustainability Minded

The residents and businesses in Louisville value the environment and have a strong sense of community. Many community members are educated and engaged on topics of sustainability and there are lots of communication channels available to share resources and information.

Not All Community Members Have Equal Decarbonization Opportunities

An individual's or family's housing situation, educational background, and socio-economic status can present barriers or opportunities for decarbonization. Stakeholders identified the importance of helping address these inequities, by identifying projects that produce real benefits for community members, while offsetting potential costs with existing or new resources.

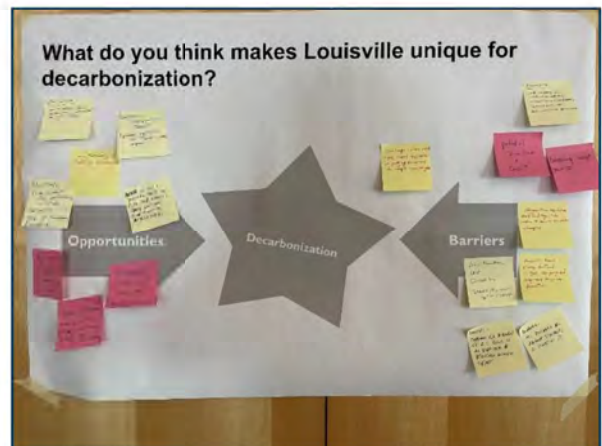


Figure 2. A workshop poster in which participants categorized barriers and opportunities related to decarbonization.

Balancing Decarbonization with Economic Vitality is Paramount

Purchasing an electric car, upgrading insulation, or installing a heat pump water heater can be expensive. In older homes, electric panels may require upgrades to accommodate new demands of electric equipment. On a community scale, large infrastructure investments may be required to accommodate broad electrification efforts. Given these cost factors, the stakeholder team underscored the importance of leveraging incentives over regulations to advance community decarbonization while upholding economic vitality.

Commercial Sector Makes Up the Majority of Community Natural Gas Use

Across Partners in Energy communities in Colorado, natural gas use is typically driven by the residential sector, however Louisville's natural gas use in 2022 was 53 percent from the

commercial sector. Louisville's commercial sector has some large businesses including breweries, national scale food services, and hospitals that could drive much of the increased natural gas use over a typical community.

Louisville Has Ample Public Charging Opportunities

There are 54 EV charging ports dispersed throughout the City of Louisville (Figure 3). While there is no definitive guideline, one best practice suggested installing a public charging port for every ten electric vehicles (Alternative Fuels Infrastructure Directive, 2021). In 2021, there were 468 electric vehicles registered (8.5% of total registrations) (Boulder County DMV, 2021). This is less than nine vehicles per charging port, indicating the City of Louisville has ample public charging. As EV adoption increases in the community, Louisville may consider strategic investments in public infrastructure, such as public charging to increase access for those without access to at home charging. Additional strategies could include promoting workplace charging and home charging.

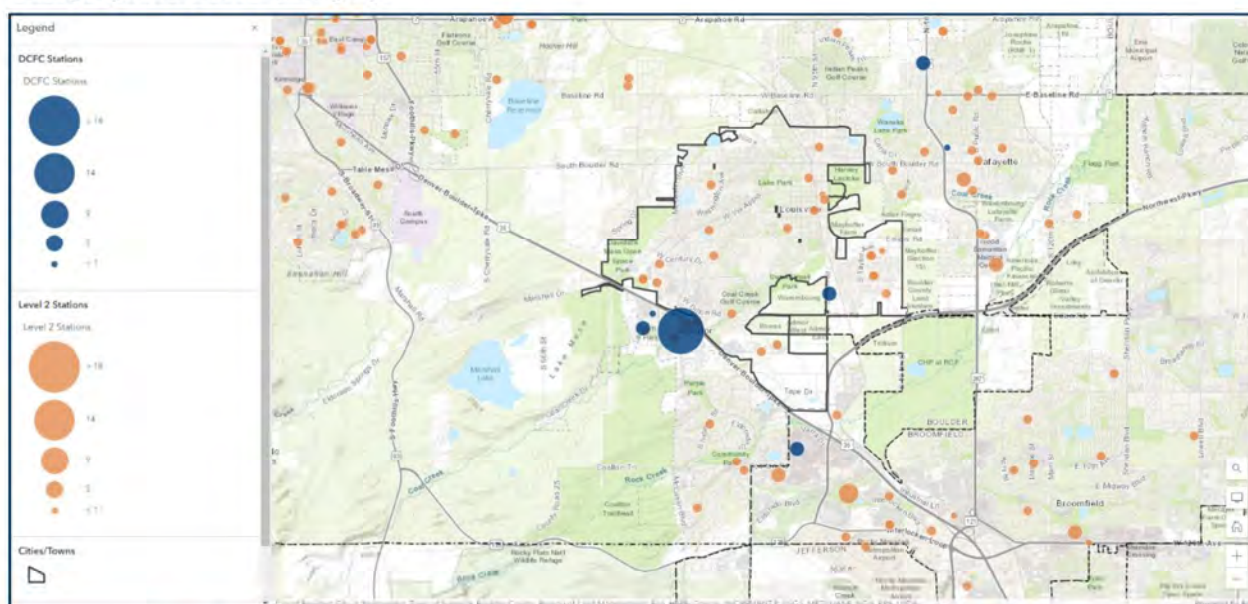


Figure 3: A map of Fast Charging (DCFC) and Level-2 charging stations in Louisville.

Renewable Energy Adoption in Louisville is Higher than Average

Across Partners in Energy communities, on average about 7% of residential customers and 2% of commercial customers have adopted renewable energy through an Xcel Energy program. In Louisville, renewable energy participation is much greater with 15% of Louisville residents and 7% of Louisville businesses adopting renewable energy. Enabled by the greening of the Xcel Energy electric grid in combination with Louisville's renewable energy efforts, emissions associated with electricity are rapidly decreasing. With lower electric grid carbon intensity, electrifying natural gas-powered equipment in buildings and gasoline/diesel-using vehicles will result in significant greenhouse gas emissions savings long-term for the community.

OUR VISION FOR A CARBON-NEUTRAL FUTURE



Louisville's Vision for Community Decarbonization

A plan's vision defines a community's desired future state. It can also serve as a "north star," helping to guide action and prioritize resources. The Community Decarbonization Stakeholder Team collectively defined the following vision.

Louisville will take a measured, equitable approach to reducing carbon emissions from the building, energy supply, and transportation sectors

Louisville's Community Decarbonization Goal

In 2019, the City of Louisville adopted a [resolution](#) to "Reduce core community GHG emissions annually below the 2016 baseline through 2030". From an energy emissions perspective, the City has met this goal every year since 2016, and is projected to meet this goal into the future (**Figure 4**), even when accounting for population growth and without any change in behavior or investment. Xcel Energy's commitment to provide carbon-free electricity by 2050, which will draw down electricity emissions to zero, is playing a significant role in enabling Louisville to meet its current GHG emissions goal. Without a reduction in emissions from electricity, Louisville's overall energy emissions would increase as shown on the dotted trajectory of Louisville's baseline emissions. Long term, emissions from natural gas use represent a growing percentage of overall energy emissions and highlights the need to reduce natural gas use to achieve greater emissions reductions.

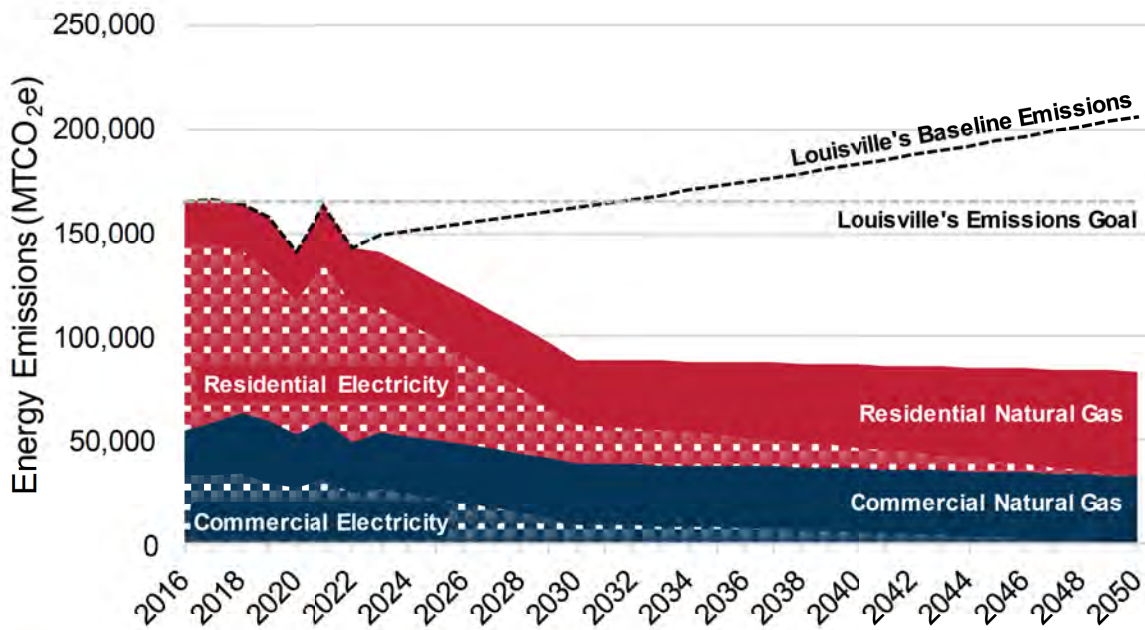


Figure 4. City of Louisville Energy Emissions Forecast

Today, the City of Louisville is looking ahead to further reduce emissions beyond its current goal. As part of the development of this Community Decarbonization Plan, stakeholders were tasked with updating the City's energy decarbonization goal to better reflect community values. Partners in Energy identified three peer goals to serve as benchmarks for conservative, ambitious, and aspirational decarbonization pathways. The table below summarizes these benchmarks.

Table 1. Benchmark Energy Decarbonization Goals Used to Inform Goal Setting

	Conservative	Ambitious	Aspirational
Definition	Achievable with current budget and workforce	Will require additional investment, but doable	Would need significant adjustment in current priorities to achieve
Benchmark	Benchmark: State (CO)	Benchmark: Superior	Benchmark: Boulder
Goal	50% below 2005 GHG emissions by 2030	60% below 2016 GHG emissions by 2030 and net-zero GHG emissions by 2050	Net zero emissions by 2035

The three benchmark goals are visualized in comparison to the City of Louisville's goal in Figure 5.

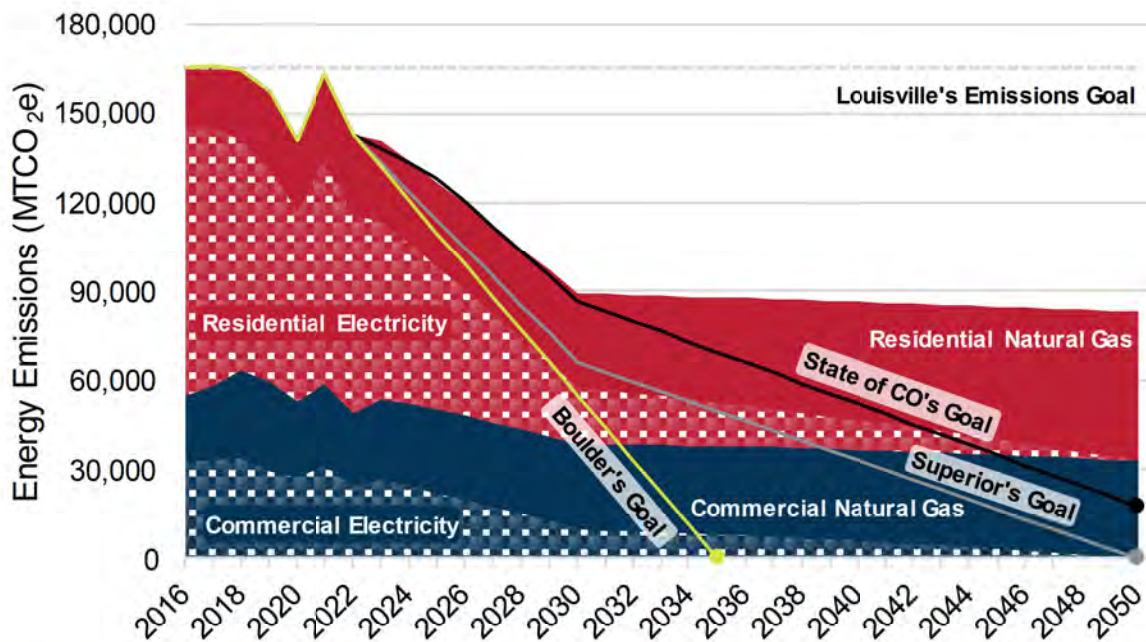


Figure 5. City of Louisville Emissions Goals Compared to Benchmark Conservative, Ambitious, and Aspirational Goals

The stakeholder team agreed to align with the “ambitious” benchmark, which establishes the following goal for this Community Decarbonization Plan:

The City of Louisville will reduce energy-related emissions 60% below 2016 by 2030 and will be carbon neutral by 2050.

HOW WE ARE GOING TO GET THERE



What Will It Take To Meet Our Goals

Figure 6 shows three energy emissions scenarios. All emission scenarios assume that Louisville continues to grow according to historical averages.

The first scenario, shown with a blue line, represents baseline emissions. The baseline emissions scenario assumes that no action is taken by Xcel Energy to decarbonize the electricity grid or by Louisville community members to reduce energy emissions.

The second scenario, shown with a grey line, represents “business-as-usual” emissions. This scenario assumes that Xcel Energy will continue to decarbonize their electricity grid, and that Louisville community members will continue to participate in renewable energy and DSM programs according to historical averages.

Under the business-as-usual scenario, Louisville is projected to achieve approximately a 50% reduction in energy emissions by 2030, about 10% short of this plan’s 2030 goal. Therefore, additional action must be taken to meet Louisville’s emissions goals.

The third scenario, shown with a black line, represents the additional action required to reduce energy emissions 60% below 2016 levels by 2030 and to draw energy emissions down to zero by 2050. This scenario assumes Xcel Energy will continue to decarbonize their electricity grid, that a transition to electric vehicles will increase electricity emissions in the mid-term, and that Louisville community members will participate in renewable energy and DSM programs at higher rates than they have in the past.

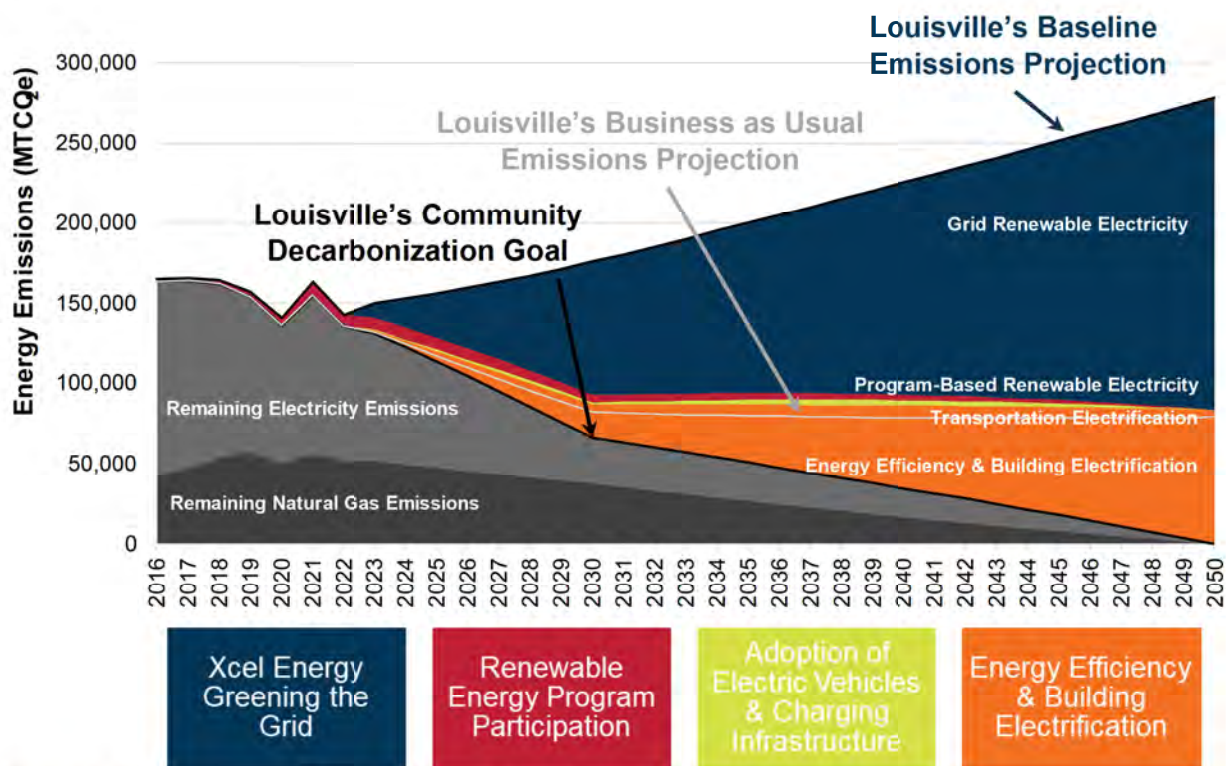


Figure 6. A carbon neutral pathway to meet Louisville's emissions goal

To better understand what it would take to achieve the Community Decarbonization Plan goals on an annual basis, Partners in Energy modeled the energy efficiency, building electrification and renewable energy action required to achieve the identified goal. Additionally, Partners in Energy modeled annual targets for EV adoption that reflect increased adoption rates. Error! Reference source not found. summarizes the annual decarbonization targets necessary to achieve a 60% reduction in energy related GHG emissions by 2030 and carbon neutrality by

Table 2. Annual Sector Targets to Support Community Decarbonization Plan Goals

	Metric	Residential	Commercial	Total
Energy Efficiency	Targeted DSM participation	543	91	634
Building Electrification	Premises electrified	381 (2023-2030) 340 (2031-2050)	72 (2023-2030) 103 (2031-2050)	453 (2023-2030) 443 (2031-2050)
Transportation Electrification	New EV's on the road	~500 (2023-2032) and ~1,100 (2033-2050)		
Renewable Energy	Participation in RE programs	148 (new)	19 (new)	167 (new)

2050.

Compared to historical trends (actual program participation data between 2016-2022), these targets represent a:

- 7% increase in energy efficiency program participation

- Significant increase in building electrification. Data was unavailable to indicate current levels of building electrification. To electrify one premise, it is assumed that water heating and space heating would each be electrified.
- 100%-200% increase in transportation electrification
- 70% increase in renewable energy program participation, in line with current increasing participation trends in Louisville.

Establishing Targets for the Next 18-months of Implementation

It will take time to ramp up to the levels of program adoption reflected in **Table 2** – especially for energy efficiency, building electrification, and transportation electrification. The stakeholder team identified several foundational strategies that must be completed before the City pursues more aggressive expansion of decarbonization technologies. These include activities like preliminary research, engagement, and advisement.

These initial activities will set Louisville up for bigger-impact campaigns in future years but are not likely to produce program participation in line with established annual targets in **Table 2**. Therefore, Partners in Energy developed more modest targets to reflect the foundational nature of the strategies outlined in this plan.

The more modest implementation targets are summarized below in **Table 3**. Energy efficiency and building electrification implementation targets are combined, as progress will be tracked using participation data in the suite of Xcel Energy demand side management (DSM) programs with a particular focus on programs that support building electrification. EV's on the road will be tracked utilizing a state-wide dashboard named EvaluateCO with intent to exceed the current increasing adoption trend by 10% by the end of implementation, as shown in

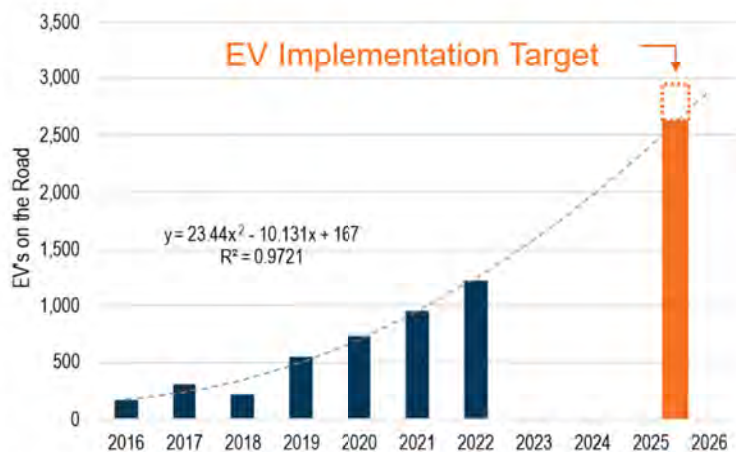


Figure 7. EV's on the road in Louisville, CO

Figure 7. Renewable energy participation will also be tracked using participation data in Xcel Energy renewable energy programs, with a particular focus on programs that reduce emissions above and beyond the renewable energy supplied to all Xcel Energy electric customers on the grid. Strategies to achieve the targets outlined in the below table will be described in the next section, **Short Term Strategies to Get Us Going**.

Table 3. Annual Implementation Tracking Targets through 2025

Implementation Targets (Annual)	Residential	Commercial	Total
Energy Efficiency & Building Electrification: Combined participation in Xcel Energy DSM programs	643	135	778
Transportation Electrification: New EV's on the road	n/a	n/a	480*

Renewable Energy:			
New participation in Xcel Energy renewable energy programs	110	14	124

*Individual sector targets for transportation electrification were not established.

Short Term Strategies to Get Us Going

To help achieve Louisville's decarbonization goal, the stakeholder team identified five strategies, classified into two sectors: residential and commercial/industrial. The strategies outlined below are short-term strategies for implementation over the next 18 months. As such, these strategies focus on addressing low-hanging fruit and laying the groundwork for future, high-impact action. Louisville will need to take additional action beyond this 18 month implementation period to achieve their 2030 and 2050 goals.

Decarbonizing Our Residential Sector

- R-1 Single-Family Homeowner Engagement
- R-2 Rental and Multifamily Engagement
- R-3 Mobile Home Engagement

Decarbonizing Our Business Sector

- B-1 Business Research
- B-2 Business Advisement

Decarbonizing Our Residential Sector

The City of Louisville is relatively small with just under 21,000 residents (U.S. Census Bureau, 2023). Louisville residents generally have a high capacity for decarbonization, with fewer perceived barriers than other communities. As highlighted in the introduction to this plan, Louisville residents tend to be sustainability-minded and well educated on sustainability topics.

The community-wide household median income is \$135,840 (U.S. Census Bureau, 2022). Most homes are single family and owner occupied, which correlates with a higher ability to invest in electric equipment. Additionally, most households have access to two or more vehicles, which correlates to a higher willingness to electrify at least one vehicle.

However, not all residents own multiple vehicles, own their home, and have moderate to high incomes. Advancing decarbonization equitably in the residential sector will mean connecting all residents, including renters, lower-income, and mobile home residents, with the right information and resources to support them along their unique decarbonization journeys.

The strategies in this sector seek to build upon existing momentum, while breaking down barriers to uncover new opportunities for Louisville's residents.

Residential Implementation Targets

Implementation Targets (Annual)	Residential
Energy Efficiency & Building Electrification:	
Combined participation in Xcel Energy DSM programs	643
Transportation Electrification:	
New EV's on the road	n/a
Renewable Energy:	
New participation in Xcel Energy renewable energy programs	110

Strategy R-1: Single-Family Homeowner Engagement

Strategy Description & Context		
Residents who own a single-family home have more authority and autonomy to make investments like installing home charging, making electric panel upgrades, or purchasing rooftop solar. In the City of Louisville, 76 percent of residents live in single-family detached homes and 68 percent of homes are owner occupied (U.S. Census Bureau, 2023; U.S. Census Bureau, 2022). This strategy focuses on engaging with single-family homeowners to better understand the barriers and opportunities for beneficial electrification, and to connect those residents with available resources to address identified barriers. This strategy will occur in four phases. The first phase, establishing a foundation, will focus on information gathering and building two-way communication channels with homeowners. The second and third phases will focus on engaging with these audiences through identified channels. The final phase will focus on reflecting on our engagement, to understand where information and existing resources are not enough to overcome identified barriers, and to inform future City of Louisville action. The target audience for this strategy includes: Single-family homeowners interested in electrifying their homes or driving EVs		
Scope & Timeline		
Phase 1: Establishing a foundation		Q1 2024
Establish a Website	Establish a community decarbonization landing page to host key information about decarbonization, events, and resources. This website should serve as a one-stop-shop for residents interested in decarbonization. The website should outline a “decarbonization roadmap” showing a proposed “pathway” for decarbonization.	
Strengthen Communication Channels	Identify list of potential outreach channels and establish relationships with channel managers (e.g., HOA newsletters, City social media, mailers). Record any key channel details (e.g., audience, frequency, media format) and potential engagement metrics to track.	
Phase 2: Homeowner Outreach		Q2 2024
Develop an Outreach Plan	Based on communication channels, develop an outreach plan including key messages and a calendar for outreach.	
Develop Outreach Toolkit	Develop an outreach toolkit to share with outreach channel managers. The purpose of the engagement toolkit is to provide the City, Louisville Sustainability Advisory Board (LSAB), and partnering organizations with resources to perform one-way outreach and two-way engagement with identified audience segments through identified channels. Toolkit will include executive summary, talking points, newsletter content, and social media.	
Conduct Outreach	Share outreach toolkit with channel managers to promote components of the decarbonization roadmap.	
Phase 3: Homeowner Engagement		Q3 2024-Q3 2025

Establish Calendar of Listening Sessions	Develop a series of topics, speakers, and timelines to introduce residents to the concepts of, and resources to support, residential decarbonization. Listening sessions will be held in coordination with Superior and Lafayette. Sessions will break down the “decarbonization roadmap” (e.g., reducing energy use, preparing for decarbonization, and purchasing electric equipment). Sessions will also include an informational and networking segment. Informational segments will include presentations from experts to address: • Topic area basics, • The benefits of decarbonization, • Frequently asked questions, and • Financial information (e.g., ROI, available incentives, financing options). Presentations should help “make the case” for decarbonization activities. Networking segments will include presentations from residents who have completed decarbonization activities and opportunities to connect with experts, contractors, and other residents interested in decarbonization.
Host Listening Sessions	Develop and deliver listening sessions. Venues should be held at relatively “neutral” locations (e.g., libraries or schools). Consider recording or hosting virtual options. If possible, provide food, childcare, and interpretation services.
Phase 4: Identifying Opportunities to Address Resource Gaps	
	Q3 2025
Host City Leadership Meeting	Host one or more meetings with City staff to review the results of engagement and identify the need for additional City investment to support residential decarbonization activities.
Roles and Responsibilities	
City of Louisville	
▪ Inform decarbonization roadmap (e.g., key steps and resources) to help single-family residents navigate energy efficiency, electrification, and renewable energy actions. ▪ Publish community decarbonization webpage using content developed by Partners in Energy ▪ Lead the identification of residential communication channels and build necessary relationships to support the sharing of decarbonization information and resources. ▪ Review residential outreach plan and outreach toolkit. ▪ Lead implementation of outreach plan by connecting communication channel managers with content from the outreach toolkit. ▪ Lead the planning and delivery of four regional decarbonization engagement sessions, in collaboration with Superior and Lafayette. Support for the planning and delivery of these sessions may include, the identification of experts, contractors, and community examples, identification of a venue, provision of recording services, and coordination of childcare and interpretation services.	

- Participate in conversations to review results of engagement and identify opportunities for additional City-led action to support residential decarbonization.

Xcel Energy's Partners in Energy

- Draft a decarbonization roadmap (e.g., key steps and resources) to help single-family residents navigate energy efficiency, electrification, and renewable energy actions.
- Develop draft website content, outreach plan, and outreach toolkit based on decarbonization roadmap.
- Train City staff, LSAB, and partnering organizations on how to use the outreach toolkit.
- Support the planning and execution of four regional decarbonization engagement sessions, in collaboration with Superior and Lafayette. Support for the planning and delivery of these sessions may include the identification of Xcel Energy speakers and topic experts, development of promotional materials, development of informational materials, and provision of catering.
- Host one or more meetings with City staff to review results of engagement and identify next steps to support decarbonization goals.

Strategy R-2: Rental and Multifamily Engagement

Strategy Description & Context		
Unlike homeowners, renters must coordinate with property owners to make improvements, and may have to split the benefit with the property owner. In the City of Louisville, nearly 32 percent of occupied homes are renter occupied, including single family and multifamily units. This strategy focuses on engaging with renters and rental property owners/managers to better understand the barriers and opportunities for beneficial electrification, and to connect those residents and property owners/managers with available resources to address identified barriers. This strategy will occur in four phases with the first phase establishing a foundation that will focus on information gathering and building two-way communication channels with homeowners. The second and third phases will focus on engaging with these audiences through identified channels. The final phase will focus on reflecting on engagement, to understand where information and existing resources are not enough to overcome identified barriers, and to inform future City of Louisville action. The target audience for this strategy includes: ▪ Renters living in single family and duplex properties. ▪ Renters living in apartments. ▪ Single-family and duplex rental property owners and managers. ▪ Multifamily property owners and managers.		
Scope & Timeline		
Phase 1: Establishing a foundation		Q2 – Q4 2024
Conduct Preliminary Research	Identify programs and unique eligibility requirements specific for renters and/or multifamily properties.	
Identify Communication Channels by Target Audience	Identify opportunities to connect with renters and rental property owners/managers, including single family and multifamily properties. Potential rental channels: • Ecotoberfest • Rental bills • Property management companies or offices • Identify a champion to help engage with renters Potential property owner channels: • Property management companies or offices • Rental management coalition • Direct mail	
Identify One or More Pilot Projects	Identify one or more champions to serve as an example and support them through one or more decarbonization activities. Champions may include renters, single family property owners, and/or multifamily property owners. Decarbonization activities may include energy efficiency projects, installing EV charging stations, electrifying building equipment, or pursuing a renewable energy project.	

Phase 2: Share Out Success of Pilot(s)		Q1 – Q2 2025
Develop One or More Success Stories	Summarize the pilot project(s) and synthesize any key lessons learned to help other renters/property owners along their decarbonization journeys. Include a summary of relevant information from preliminary research (e.g., key programs and eligibility requirements). The success stories should be developed into multiple formats for easy sharing, including social media posts, video segments, and/or write ups.	
Share Successes with Community	Connect renters and property owners with the success story through the channels identified in phase 1.	
Phase 3: Identify Opportunities to Address Resource Gaps		Q3 2025
Host City Leadership Meeting	Host one or more meetings with City staff to review the results of engagement and identify the need for additional city investment to support residential decarbonization activities.	
Roles and Responsibilities		
City of Louisville		
▪ Lead the identification of rental and multifamily communication channels and build necessary relationships to support information sharing. ▪ Identify one or more renters and/or property owners to pilot decarbonization project(s). ▪ Support renters and/or property owners in implementing decarbonization project(s). ▪ Support the development of success story content by reviewing write ups and social media content and by leading any video development. ▪ Connect identified communication channel managers with success stories. ▪ Participate in conversations to identify opportunities for additional City-led action to support rental and multifamily property decarbonization.		
Xcel Energy's Partners in Energy		
▪ Lead preliminary research to summarize relevant decarbonization resources and eligibility requirements for renters and/or multifamily properties. ▪ Lead the development of up to four "rental property decarbonization" success stories including a write up and social media content. ▪ Host one or more meetings with City staff to review results of engagement and identify next steps to support decarbonization goals.		

Strategy R-3: Mobile Home Engagement

Strategy Description & Context		
In the City of Louisville, 1.3 percent of housing units are mobile homes. Mobile home residents may face several barriers to decarbonization, including lower household incomes, higher rates of residents with limited English proficiency, and reduced access to utility programs due to eligibility requirements. At the same time, mobile home residents may benefit greatly from decarbonization activities: energy efficiency projects can reduce utility costs and electrification projects can improve indoor air quality. This strategy focuses on engaging with residents living in Parco Dello Zingaro to better understand the barriers and opportunities for beneficial electrification, and to connect those residents with available resources to address identified barriers. This strategy will occur in four phases. The first phase, establishing a foundation, will focus on information gathering and building two-way communication channels with homeowners. The second and third phases will focus on engaging with these audiences through identified channels. The final phase will focus on reflecting on engagement, to understand where information and existing resources are not enough to overcome identified barriers, and to inform future City of Louisville action to support decarbonization for mobile home residents. The target audience for this strategy includes: Residents living in Parco Dello Zingaro		
Scope & Timeline		
Phase 1: Laying the Groundwork		Q2 2024
Get the Lay of the Land	Work with staff and LSAB to understand: - Previous efforts: how has Louisville engaged previously with mobile home residents? What went well and what were the lessons learned? - Community characteristics: Are there barriers and opportunities related to socio-economic factors (e.g., language barriers, cost barriers) the physical environment (e.g., environmental racism, access to public charging, electrical capacity constraints).	
Identify Barriers and Opportunities	Conduct initial research to better understand barriers and opportunities for mobile home residents. Research topics include: - Energy use: what is the current energy use per square foot? Is there an energy burden? Are residents avoiding energy burdens through extreme behavior measures that may impact safety or well-being? - Understanding existing infrastructure at Parco Dello Zingaro to understand if electric upgrades are needed before electrification. - Available resources and programs: historic program participation, eligibility requirements, application process, documentation requirement. Work with Xcel Energy to identify potential structural barriers and opportunities. - What information do we have or need to understand general interest in energy efficiency, electrification, and renewable energy?	

Phase 2: Relationship Building		Q3 2024
Identify Community Partners	Identify trusted community organizations/liaisons and City staff liaisons to inform and lead community engagement. Be mindful of time commitments requested of community liaisons. Offer a stipend for one or more community liaisons.	
Host Community Partner Meetings	Host 2-3 community partner meetings to discuss opportunities for engagement with mobile home residents and evaluate partnership opportunities. Objectives of meetings include: • Building community trust • Cultivating community leadership capacity • Co-creating a vision for community action	
Phase 3: Mobile Home Resident Engagement		Q4 2024-Q2 2025
Attend Existing Event	Attend Louisville's existing mobile home waste event to begin building relationships with residents, introducing decarbonization concepts, and begin to identify lived-experience barriers and opportunities. Ensure materials are provided primarily in Spanish.	
Distribute Door Hangers	Use door hangers to reiterate existing opportunities and promote a listen and learn session. Ensure door hangers are provided primarily in Spanish.	
Host Listening Session	Plan, promote, and execute 1-2 listening sessions to share currently available resources with residents and to better understand resource gaps and needs. Listening sessions should be hosted at the mobile home park with food and childcare provided. Consider hosting one event in the morning and one event in the evening. Spanish interpretation services should be provided. The objective of listening sessions include: 1) Sharing information about relevant resources and incentives 2) Gathering resident experiences (barriers, success stories) 3) Identifying key resident needs	
Phase 4: Identify Opportunities to Address Resource Gaps		Q3 2025
Host City Leadership Meeting	Host one or more meetings with City staff, community liaisons, and Xcel Energy to review the results of engagement and identify potential opportunities for new or revised programming to better meet the needs of mobile home residents.	
Roles and Responsibilities		
City of Louisville		
▪ Identify key City staff and attend initial meeting(s) to provide background information about Parco Dello Zingaro including previous engagement efforts and community characteristics. ▪ Identify key community partners (e.g., residents of Parco or other trusted community liaisons) to lead engagement. Clarify roles and responsibilities for those partners and provide a stipend to support their efforts.		

- Lead the organization and delivery of one mobile decarbonization listening session for Parco Dello Zingaro residents, including identification of a venue, childcare, and interpretation services.

Xcel Energy's Partners in Energy

- Host up to two meetings with City staff and Louisville Sustainability Advisory Board (LSAB) to gather background information about Parco Dello Zingaro including previous engagement efforts and community characteristics.
- Conduct initial research to identify decarbonization barriers and opportunities unique to mobile home residents.
- Host up to two meetings with Xcel Energy staff to better understand program structures and to identify potential opportunities to improve program access for mobile home residents.
- Co-host up to three community partner meetings to bring together City staff and community partners (as identified by the City).
- Attend up to one City-led waste event to share existing resources to support decarbonization and promote upcoming listening session.
- Design, translate, and print door hangers to share existing resources to support mobile home decarbonization and promote decarbonization listening session.
- Support the organization and delivery of one listening session by developing and producing a summary of resources (e.g., printed flyer available in English and Spanish) and provide catering.
- Host one or more meetings with City staff to review results of engagement and identify next steps to support decarbonization goals.
- Provide stipend to support community liaison(s).

Decarbonizing Our Business Sector

Louisville has a diverse business community and a robust network of organizations (e.g., Boulder County Partners for a Clean Environment, Chamber of Commerce, Economic Vitality division) to support businesses along decarbonization journeys. There are six primary business districts with a wide variety of industries and sizes. Unlike the residential sector, commercial decarbonization can vary widely from business to business.

Business Implementation Targets

Implementation Targets (Annual)	Commercial
Energy Efficiency & Building Electrification: Combined participation in Xcel Energy DSM programs	135
Transportation Electrification: New EV's on the road	n/a
Renewable Energy: New participation in Xcel Energy renewable energy programs	14

Strategy B-1: Business Research

Strategy Description & Context		
This strategy focuses on conducting an analysis to understand the remaining useful life of carbon production equipment in commercial buildings and utilizes the results to help inform program or policy design for the City of Louisville. This strategy is split into three phases: Phase 1 includes conducting primary commercial research to collect community input on the life of HVAC equipment in businesses; Phase 2 includes conducting secondary research to collect available data on levels of electrification and equipment characteristics in the community; and Phase 3 includes coalescing results of the first two phases to inform a new program or policy to further electrify the business sector.		
Scope & Timeline		
Phase 1: Summarize Secondary Source Commercial Data		Q1-Q2 2024
Review Readily Available Data	Review available data (i.e., City building permits, CoStar, Colorado's Building Performance Program, Xcel Energy, Chamber of Commerce surveys, City survey to businesses) to determine degree of commercial electrification and equipment characteristics. - Determine the defining characteristics of equipment that are ripe for upgrades. - Develop an estimate/summary of types of equipment and age of equipment in Louisville using census or permit data.	
Identify Key Programs for Business Decarbonization	Evaluate the available programs/resources to support businesses. Use results of business energy assessments to inform some of the commonly recommended resources.	
Phase 2: Conduct Primary Source Commercial Research to Fill Gaps		Q3-Q4 2024
Leverage Preliminary Commercial Assessments	Use results of commercial research to inform commercial advising strategy and identify areas for targeted outreach.	

Administer a Business Survey	Develop and administer a community business survey. The purpose of the survey is to assess the current needs and interests in the business community for reducing the carbon footprint of buildings.
Compile Survey Results	Compile results from Phase 1 and 2. Identify any trends or patterns that might inform Phase 3.
Phase 3: Program Design	
Q1-Q2 2025	
Identify Resource Gap	Use information gathered in Phase 1 & 2 to determine whether there is a resource gap that must be filled to help the City achieve identified goals on a broad scale. Determine the gaps with which an additional policy/program led by the City of Louisville could help to fill.
Identify Opportunity for Supplemental Support	Outline a potential City of Louisville intervention (e.g., policy, incentive) to assist the business community in reducing their property's carbon footprint. - Support from Federal and State programs is preferred over a new City tax. - Any new City policy should be supported by the community. - Give business owners time to become informed and familiar with new policies and provide resources to help educate them on the new policies. This could include direct City staff support to businesses to answer questions and walk through policy implications. - Modify the business licensing process within the City of Louisville to collect building data such as HVAC equipment type and age and other data points as determined by the City.
Roles and Responsibilities	
City of Louisville	
- Coordinate with graduate students to lead commercial sector research. Research activities will include development of a more detailed baseline of Louisville's commercial sector (e.g., age and type of building equipment), map of results to inform areas to target for commercial electrification studies and incentives, summary of public health and co-benefits of decarbonization, and potential policy levers for the City to consider. - Lead development and administration of a business community survey. - Lead integration of research results to inform program/policy direction.	
Xcel Energy's Partners in Energy	
- Provide utility data and suggestions for supplemental data sources to inform graduate student-led research to develop a more detailed baseline of Louisville's commercial sector (e.g., age and type of building equipment). - Review and provide feedback on student-led commercial sector research. - Support the development of a business community survey. - Support Louisville in evaluating program/policy options to support additional commercial decarbonization.	

Strategy B-2: Business Advisement

Strategy Description & Context		
This strategy focuses on coordinating electrification assessments between Xcel Energy and Boulder County PACE. This strategy will occur in four phases; Phase 1, establishing a foundation, will focus on building the relationship between Boulder County and Xcel Energy assessors, and identifying key business champions to support engagement. The Phase 2 and 3 will focus on engaging with these audiences through identified channels. The Phase 4 will focus on reflecting on engagement, to understand where information and existing resources are not enough to overcome identified barriers, and to inform future City of Louisville action. The target audience for this strategy includes, but is not limited to: • Businesses with high energy use. • Small businesses.		
Scope & Timeline		
Phase 1: Establishing a Foundation		Q2 2024
Establish a Coordinated Process	Establish a process for coordinating PACE and Xcel Energy business energy assessments, and for coordinating with financial consulting such as CO Clean Energy Fund. ○ Utilize businesses already identified through Boulder County PACE to pilot this process.	
Establish a Data Collection Process	Establish data collection process with PACE and CLEAResult for Xcel Energy business energy assessments. Data collected during business assessments are subject to privacy restrictions and data may need to be synthesized, collated, or otherwise adjusted for sharing. Data may not be shared publicly.	
Identify a Champion	Identify one or several business champions (e.g., well-respected business individual(s), business individual(s) that own a large percentage of the business land or buildings) to support business engagement. ○ Business champions will serve to help connect businesses with assessments and may attend assessments. Examples of champions could include City staff from Economic vitality or representatives from the Chamber of Commerce, Latino Chamber of Commerce of Boulder County and/or Downtown Business Association.	
Test the Process	Test the advisement and data collection process with one or more businesses.	
Identify Target Businesses	Identify a list of target businesses including property managers, businesses in Colorado Technology center (e.g., Fresca Foods, Vaisala), high energy users, participants and members of the Chamber of Commerce and Latino Chamber of Commerce of Boulder County, and recipients of the Economic Vitality newsletter. ○ Identify key communication channels and key contacts for outreach. Consider targeting owner-occupied businesses first, and developing a	

	process for coordinating between property owners and tenants when businesses are not owner-occupied.	
Phase 2: First Wave Outreach		Q2-Q3 2024
Collate Pilot Learnings	Debrief with Boulder County PACE on the piloted process to incorporate learnings into broader first wave outreach for businesses. Piloting process with pre-identified businesses.	
Develop Outreach Materials	Develop outreach collateral to share with target businesses to explain decarbonization process, assessment expectations and benefits, and available rebates, incentives, and resources (e.g., Xcel Energy programs, Federal and State incentives, Commuting Solutions).	
Share Outreach Materials	Conduct outreach through direct mailers, newsletters, and business meetings, to "best fit" target businesses, through identified outreach channels to garner sign ups.	
Conduct Coordinated Assessments	Coordinate up to four business energy assessment "walks" for key businesses/corridors. Coordinated walks typically require prescheduling multiple assessments for a geographic area to be completed in a single day or a portion of a day.	
Phase 3: Second Wave Outreach		Q4 2024-Q3 2025
Develop Success Stories	Develop success stories of first wave outreach to share with prospective businesses (e.g. PACE, Green Network Newsletter).	
Share Success Stories	Update outreach materials with success stories and conduct a second wave of outreach to businesses identified during Phase 1. Use success stories to conduct outreach to peers of first wave businesses.	
Conduct Second Round of Assessments	Coordinate up to four business energy assessment "walks" for key businesses/corridors. Coordinated walks typically require prescheduling multiple assessments for a geographic area to be completed in a single day or a portion of a day.	
Phase 4: Explore Opportunities for Additional City Support		Q2 2025
Identify Trends and Patterns	Consolidate business energy assessment results to identify any patterns by business type and/or age of building Use summarized results to inform where/who to engage next. For instance, if certain business types or building ages yielded high-impact recommendations, the City could look to engage similar business types or building ages. If a certain building type yielded the same recommendations across multiple businesses, the City could connect other similar businesses with those same recommendations and resources to support next steps.	

Identify Opportunity for Supplemental City Support	Host one or more meetings with City staff to review the summarized assessments and identify the need for additional City investment to support commercial decarbonization activities. This conversation might try to answer questions like: • What were some of the most common or most impactful actions businesses need to take to help the City achieve our decarbonization goals? • What can the City of Louisville do to help businesses take those actions (e.g., additional funding/financing)? • Are there policy levers the City should consider that encourage or require commercial decarbonization?
Roles and Responsibilities	
City of Louisville ▪ Identify one or more engagement leads from the City. ▪ Provide Spanish translation and interpretation services. ▪ Identify key community liaisons or champions by sector. ▪ Lead outreach efforts to businesses to garner sign ups. ▪ Attend assessment walks. ▪ Participate in conversations to identify opportunities for additional investment.	
Xcel Energy's Partners in Energy ▪ Connect Boulder County PACE and Xcel Energy and facilitate the development of a coordination process for providing decarbonization assessment services (e.g., Boulder County PACE electrification advisory services, Xcel Energy Business Assessment services, Xcel Energy Fleet Electrification Advisory Program) to businesses. ▪ Support general and targeted engagement efforts to connect businesses with decarbonization assessment services. ▪ Lead the development of a data collection process to summarize decarbonization assessment results in a manner that protects data privacy of participating businesses. ▪ Summarize available decarbonization assessment data to inform the Business Research strategy. ▪ Facilitate conversations with City staff to identify opportunities to support additional commercial decarbonization based on the results of the Business Research and Business Advisement strategies.	

Community Decarbonization Plan Impact

In summary, the strategies outlined in this plan are intended to achieve the following Xcel Energy program participation for the first two years of implementation, and aided through 18-months of Partners in Energy implementation support :

Table 4. Annual Implementation Tracking Targets through 2025

Implementation Targets (Annual)	Residential	Commercial	Total
Energy Efficiency & Building Electrification: Combined participation in Xcel Energy DSM programs	643	135	778
Transportation Electrification: New EV's on the road	n/a	n/a	480*
Renewable Energy: New participation in Xcel Energy renewable energy programs	110	14	124

The above targets will utilize the suite of Xcel Energy programs for DSM as well as renewable energy. In both the residential and commercial sectors, new DSM participation will build upon existing participation trends with a particular focus on programs that support building electrification and associated energy efficiency upgrades with deeper carbon reduction implications.

- Residential programs of focus include Residential HVAC, Insulation & Air Sealing, Saver's Switch, Home Energy Squad, Home Energy Audit, and others.
- Commercial sector programs of focus include HVAC+R, Small Business Solutions, Lighting Efficiency, and Strategic Energy Management.
- Renewable energy programs of focus across both sectors include Windsource, Solar*Rewards and Solar*Rewards Community. In addition, the residential sector will also have a focus on the Net Metering program.
- Electric vehicles on the road follows current adoption trends in Louisville (zip code 80027) utilizing data from the EValuateCO dashboard published by Atlas Public Policy and will seek to increase EV's on the road by utilizing all existing Xcel Energy EV offerings.

Rebates, Resources, and Financing Tools to Support Plan Impact

Partners in Energy can readily track participation in Xcel Energy's DSM and renewable energy programs, which is why program participation was selected as the primary metric for implementation targets. However, there are other incentives, resources, and financing tools available to support residents and businesses along their decarbonization journeys. To maximize the impact of this plan, the Energy Action Team will connect residents and businesses with relevant resources from the City of Louisville, Boulder County, the State, and the Federal government. The City of Louisville developed the following non-exhaustive summary of resources available to support residents and businesses on their electrification journeys.

Residential Resources

Advising

- [Boulder County EnergySmart](#): Advisors provide no-cost advising to residents interested in home energy projects.

Rebates and Incentives

- [Xcel Energy Rebates](#): Utility rebates for heat pumps, HP hot water heaters, insulation/air sealing, smart thermostats, and EV chargers/wiring.
- [Boulder County EnergySmart Rebates](#): County rebates for heat pumps, HP hot water heaters, insulation/air sealing, fuel switching (gas stove removal), solar PV, and electric panel upgrades (new in 2024).
- [City of Louisville Rebates](#): City rebates for heat pumps, HP hot water heaters, insulation/air sealing, fuel switching (gas stove, furnace, hot water heater removal), and electric panel upgrades (new in 2024).
- [Inflation Reduction Act \(IRA\) Incentives](#): IRA tax credits are available for residential decarbonization projects including energy audits, electrification weatherization, heat pumps, renewable energy, and EVs.

Financing

- [Colorado Residential Energy Upgrade \(RENU\) Loan](#): Statewide residential loan program through the Colorado Clean Energy Fund in partnership with Colorado-based credit unions.
 - Loans up to \$75,000, up to 20 years.
 - Can finance solar PV, battery storage, space heating/cooling, water heating, EV charging, insulation/air sealing, and windows/doors.

Commercial Resources

Advising

- [Boulder County Partners for a Clean Environment](#): Provides no-cost advising to business owners interested in building energy projects.
- [Colorado Clean Energy Fund](#): Provides no-cost advising to business owners interested in financing options for energy projects.

Rebates and Incentives

- [Xcel Energy Rebates & Programs](#)
 - Utility rebates for LED lighting upgrades and HVAC equipment, facility assessments, energy management systems, etc.
 - Businesses less than 50,000 square feet may qualify for Xcel's Direct Install program and could receive free LED lightbulbs and additional items.
- [Boulder County Partners for a Clean Environment \(PACE\) Rebates](#)
 - County rebates for building electrification studies, space heating/cooling, water heaters, heat/energy recovery ventilators, insulation/air sealing, lighting, solar PV, and fuel switching.
 - PACE also offers custom rebates for efficiency measures not covered by prescriptive rebate programs.
- [City of Louisville Programs](#)
 - Qualifying businesses eligible for \$1,000 towards sustainability projects, including energy efficiency and electrification upgrades.
- Inflation Reduction Act (IRA) Incentives: IRA tax credits are available for commercial decarbonization projects including [building efficiency and electrification](#), [renewable energy](#), and [EVs](#).

Financing

- Colorado Commercial Property Assessed Clean Energy (C-PACE): commercial loan program through Colorado Clean Energy Fund in partnership with Sustainable Real Estate Solutions (SRS).
 - Loans up to \$750,000, up to 20 years.
 - Repayment through property taxes and if property changes ownership, loan stays with property.
 - Can finance renewable energy, battery storage, space heating/cooling, water heating, EV charging, and insulation/air sealing.
- Clean Conversion Loan: Commercial loan program through Colorado Clean Energy Fund designed as an alternative to C-PACE
 - Loans up to \$1M, up to 15 years.
 - Repayment through monthly payments.
 - Can finance renewable energy, battery storage, space heating/cooling, water heating, EV charging, and insulation/air sealing.
- Energy Project Accelerator Loan (Energy PAL): Commercial loan for small businesses through Colorado Clean Energy Fund
 - Loans up to \$500,000, up to 10 years.
 - Repayment through monthly payments.
 - Can finance renewable energy, battery storage, space heating/cooling, water heating, EV charging, and insulation/air sealing.
- National Energy Improvement Fund: Company partnered with Xcel Energy to provide businesses with financing options through Xcel approved lenders.
 - Loans for projects \$2,000+, up to 7 years.
 - Repayment through monthly payments.
 - Can finance renewable energy, battery storage, space heating/cooling, water heating, and EV charging.

HOW WE STAY ON COURSE



This Community Decarbonization Plan is a living document. Goals and strategies will be assessed and refined as needed based on data and community staff capacity.

Data and Reporting

Partners in Energy will provide biannual progress reports with metrics of success and overall progress towards goals for Xcel Energy rebates and programs. These reports will be available publicly and shared with both the community and Energy Action Team.

If available, ad-hoc participation reports for specific Xcel Energy programs (e.g. Home Energy Squad) can be provided to measure success of campaigns and to determine if we need to change course.

Project Management and Tracking

Partners in Energy will host regular project management check-in calls with staff to ensure we stay on course to achieve our strategies.

If necessary, an implementation check-in meeting with the Energy Action Team can be convened to assess progress towards goals and discuss strategy refinement.

APPENDIX A: XCEL ENERGY'S PARTNERS IN ENERGY PLANNING PROCESS



About Xcel Energy's Partners in Energy

Xcel Energy is an electric and natural gas utility that provides the energy that powers millions of homes and businesses across eight Western and Midwestern states. Each community Xcel Energy serves has its own unique priorities and vision for its energy futures. The energy landscape is dynamically changing with communities leading the way in setting energy and sustainability goals.

To continue to innovatively support their communities, Xcel Energy launched Partners in Energy in the summer of 2014 as a collaborative resource with tailored services to complement each community's vision. The program initially focused on supporting communities in developing and achieving energy efficiency goals, and has evolved to include renewable energy, building electrification, and transportation electrification.

The program offerings include support to develop strategic energy, EV, and beneficial electrification plans, tools to help implement the plan and deliver results, and resources designed to help each community stay informed and achieve their outlined goals.

Partners in Energy supports communities for two years through two distinct phases, planning and implementation and typically provides six to eight months of planning support, to walk stakeholders through the process outlined in Figure 8. Once the plan is complete, Partners in Energy provides 18 months of plan implementation support. Implementation services offered through the Partners in Energy team are shown in Figure 59.



Figure 8. Partners in Energy Process for Success



Figure 59. Resources from Xcel Energy for Implementation

Plan Development Process

Louisville's Community Decarbonization planning process kicked off in May 2023 and concluded in March 2024. A project management (PM) team was formed, including City Staff, Partners in Energy community facilitators, and Xcel Energy representatives. As shown in Figure 8, the first step was to identify a group of representative stakeholders to guide the development of the plan. The project management team recruited a diverse set of stakeholders through an application process. The project management team identified nine community stakeholders with perspectives representing renters, homeowners, business owners, developers, Louisville's Sustainability Advisory board, Louisville's Chamber of Commerce, equity, and beyond. In addition to these community stakeholders, several City staff members provided input into the process, including representatives from Finance, Equity Diversity and Inclusion, Sustainability, and Economic Vitality.

The stakeholder team convened for four in-person workshop to inform the development of the plan's vision, goals, focus areas, strategies, and targets. City staff gathered additional input to inform plan development through a community survey, presentation to City council, and stakeholder survey. The following timeline summarizes key milestones of plan development:

- June 2023
 - Stakeholder formation: City staff selected a community stakeholder team through an application process.
- July 2023
 - Workshop 1: Stakeholders brainstormed the factors that make Louisville unique for decarbonization to inform potential focus areas, values to guide the development of a decarbonization vision, and level of ambition to inform a decarbonization goal.
- August 2023
 - Community Survey: Between Workshops 1 and 2, City staff launched a community survey to gauge barriers and opportunities as well as funding support for the Plan. There were 19 survey responses. All respondents were Louisville

homeowners, and 17 of the respondents were somewhat or very familiar with decarbonization. Of the 19 respondents, only one respondent did not support Louisville taking any intentional decarbonization action. The most common barrier for making building efficiency, electrification, and renewable energy upgrades was upfront cost. The most common barrier for adopting and electric vehicle was range anxiety, followed by upfront cost.

- September 2023
 - Workshop 2: Stakeholders reviewed and provide feedback on draft vision and goals. Stakeholders also reviewed Louisville's "decarbonization baseline" including energy use, utility program participation, and EV adoption. Finally, stakeholders began to brainstorm potential strategies.
 - Stakeholder Survey: Between workshop 2 and 3, stakeholders participated in a survey to inform the strategies best suited to achieve the selected goal and to vote on a preferred visions statement.
 - Preliminary Council Presentation: Between Workshop 2 and 3, City staff presented a 50 percent plan update to City Council, to receive feedback on the planning process, goal, and focus areas.
- October 2023
 - Workshop 3: Stakeholders reviewed survey results and voted on a final community decarbonization vision. Stakeholders conducted preliminary strategy action planning based on strategy survey results.
- December 2023
 - Partners in Energy developed a full draft of the Community Decarbonization Plan.
 - Workshop 4: Stakeholders provided additional feedback on draft strategies.
- January 2024
 - City staff and stakeholders reviewed the draft plan and provided comment.
- February 2024
 - Partners in Energy provided a final plan to Louisville Sustainability Advisory Board.
- March 2024
 - City staff presented the final plan to Louisville City Council with a resolution to update the Climate Action Goals in alignment with the targets outlined in the plan.

APPENDIX B: BASELINE INFORMATION



An integral part of the Partners in Energy planning process is reviewing historic energy data that informs our community's energy baseline. Analysis examined pathways for Louisville to reach its carbon neutrality and electrification goals. The team explored baseline conditions to identify areas of opportunity. In general, Louisville residents and businesses appear well suited for electrification.

Relevant Planning Efforts

Xcel Energy's Colorado Energy Plan

For more than a decade, Xcel Energy has demonstrated leadership on clean energy, proactively reducing carbon emissions at levels that currently surpass state and federal goals.

- In 2005, Xcel Energy was one of the first power suppliers to register with the Climate Registry to track and verify emissions.
- In 2018, Xcel Energy was the first major U.S. electricity provider to set a vision to serve customers with 100% carbon-free electricity by 2050, and to reduce carbon emissions 80% by 2030 from 2005 levels.
- In 2020, Xcel Energy saw its largest one-year decline in carbon emissions, reducing carbon emissions 51% since 2005, more than halfway to reaching the 2030 goal.

The pathway to achieving this [bold vision](#) involves adding thousands of megawatts of wind and solar power, incorporating natural gas and storage resources, retiring coal units, supporting electrification, and investing in critical infrastructure. Key to the grid infrastructure investments are efforts to allow Xcel Energy to increase electricity generation capacity, paving the way for electrification efforts. In addition to efficiency rebates and programs, Xcel Energy has developed several renewable energy options that support on-site and off-site generation for both wind and solar, creating additional opportunities for its customers to power their home and buildings with renewable electricity.

Louisville's Energy Action Plan

In 2016, the City of Louisville sought to decrease electricity and natural gas use. It launched a planning effort with Xcel Energy's Partners in Energy that culminated in an Energy Action Plan and an implementation effort that ran through 2018.

Targeting the commercial/industrial, residential, and municipal use, Louisville's energy goal was to reduce total energy use 1% annually over its 2015 baseline. In total over 2017, Louisville achieved a 3.2% decrease in electricity usage and a 1% decrease in natural gas usage, successfully shrinking its overall carbon footprint by 11% MTCO₂ across the community. The decrease equates to CO₂ savings of 2.4 million gallons of gasoline, or 118 railcars worth of coal burned.

Building off that success, Louisville worked with Xcel Energy in 2018 to create an [Energy Future Collaboration \(EFC\) work plan](#) which identified additional energy efficiency projects along with renewable energy and transportation efforts. It identified beneficial electrification as a longer-term project.

Resolution 25 Series 2019 – Establishing Carbon Reduction Goals for Louisville

In 2019, Louisville City Council adopted [Resolution 25 series 2019](#), "a resolution for setting clean energy and carbon reduction goals". Importantly, the Resolution seeks to accomplish the following:

- Meet all of Louisville's municipal electric needs with 100% carbon-free sources by 2025.
- Reduce core municipal GHG emissions annually below the 2016 baseline through 2025.
- Generate 75% of Louisville's residential and commercial/ industrial electric needs from carbon-free sources by 2030
- Reduce core community GHG emissions annually below the 2016 baseline through 2030.

On an annual basis, the City Council will review progress towards these goals and other relevant information.

City of Louisville Sustainability Action Plan

In 2020, Louisville's [Sustainability Action Plan](#) created a clear and concise roadmap for sustainable action, both for internal and external operations. The vision of the Plan seeks to cover environmental stewardship, social equity, and economic vitality. The relevant focus areas cover climate, energy, and transportation.

In terms of energy, the goal is to reduce energy consumption, promote energy efficiency in new and existing buildings, increase the use of carbon-free energy, and transition away from fossil fuels. Louisville will work to promote available efficiency and sustainability programs for residents and businesses. It's doing this via a campaign to encourage commercial/industrial benchmarking of energy consumption through the use of data tracking software, develop a targeted outreach strategy to engage facility managers and property owners on energy conservation efforts and resources, and update Louisville guiding docs to further address energy conservation.

In addition to energy efficiency, Louisville is working externally to increase renewable energy adoption at residential and commercial properties. The Plan promotes a specific focus on identifying barriers to renewable energy participation and facilitating implementation of solutions.

Louisville is also promoting low-interest financing for residents and businesses to integrate renewable energy into buildings.

In the transportation sector, Louisville is working to support the public adoption of EVs and assist in the installation of public charging stations. Key external efforts include the support and promotion/installation of EV charging stations at commercial/industrial development and sites. Additionally, Louisville is providing educational opportunities and programs on PHEV a EV adoption to residents and commercial entities. Embedded efforts within this include evaluation of an EV-ready building code adoption, pursuing opportunities for pooled purchasing programs for EVs and e-bikes with regional partners, and working with Xcel Energy to promote the public health benefits of EVs and alternative funding and initiatives.

City of Louisville Internal Decarbonization Plan

In response to the Marshall Fire, in the summer and fall of 2022, the City contracted for the creation of a study, analysis, and strategic roadmap for electrification and decarbonization of City buildings, fleet, equipment and operations by 2030 (as part of this study, and alternative completion target was determined). The Internal Decarbonization Plan is the outcome of that effort. The roadmap establishes a pathway to complete decarbonization, including: energy efficiency, building electrification, EV charging, onsite renewable energy and fleet and equipment electrification. On October 10, 2023 City Council adopted the Internal Decarbonization Plan. Louisville will be one of the first jurisdictions in the United States to aggressively embark on decarbonized municipal operations.

<https://www.louisvilleco.gov/living-in-louisville/residents/sustainability/city-sustainability>

Additional Plans

Additionally, the following ongoing efforts helped shape this Plan:

- Xcel Energy's Transportation Electrification Plan, which outlines efforts and programs to incentivize residents and businesses to invest in transportation electrification.
- [Boulder County Regional Transportation Electrification Plan](#). Since it was finalized in 2022, subgroups have focused on implementation including a recent effort to complete a mapping project that will support the County in pursuing grant funding that will benefit multiple communities.
- The Front Range Beneficial Electrification Network. This coalition of Front Range communities is focused on advancing regional workforce development needed for widespread electrification adoption, unify customer communications, understand funding opportunities, and identify opportunities to scale beneficial electrification.

Community Demographics

Residential Sector

The City of Louisville is a small- to mid-sized city with approximately 20,900 residents and 8,600 households (City of Louisville, 2023). Louisville residents have a median income of \$135,840. This is significantly higher than the state's median income of \$89,300 (U.S. Census Bureau, 2022). Income is a critical factor in determining a households ability to invest in decarbonization (e.g., building envelope efficiency, electric vehicles, air source heat pumps), as many decarbonization technologies carry a higher upfront or operational cost. Almost a quarter of Louisville's households fall below \$75,000 of household income (Table 5) (U.S. Census Bureau, 2022).

Table 5. Distribution of Household Income in the City of Louisville.

Household Income	Est. Percent	Margin of Error
Less than \$10,000	3.9%	1.3%
\$10,000 to \$14,999	0.9%	0.6%
\$15,000 to \$24,999	1.7%	1.2%
\$25,000 to \$34,999	4.8%	2%
\$35,000 to \$49,999	6.4%	1.8%
\$50,000 to \$74,999	8.2%	1.9%
\$75,000 to \$99,999	12.3%	2.6%
\$100,000 to \$149,999	15.9%	3.1%
\$150,000 to \$199,999	13.7%	2.4%
\$200,000 or more	32.3%	3.7%

The majority of Louisville's housing units are single family detached. Approximately 19 percent of housing units are in apartments with 5+ units. Nearly two percent of housing units are mobile homes (Table 6) (U.S. Census Bureau, 2022). Generally, there are fewer barriers to decarbonization for single-family homes. The number of units in a structure can also inform eligibility for utility programs.

Table 6. Distribution of Housing Units per Structure in the City of Louisville

Units in Structure	Estimated Percent	Margin of Error
1, detached	68%	3.4%
1, attached	7.9%	1.9%
2 apartments	2.1%	1.2%
3 or 4 apartments	0.7%	0.6%
5 to 9 apartments	1.9%	0.8%
10 or more apartments	17.4%	2.9%
Mobile home or other type of housing	1.9%	0.8%

Tenure – whether a person rents or owns a home – is another important factor for decarbonization. Homeowners have greater authority to make improvements to their property. In Louisville, approximately 70 percent of housing units are owner-occupied, and approximately 30 percent are renter occupied (U.S. Census Bureau, 2022).

Access to one or more vehicles is an important indicator for a household's capacity to invest in electric vehicles. Many households are more willing to purchase an electric vehicle if there is one internal combustion engine vehicle available to the household. In Louisville, almost 68 percent of households have access to two or more vehicles (Table 7) (U.S. Census Bureau, 2022).

Table 7. Number of Vehicles Available per Household in the City of Louisville

Vehicles available	Estimated Percent	Margin of Error
No vehicle available	5%	2.2%
1 vehicle available	27.4%	4%
2 vehicles available	45.2%	4%

3 or more vehicles available 22.3% 2.7%

Finally, how workers complete their commutes can indicate the potential impact of electric vehicle adoption. In Louisville, nearly 61 percent of workers commute in a car, truck, or van (this includes carpooling). (Table 8) (U.S. Census Bureau, 2022)

Table 8. Distribution of Means of Transportation to Work for the City of Louisville

Means of Transportation to Work	Estimated Percent	Margin of Error
Car, truck, or van	60.9%	4.3%
Public transportation (excluding taxicab)	3.2%	1.1%
Walked	2.9%	1.4%
Bicycle	2.1%	1%
Taxicab, motorcycle, or other means	0.7%	0.6%
Worked from home	30.3%	3.7%

Commercial and Industrial Sector

The City of Louisville has approximately 750 brick and mortar businesses. Businesses are distributed across four primary districts: Historic Downtown Louisville, Downtown East Louisville, McCaslin Corridor, and South Boulder Road (City of Louisville, 2023).

Louisville's businesses are supported through several networks and organizations, including the Louisville Chamber of Commerce, Downtown Business Association, Boulder Small Business Development Center, Commuting Solutions, Boulder County Workforce, Partners for a Clean Environment, and Louisville Economic Vitality division (City of Louisville, 2023).

There are approximately 11,100 workers in the City of Louisville. Louisville has a diverse industry mix (Table 9) (U.S. Census Bureau, 2022)

Table 9. Industry Mix for the City of Louisville

Industry	Estimated Percent	Margin of Error
Educational services, and health care and social assistance	24.2%	3.2%
Professional, scientific, and management, and administrative and waste management services	22.7%	3.1%
Retail trade	9.8%	2.3%
Manufacturing	9.4%	1.7%
Construction	6.5%	2.2%
Arts, entertainment, and recreation, and accommodation and food services	5.9%	1.5%
Finance and insurance, and real estate and rental and leasing	5.8%	1.4%
Information	4.3%	1.3%
Other services, except public administration	3.6%	1.3%
Public administration	3.2%	1.1%
Transportation and warehousing, and utilities	2.5%	1.2%
Wholesale trade	1.5%	0.8%
Agriculture, forestry, fishing and hunting, and mining	0.8%	0.6%

Energy Trends

Louisville has grown slowly, with more growth in the commercial sector

Between 2016-2022, the number of energy premises in Louisville grew by five percent. While the majority of premises in Louisville are residential (86 percent), the commercial sector saw significant growth during that time. Commercial premises grew by 15 percent, while residential premises grew by 4 percent (Figure 10).

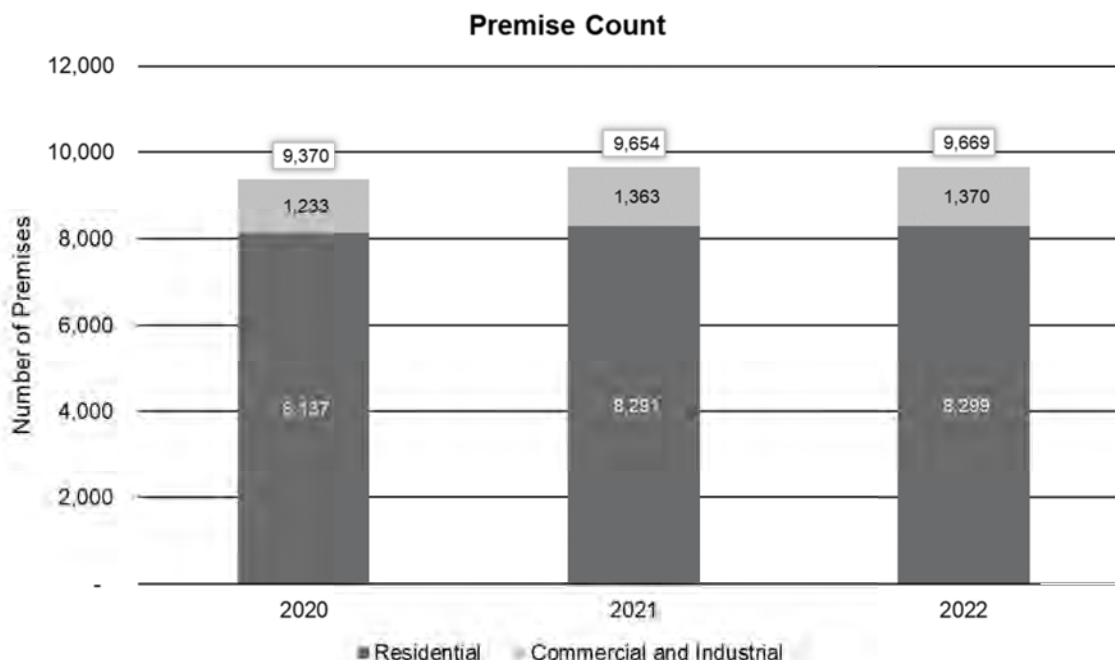


Figure 10. Change in Premises Over Time (2020-2022) for Louisville, CO

The commercial sector is driving energy trends

While there are substantially more residential premises than commercial, commercial premises are driving energy trends in the community. In 2022, commercial and industrial premises accounted for 53 percent of natural gas use and 73 percent of electricity use for the community (Figure 11). In both the residential and commercial sectors, natural gas use was primarily attributed to space heating and water heating. Residential electricity use was driven by AC, lighting, and electric water heating and space heating. Commercial electricity use was driven by HVAC, lighting, and refrigeration.

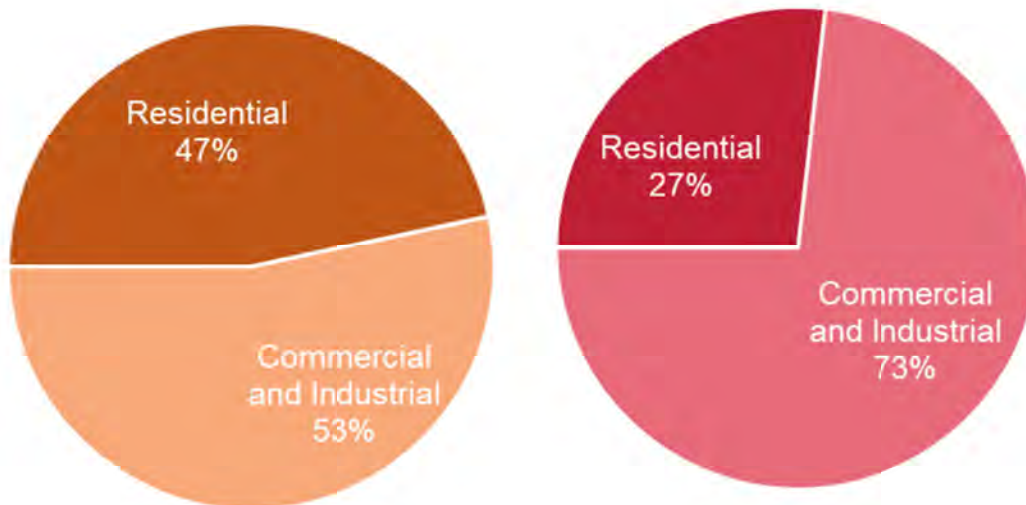


Figure 11. Natural Gas (left) and Electricity (right) Use Percentages by Sector

As shown in Figure 12, on average, residents pay \$1,400 per year to heat and cool their homes while businesses pay just over \$14,000. Compared to Superior and Lafayette, Louisville residents pay less for residential annual energy costs and more for commercial annual energy costs. These reasons for these differences are not known, but could include the makeup of residential and commercial buildings in Louisville.

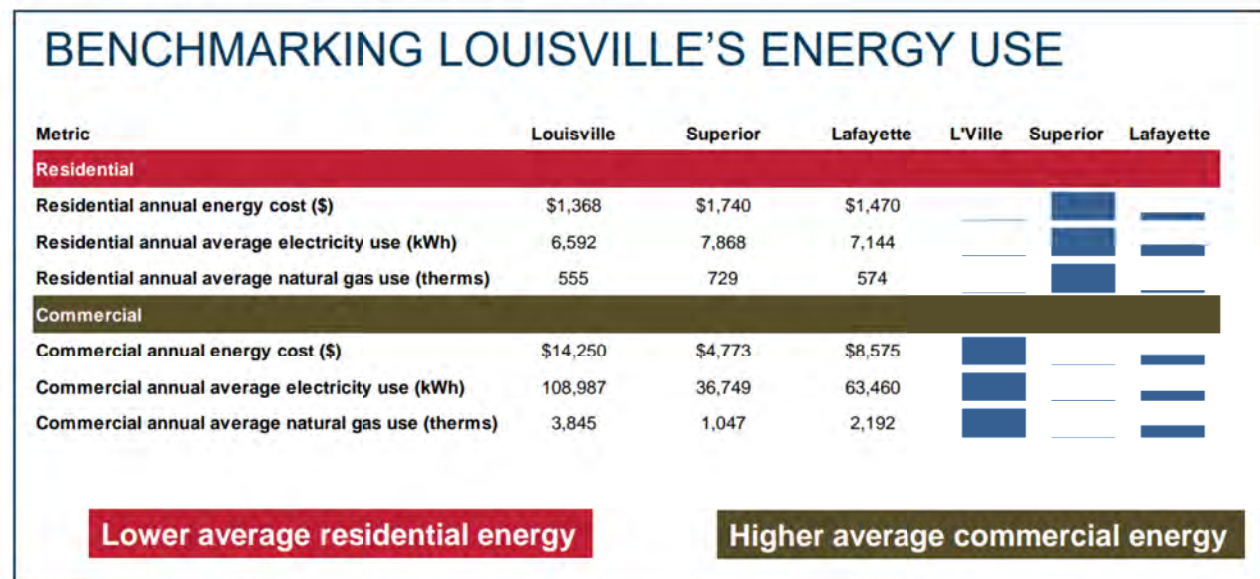


Figure 12 Louisville residents pay less for residential energy compared to neighboring cities and more for commercial energy.

Greenhouse Gas Emissions

In 2016, Louisville's total greenhouse gas emissions were 260,765 MTCO₂, or 29,342,298 gallons of gasoline (Louisville, Louisville Sustainability Action Plan, 2020). Energy emissions amounted for about 67% of this number. The following chart represents Louisville's goal to stay at or below 150,000 MTCO₂e (Figure 13).

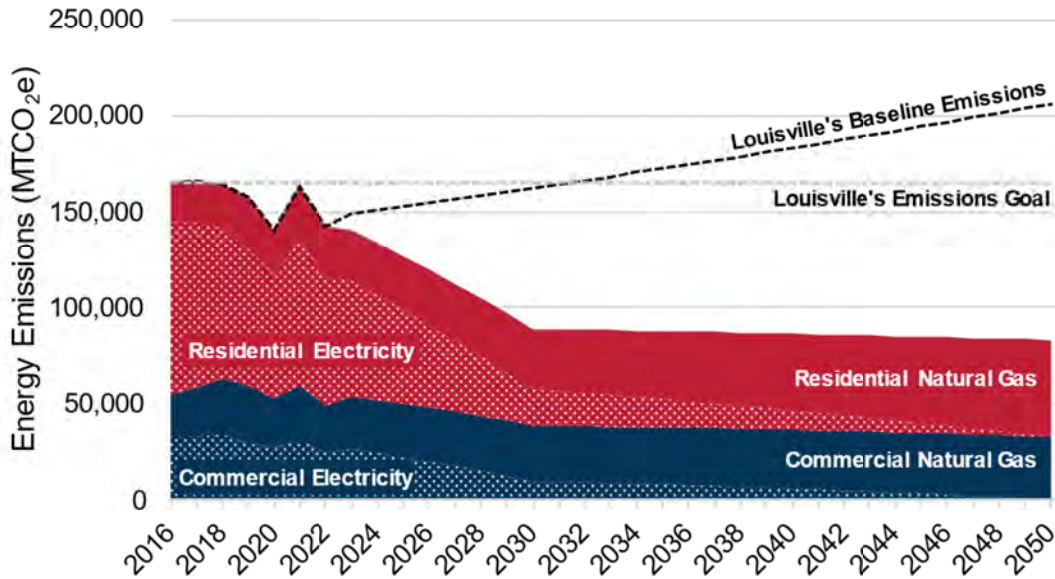


Figure 13. City of Louisville Energy Emissions Forecast

Renewable Energy

As mentioned earlier, Louisville is seeking to generate 75% of Louisville residential and business electricity needs from carbon-free sources by 2030 through Resolution 25 Series 2019. Currently 167 residential and commercial premises participate in Xcel Energy's renewable energy programs. As mentioned previously there were nearly 9,670 Xcel Energy premises in Louisville as of 2022. Renewable energy adoption rates in the community in both the residential and commercial sector exceeded the average in other Colorado Partners in Energy communities, as well as local peer communities in most cases as shown in Figure 14.

Metric	Louisville	Superior	Lafayette	L'Ville	Superior	Lafayette
Residential						
Residential DSM Participation Rate (%)	9%	10%	6%			
Residential Renewable Energy Participation Rate (%)	15%	12%	17%			
Commercial						
Commercial DSM Participation Rate (%)	7%	3%	3%			
Commercial Renewable Energy Participation Rate (%)	7%	1%	2%			

Figure 14. City of Louisville DSM and Renewable Energy Adoption Rates Compared to Peer Communities

APPENDIX C: GLOSSARY OF TERMS



The following section defines a list of terms related to utilities, energy use, building electrification, and transportation electrification. While this list is not comprehensive, it does include some terms not present in this plan, but potentially useful for reference throughout implementation.

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(s) is responsible for more than 15% of the total for that data set, it is/they are removed from the summary.

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

British Thermal Unit (BTU): The amount of heat needed to raise one pound of water at maximum density through one degree Fahrenheit

Beneficial Electrification: The replacement of direct fossil fuel use that results in either lower costs, reduced emissions, or more effective use of the power grid.

Building Electrification: Transitioning fossil-fueled appliances to ones powered by electricity, such as HVAC or water heating systems.

Carbon-free: 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: 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. 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 electric 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. 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 both supply and require to charge. EV chargers must convert the supplied AC electricity to DC power.

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

Energy Conservation: The result of behavior changes that cause less energy to be used. For example, setting the thermostat to a lower temperature *reduces* the energy used in your home during the winter. Since energy reductions can be easily reversed, they are not accounted for when calculating changes in energy usage.

Energy Savings: Comes from a permanent change that results in using less energy to achieve the same results. A new furnace uses X% less energy to keep your home at the same temperature (all things being equal), resulting in energy *savings* of X%. For accounting purposes, energy savings are only counted in the year the new equipment is installed.

EV-Ready Codes: Local government codes that require installation of a 40 amp, 208/240 volt, dedicated branch circuit (similar to that of an electric dryer or oven), along with a circuit terminating in a receptacle, junction box, or EV charging station at certain parking facilities (Southwest Energy Efficiency Project, 2023).

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 (H₂O), carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), and ozone (O₃).

Grid Decarbonization: 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.

HVAC: Heating, Ventilation, and Air Conditioning

Hybrid Electric Vehicle (HEV): Contains both an electric motor and a gasoline engine. The gasoline engine powers a generator that charges 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): A unit of electricity consumption. For EVs, it is 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 percent in 20 to 30 minutes; used in commercial settings where the anticipated charge time is limited (e.g., supermarket, gas station); 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 (GVWR) of 8,500 lbs.

Micromobility: Transportation using lightweight vehicles such as bicycles or scooters, including electric bicycles and scooters, often used to travel short distances.

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

Metric Tons of Carbon Dioxide Equivalent (MTCO_{2e}): 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. Offers lower tailpipe emissions than traditional ICE vehicles and longer ranges than most BEVs.

Premise: A unique combination of service address and meter. For residential customers, this is the equivalent of an individual house or dwelling unit in a multi-tenant building. For business customers, it is an individual business, or for a larger business, a separately-metered portion of the business's load at that address.

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.

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.

Subscription: Agreement to purchase a certain amount of something at regular intervals.

Therm (thm): Unit of natural gas consumption.

Transportation Electrification: Transitioning fossil-fueled vehicles to ones powered by electricity, such as passenger vehicles or transit.

Volts: Measurement of the force pushing the flow of energy through a charger. 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

(n.d.).

Alternative Fuels Infrastructure Directive. (2021). *Consolidated text: Directive 2014/94/EU of the European Parliament and of the Council of 22 October 2014 on the deployment of alternative fuels infrastructure (Text with EEA relevance)*Text with EEA relevance. Retrieved from <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A02014L0094-20211112>

American Council for an Energy Efficient Economy. (2020, September 10). *Low-Income, Black, Hispanic, and Native American Households Face High Energy Burdens*. Retrieved from ACEEE: <https://www.aceee.org/energy-burden>

Boulder County DMV. (2021). *EV Registrations for Boulder County*.

City of Louisville. (2023). *Louisville Colorado Business Community Profile*. Economic Vitality. Retrieved from <https://www.louisvilleco.gov/home/showpublisheddocument/31908/637623093919130000>

City of Louisville. (2023). *Welcome to Vibrant Louisville Colorado*. Retrieved from Economic Vitality: <https://www.louisvilleco.gov/home/showpublisheddocument/31317/637575466851270000>

Colorado, S. o. (2021). *Colorado Greenhouse Pollution Reduction Roadmap*. Retrieved from <https://drive.google.com/file/d/19pmqOzKV9ulXHHRyZz5egOBJWO0fPw-i/view>

DOE. (2022). *Saving Money With Electric Vehicles*. Retrieved from Energy Saver: <https://www.energy.gov/energysaver/articles/saving-money-electric-vehicles>

IPCC. (2018). *Summary for Policymakers. In: Global Warming of 1.5°C. An IPCC Special Report on the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response*. Cambridge, UK: Cambridge University Press.

IPCC. (2023). *Climate Change 2023: Synthesis Report*. Retrieved from https://www.ipcc.ch/report/ar6/syr/downloads/report/IPCC_AR6_SYR_SPM.pdf

IPCC. (2023). *Synthesis Report of the IPCC Sixth Assessment Report (AR6): Longer Report*. Retrieved from https://report.ipcc.ch/ar6syr/pdf/IPCC_AR6_SYR_LongerReport.pdf

IPCC. (n.d.). *Climate Change 2022: Mitigation of Climate Change*. Retrieved from https://www.ipcc.ch/report/ar6/wg3/downloads/report/IPCC_AR6_WGIII_SummaryForPolicymakers.pdf

Louisville, C. o. (2020). *Louisville Sustainability Action Plan*.

Louisville, C. o. (n.d.). *Economic Vitality: City of Louisville*. Retrieved from City of Louisville: <https://www.louisvilleco.gov/home/showpublisheddocument/31317/637575466851270000>

- Southwest Energy Efficiency Project. (2023, January). Retrieved from EV Infrastructure Building Codes: Adoption Toolkit: <https://www.swenergy.org/transportation/electric-vehicles/building-codes>
- U.S. Census Bureau. (2022). *DP03 Selected Economic Characteristics*. Retrieved from 2022 ACS 5-Year Estimates: <https://data.census.gov/table/ACSDP5Y2022.DP03?t=Industry&g=160XX00US0846355>
- U.S. Census Bureau. (2022). *DP04 Selected Housing Characteristics*. Retrieved from 2022 ACS 5-Year Estimates: <https://data.census.gov/table/ACSDP5Y2022.DP04?t=Homeownership%20Rate&g=160XX00US0846355>
- U.S. Census Bureau. (2022). *S0801 Commuting Characteristics by Sex*. Retrieved from 2022 ACS 5-Year Estimates: <https://data.census.gov/table?t=Commuting&g=160XX00US0846355>
- U.S. Census Bureau. (2022). *S1901 Income in the Past 12 Months (In 2022 Inflation-Adjusted Dollars)*. Retrieved from 2022 ACS 5-year estimates: https://data.census.gov/table?t=Income%20and%20Poverty&g=040XX00US08_160XX00US0846355
- U.S. Census Bureau. (2022). *S2504 Physical Characteristics for All Occupied Housing Units*. Retrieved from 2022 ACS 5-year estimates: <https://data.census.gov/table/ACSST5Y2022.S2504?t=Physical%20Characteristics&g=160XX00US0846355>
- U.S. Census Bureau. (2023). *Louisville Quick Facts*. Retrieved from <https://www.census.gov/quickfacts/louisvillecitycolorado>
- Xcel Energy. (2022). *Leading the Clean Energy Transition*. Retrieved from https://www.xcelenergy.com/staticfiles/xcel-responsive/Company/Sustainability%20Report/2022%20SR/Leading_Clean_Energy_Transition_SR.pdf

Request for Proposals Residential Solid Waste Collection City of Louisville, Colorado

1. Introduction

The City of Louisville (City) is soliciting proposals from qualified contractors for the collection of single-family residential trash (landfill waste), single stream recyclables and compostables. The term of this contract is 5 years.

Household participation in the city-wide waste collection program is mandatory with a few exceptions. The one exception to this is those homeowner associations (HOAs) that currently offer their residents curbside waste collection services. Those HOAs may receive an “exemption from participation” and their residents would thus be exempt from the City collection fee.

Residents may also opt out of the service, with the City still collecting fees. In this case the contractor will not be compensated for these accounts. Collection fees will be assessed through the City's utility billing system based on account information provided by the contractor, except for those selecting to “opt-out” of service or other associated fees the City may add to contractor fees.

The City may award a contract as a result of this RFP process. Key dates as part of this process are as follows:

1. Monday, January 8, 2024 – Posted on Rocky Mountain Bidnet
2. Wednesday, January 10, 2024 – 1st Proposal Advertisement
3. Monday, January 17, 2024 – 2nd Proposal Advertisement
4. Monday, January 22, 2024, 10:00 am - A **mandatory** pre-proposal meeting will be held in City Hall, Council Chambers, located at 749 Main Street, Louisville, Colorado 80027.
5. Thursday, January 25, 2024, 5:00 pm – Deadline for Questions. Questions should be referred to Kurt Kowar at kurtk@louisvilleco.gov.
6. Monday, January 29, 2024, 5:00pm - Addendum Issued as Necessary.
7. **Friday, February 2, 2024, 4:00pm** – Proposal Submittal Deadline.
8. Early February, 2024 – Staff Review and Recommendations Developed.
9. Late February/Early March, 2024 – City Council Review/Award.
10. Week of September 2nd, 2024 – Initial Service Begins per Contract Schedule.

Proposals shall be sent to the City of Louisville, Department of Public Works, 749 Main Street, Louisville, CO 80027 in a sealed envelope marked “City of Louisville Waste Collection Proposal” and shall be received by **4:00 p.m. on Friday, February 2, 2024**.

2. General Information

2.1 Demographics

The City has an estimated population of 21,000 people residing in an approximately 7.8 square mile area.

2023 solid waste collection data (future numbers subject to change):

- Number of households receiving service: 5,437
- Annual total landfill tonnage: 3,500
- Annual total Single Stream Recyclables tonnage: 1,500
- Annual total Compostables tonnage: 1,500

Commercial, multifamily and industrial complexes are not part of this request for proposals. One exception to this is that service will include City Facilities as outlined in Exhibit "D".

2.2 City Goals and Objectives

The City intends to provide curbside pick-up for trash, single stream recyclables and compostables for all single-family residences within the City, and to bill this service as part of the monthly utility bill. The City believes in maintaining a high-level commitment to quality customer service. In addition, the City seeks to provide services that help citizens decrease the amount of solid waste sent to landfills, increase waste reduction and recycling practices, reduce the individual household cost to dispose of waste and reduce the volume, noise and emissions of heavy truck traffic on the City's residential streets. Sustainability is a guiding value for the City and the importance of electric vehicles or greenhouse gas emissions offsets will also be considered as part of this RFP.

The Proposal should describe programs and incentives that the Contactor has implemented for other customers and may be willing to implement for the City of Louisville to increase the diversion rates above historical numbers.

2.3 Reservation of Rights

This request for proposals is a solicitation and not an offer to contract. The City reserves the right to reject any and all proposals. The City retains the right to abandon or terminate the RFP process at its discretion at any time. The City further reserves the right to issue clarifications and other directives concerning this request for proposals; to require clarification or further information with respect to any proposal, and to determine the final terms of any contract.

Interviews will be required by the City with selected contractors to clarify contractor proposals and to allow for contract negotiations. Acceptance of any proposal will be based upon factors including, but not limited to: costs for service; completeness of proposal; thoroughness of information provided; customer service standards; value added service; equipment types; and prior successful contractor performance with waste collection systems similar to a scale described herein.

3. Basis of Proposal

Proposals submitted will be for the contractor to provide non-exclusive collection services for trash, recyclables, and compostable within the City limits. Proposals must include, by paragraph numbers, basic information addressing the following:

3.1 Unit-Based Pricing, Exhibit “A”

The contractor shall provide a proposal indicating charges for weekly trash removal and removal of recyclables and compostables no less than bi-weekly. The price structure shall be unit-based to encourage customers’ reduction in trash removal, while maximizing the amount of recyclables and compostables processed. Trash, recycle and compostable containers shall be available in sizes of 96, 64, and 32 gallons (plus or minus within acceptable range).

3.1.1 Unit-Based Pricing Base Bid, Existing Route Schedule

Contractor shall provide Base Bid Unit Pricing that assumes:

- Trash service on existing Tuesday – Friday service days and routes with recycling and compost collected in alternating weeks on the same day as trash pickup. **Exhibit “B”, Route Map, provides the days of the week various areas in the City would be served.**
- 100% increment for each 32 gallon increase in trash bin size. The first recycling and composting bin of any size shall be included in this unit cost.
- Additional trash bins shall be provided at a 100% increment for each 32 gallon increase in trash bin size at the unit cost of trash only. The City charges the full cost of an extra 32 gallon bin through its Utility Billing and will keep the resulting difference between the contractor additional 32 gallon increment amount and City billed amount.
- One recycling bin of any size is included for free. Any recycling cost should be incorporated into the trash bin size costing.
- Additional recycling bins shall be provided at a 100% increment for each 32 gallon increase in recycling bin size at the unit cost of recycling only.
- One compost bin of any size is included for free. Any composting cost should be incorporated into the trash bin size costing.
- Additional compost bins shall be provided at a 100% increment for each 32 gallon increase in compost bin size at the unit cost of compost only.
- Contractor shall mark unit pricing for 3.1.1 as “NA” if an alternative schedule or routing is being proposed.

3.1.2 Unit-Based Pricing, Alternative Route Schedule, Alternate Bid Item #1

Contractor shall provide Bid Alternate Unit Pricing that assumes:

- Trash service on alternative contractor proposed schedule than existing Tuesday – Friday service days and routes with recycling and compost collected in alternating weeks on the same day as trash pickup.
- Same pricing as 3.1.1, Base Bid.
- A Route Map shall be provided to illustrate the days of the week various areas in the City would be served.
- Contractor shall mark unit pricing for 3.1.2 as “NA” if existing schedule and routing is being proposed.

3.1.3 Unit-Based Pricing, Weekly Recycling, Alternate Bid Item #2

Contractor shall provide Bid Alternate Unit Pricing that assumes:

- Weekly recycle collection.

- In form that would be additive to pricing in 3.1.1, Existing Route Schedule, Base Bid or 3.1.2, Alternate Route Schedule, Alternate #1.

3.1.4 Unit-Based Pricing, Weekly Composting, Alternate Bid Item #3

Contractor shall provide Bid Alternate Unit Pricing that assumes:

- Weekly compost collection.
- In form that would be additive to pricing in 3.1.1, Existing Route Schedule, Base Bid or 3.1.2, Alternate Route Schedule, Alternate #1.

3.1.5 Unit-Based Pricing, Greenhouse Gas Reduction, Alternate Bid Item #4

Contractor shall provide Bid Alternate Unit Pricing that assumes:

- The City's goal is to provide a carbon neutral hauling program.
- Provide all-electric collection equipment along with verifiable greenhouse gas emission offsets to be approved by the City that account Xcel Energy provides power to the grid with 40% renewable energy for charging. (ie. 60% of estimated collection vehicle charging energy should be offset through carbon credits)
- **OR** provide verifiable greenhouse gas emission offsets to be approved by the City that offset the emissions of collection equipment that utilizes clean natural gas.
- In form that would be additive to pricing in 3.1.1, Existing Route Schedule, Base Bid or 3.1.2, Alternate Route Schedule, Alternate #1.

3.2 Additional Services

The contractor shall provide a list of additional services, together with a price list for such services. The City may or may not choose to utilize these services in the selection of the successful bidder. These services may include but are not limited to:

- 1 Bulky item pick-up per quarter (excludes Freon containing appliances). Bulk item pick-up should clearly list any size limitations and provide pricing for bulk items on a unit cost basis for pickups that are in addition to the quarterly service. Please provide this information in "Exhibit C".
- Annual curbside bulk item pickup.
- Biannual curbside Spring and Fall tree branch and leaf pickup.
- Pricing for the collection of trash, recyclables and compostables from City Facilities as provided in "Exhibit D".
- Provide up to 20 bins annually for the City's Labor Day Parade (Main Street) and up to 10 bins annually for the City's 4th of July (Golf Course Clubhouse). This should include drop off and pickup.
- The contractor will make a minimum of one-half cubic yard of finished compost available to each household at no cost. The Contractor may either distribute the finished compost from its own site or deliver the bulk material to a City site where City staff will oversee its distribution.
- Front door pick-up or roll-out service for physically impaired residents.
- Annual residential paper shredding event.
- Annual Christmas cardboard box overflow and Christmas tree pickup services.

- Any additional services the Proposer feels will contribute towards the Sustainability and Diversion goals of the City.

3.3 Recyclable and Compostable Material

Recyclable material shall be delivered to the Boulder County Recycling Center (BCRC), or other facilities that may be designated by the City. Recyclables shall be collected in material streams acceptable to the BCRC, commingled according to what is mutually acceptable to the City, the contractor and the BCRC. The recyclables will be composed of items generated by typical single family homes. The recyclable materials will remain the property of the City. Consequently, all revenues received from or costs due to the BCRC for the City's recyclable materials, shall be the City's. By household, recyclables shall be collected on the same day of the week as trash.

Compostable material shall be delivered and processed in a facility approved by the City. Proposers should provide the information related to how and where compost will be transferred upon collection in accordance with all applicable laws and regulations. Compostables shall be collected in material streams acceptable for composting according to what is mutually acceptable to the City, the contractor and the compostable recycling facility. The compostables will be composed of items generated by typical single family homes. The compostable materials shall become the property of the Contractor. By household, compostables are to be collected on the same day of the week as trash.

3.4 Collection Carts

TRASH/RECYCLING/COMPOST carts – Contractor will provide all carts. Contractor shall provide information to the City about what types and sizes of carts will be provided to the customers, how requests for cart repair and replacement will be handled and how changes in cart size will be accommodated. Contractor shall incorporate 3 free cart size changes or replacements per year for each account.

November 2023 cart mix (mix is subject to change based on time of year and customer preferences):

Type/cart size	96	64	32
Trash	13%	39%	48%
Recyclables	66%	26%	8%
Compostables	30%	41%	29%

Old town Louisville has many alleys, and the contractor should be prepared for the special needs and accommodations that will be required for alley collection. Additionally, approximately 13 homes are isolated from alleys and shall be served via the street facing frontage in the alley service area. The proposal shall include a statement of willingness by the contractor to provide alley service, and a description of special accommodations that will be made to accomplish this.

3.5 Hours and Days of Operation

- Regular collections shall be limited to the hours between 7:00 a.m. and 5:00 p.m., Monday through Friday.
- In special circumstances, approved in advance by the Director of Public Works, collections may be expanded to the hours between 7:00 a.m. and 8:00 p.m., Monday through Friday.

- Saturday and Sunday collections are not permitted unless expressly authorized by the Director of Public Works or as permitted in Section 3.6 below.
- The City will work with the selected contractor to develop a collection schedule for all City areas.
- The City prefers a schedule that provides for collection services Tuesday – Friday with existing routes as provided in Exhibit “B”. Recyclables and compostables shall be collected on the same day that trash collection is collected. Bid Alternate #1 provides for consideration of service on days of the week other than existing schedules and routes.
- The proposal should include a proposed schedule that meets this framework and that accommodates changes due to inclement weather and holidays.

3.6 Holiday Schedules

Holidays shall be New Year’s Day, Memorial Day, 4th of July, Labor Day, Thanksgiving Day, and Christmas Day. If the holiday falls on a weekday, then the Saturday following the holiday may be authorized as a catch-up collection day.

3.7 Trucks and Equipment

Trucks utilized to service the City shall be powered by Clean Natural Gas or Electric and be 10 years or newer in age.

The contractor shall provide information about the size and types of trucks and automation that it proposes to use, as well as other equipment necessary for the job such as communication, RFID devices, GPS systems and others. Performance standards should be described as they relate to the service proposed. The City reserves the right to visit the facilities of all interested contractors and observe the equipment used and the operational methods. These site visits will be coordinated with the appropriate representative(s) from each of the interested contractors. Any contract entered into by the City may contain provisions regarding equipment weight, leak proofing, and similar performance standards.

When operational, all collection vehicles shall be kept in good repair and appearance, be clean and sanitary, and be compliant with all local, state and federal safety and inspection regulations.

The contractor shall coordinate with the City Quarterly to review collection equipment condition to ensure high standards of cleanliness and appearance. The City may opt to review equipment more frequently if it is observed cleanliness or appearance is not upkept. In the event the City determines the condition of a collection vehicle is unacceptable the contractor shall take immediate action to correct the condition of the vehicle and provide an acceptable substitute vehicle as necessary in accordance with the standards set forth in this RFP.

Vehicle leaks or spills shall be cleaned up as soon as possible and no later than 24 hours after the occurrence. The Director of Public Works & Utilities shall be notified via email as soon as the contractor is aware of a leak or spill.

3.8 Use of Subcontractors

The contractor shall indicate in the proposal whether or not it intends to use subcontractors for any part of the service being provided, together with a list of all said subcontractors. Subcontractors may not be used for more than 20% of the work.

3.9 Public Outreach and Education

The contractor will work with the City to provide service-oriented information to customers and for developing and executing public education to encourage waste reduction and diversion.

Specifically, 30 days prior to the commencement of service and annually thereafter, the contractor shall provide an 8-1/2" x 11" two-color insert to be included in each customer's monthly bill (approximately 6,000 – 6,500 inserts required). This insert will inform City residents of the specifics of the trash, recyclables and compostables collection program, including a collection schedule, a listing of what materials can go into each waste stream, instructions on the proper handling of the collection carts, instructions on what customers are to do with trash that does not fit into the collection carts, etc. At the same time, contractor shall provide a complete list of fees and services offered to each customer. Contractor should also provide a cost to allow the City the option of requiring that the inserts will be directly mailed to all customers by the contractor. The contractor shall provide another such insert anytime there is a rate increase or change in the collection program.

In addition to the above educational information, the Contractor will work with City Staff to provide and share educational information that will further improve the efficiency and waste diversion performance of the collection program. The Contractor shall support these efforts by:

- Maintaining a Louisville-specific website page(s) with the same information required for Customer notifications
- Providing Customers with the ability to request service changes online (such as start / stop service, cart size change, Bulky Items collection, report a missed collection, etc.)
- Providing service tags and utilizing them as noted throughout this RFP,
- Providing Customers with options for e-mail and text reminders prior to collection days
- Providing Customers with options for e-mail and text reminders to communicate holidays, inclement weather changes, or other schedule/service disruptions
- Providing the City with information that will impact Customer service at least thirty days before any changes go into effect
 - Including changes in accepted Recyclable Materials or Compostable Materials, equipment, routing, collection schedule etc.

Contractor proposal shall include examples of similar customer notifications, service tags, websites, and collection day reminders created for other communities it has serviced, if applicable.

3.10 Public Informational Meetings

Upon selection but prior to implementation of the trash collections service, the selected contractor will be required to participate with City staff and Council in one or more public meetings which will describe the proposed service to City residents/customers.

3.11 Customer Service

The contractor shall be responsible for providing all customer service functions including informing customers of current services, handling customer requests, and resolving customer complaints. The proposal shall include information addressing the contractor's proposals for methods and a time frame for communicating with the customers and responding to their

questions and complaints. The contractor shall also include, with the proposal, a copy of their customer service standards.

All customer service functions shall be provided starting in the transition period and shall continue through the Agreement Term. Contractor proposal shall include dates within the transition period when partial and/ or full Customer service capabilities will be provided that align the Contractor's proposed transition schedule.

Dedicated Customer Service Representatives

Prompt customer service from representatives that understand Louisville's program is very important to the City. Although the City prefers the Contractor's customer service office to be local to the Colorado, Front Range, the City will consider other approaches. However, all dedicated customer service staff shall have a comprehensive working knowledge of Louisville neighborhoods and the specific details of services and rates provided under the Agreement. Contractor proposal shall include the number of customer service representatives they will dedicate to service the Customers (distinct from centralized call center responsibilities that service many communities), where the customer service representatives will be located, and how Contractor will ensure customer service representatives are familiar with Louisville's contract and neighborhoods.

Customer Service Hours

Dedicated customer service staff shall be available at a minimum from 8 AM to 5 PM MST Monday through Friday and Saturdays during weeks when holidays or service suspensions require Saturday collections. Contractor proposal shall include the hours for which dedicated customer service representatives will be available for Customers. Contractor proposal may, but is not required to, propose roll over hours to national call centers to extend customer service hours (only outside of minimum business hours).

Customer Queries, Complaints and Service Change Requests

The Contractor shall detail in the RFP response their approach to effectively meet the following requirements:

- Address all issues directly
 - The City shall not be the default customer service provider
- Answer Customer contacts primarily with live personnel
 - When call volume is unexpectedly high and live personnel are addressing other City queries, Customers shall be able to leave direct voice mail message; Contractor shall respond to Customer query within 1 business day
 - Maintain an average hold time of two minutes or less for customer service over the phone
 - Maintain an average abandonment rate of less than one percent of customer calls for customer service over the phone
- Resolve any missed collection issues within 1 business day

- Excluding delays associated with service suspensions
- Excluding instances where Customer had late set-out, blocked cart or excessive contamination (all of which shall be resolved or referred to the City within 1 calendar week)
- Resolve any other Customer or City complaints within 2 business days
- Respond to any service change or Bulky Items collection requests within 2 business days
 - Actual change or collection shall be completed within 1 calendar week
- Resolve all complaints and requests to the satisfaction of Customers and the City
- City shall have access to the recording of any complaints received via phone (upon request)
- City Representative or their designate shall be copied on all responses to written complaints via email, forms, or other means. The original complaint shall be included in any response.

3.12 Proposed Term of Contract

The Contractor shall provide proposals and pricing for a five-year contract term (“Exhibit A”). Any multi-year contract entered into the City is subject to annual appropriation. Example Contract Language is provided in “Exhibit E” for review. **Any exclusions to the provided example contract language should be submitted as part of the bid as “Exhibit E – Exclusions”.**

4. Qualifications of Proposer

The City requires the submission of the following certified supporting data regarding the qualifications of the contractor in order to determine whether it is qualified and responsible.

1. Satisfactory evidence that the contractor possesses not less than five years of experience providing trash and recycling collection services in the Front Range.
2. Annual revenue in excess of \$1,000,000.
3. No default or unresolved judgments.
4. Evidence that the contractor is in good standing in the State of Colorado.
5. A copy of the latest available financial statements of the contractor (or, if the contractor is a subsidiary or division, then a financial statement of the parent corporation).
6. The names and resumes of the principal officers, partners, and/or officials. The name(s) and resume(s) of the individual(s) who will be responsible for the City contract.
7. Such additional information as will satisfy the City that the contractor is adequately prepared to fulfill all of the terms of the contract.
8. An Affidavit from the Proposer indicating they will only participate in positive communication regarding the value they can provide to the City based upon their services and will not contribute to or partake in any negative or comparison campaign towards any other proposer. Proposers that do not provide an affidavit or furthermore participate in any negative communications towards other proposers will be disqualified from the bidding process.

5. General Terms

The contract with the City shall include, but not be limited to, general terms that are substantially as follows.

5.1 Maintenance of Records and Reporting

The contractor shall maintain complete operation and customer service records that shall at all reasonable times be open for inspection and copying for any reasonable purpose by the City. Reports shall be submitted by the tenth day of each month to the City documenting the following information:

1. All customers to whom service was provided; detail to include address, account number, size of each container and monthly fee. Included with the line item report will be a summary report detailing the number of customers with each container size combination.
2. A log of complaints and resolutions for trash and recycling collection services.
3. A log of missed collections and responses.
4. A description of any vehicle accidents or infractions.
5. A listing of all accounts having a change of service during the month. (i.e., 32-gallon service to 64 gallon service, etc.)
6. Weights in tons of all trash materials collected and landfill destination(s).
7. Weights in tons of recyclable materials collected and destination(s).
8. Weights in tons of compostable materials collected and destination(s) including identification of rejected loads.
9. Number of pickups and weights in tons of special wastes (curbside) collected and destination(s).

In addition, reporting shall be submitted by the last day of January annually to Boulder County through the Boulder County ReTRAC reporting system. This shall require some form of registration and licensing in accordance with Louisville and/or Boulder County Ordinances.

5.2 Compensation Payment Schedule

The contractor shall bill the City monthly on a per account basis for services provided. Within 60 days of the start of the Contract, the contractor shall coordinate with the City's Finance Department to establish mutually acceptable billing forms and formats for data transfer. The City will retain full auditing rights of the contractor's accounting records as they pertain to the City's contract.

Annually, and effective on the anniversary of the Commencement Date, prices will be adjusted by the percentage change in the Consumer Price Index for All Urban Consumers: Water Sewer and Trash Index (CUSR0000SEHG). This annual change shall initially be based on the most recent 12-month period available and then consistently based on this period annually thereafter.

5.3 Failure to Perform, Remedies, Termination

The City expects high levels of customer service and collection service provisions. Performance failures will be discouraged, to the extent possible, through penalties for certain infractions and through contract default for more serious lapses in service provisions. Section 5.5 details default provisions and procedures.

5.4 Penalties

Penalties may be levied if documented in an incident report presented by the City to the contractor. Penalties will be deducted from the monthly payment made by the City to the contractor. Disagreements will be subject to the review and resolution procedures provided in the contract.

Action or Omission	Penalties
Material Conditions for Contract Default	
Failure to meet schedule for any transition activity.	\$500 per day
Failure to deliver all Solid Waste to approved landfill, all Recyclable Materials to BCRC, and all Compostable Materials to approved composting facility. Receiving facility contamination policies may apply.	\$3,000 per load
Failure to maintain required insurance coverage.	\$5,000 per incident
Failure to maintain current Performance Bond.	\$5,000 per incident
Misrepresentation in reporting including inaccurate City administrative fees or liquidated damages.	\$5,000 per incident
Contractor utilizing a driver to provide Collection Services that does not have a valid Class B CDL with air brakes endorsement and Colorado Drivers' License and/or is not current with DOT required training or other DOT requirements.	\$1,000 per driver per day
Failure to initiate and participate in mutually scheduled quarterly meeting.	\$1,000 per incident
Failure to allow City audits or maintain records for 3 years.	\$3,000 per incident
Failure to provide the date, description and resolution/corrective action taken for any vehicle accidents, infractions, or overweight vehicles that occurred within	\$1,000 per incident

the last three (3) years.

Failure to appropriately bill Customers according to the Agreement OR bill for fees not approved by City OR failure to provide text in Spanish with directions for accessing full bills in Spanish.	\$3,000 per billing
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Failure to provide the number of dedicated service representatives familiar with city neighborhoods and City contract during business hours that are agree upon in Service Agreement.	\$500 per day
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Daily Operations

Commencement of residential collection prior to 7:00 a.m. or continuance after 7:00 p.m. except as expressly permitted.	\$250.00 per incident (each truck on each route is a separate incident).
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Failure to collect missed collections within 1 business day (excludes late set-outs & blocked carts which shall be collected within 1 calendar week) (excludes severe weather delays).	\$250 per Customer per day
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Failure to deliver carts after service start-up OR to replace damaged/lost carts within 2 business days.	\$250 per day per cart
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Failure to respond to Customer queries within 1 business day.	\$250 per incident
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Failure to resolve billing inquiries and disputes within two business days (including Saturdays where staffing is required).	\$250 per incident
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Failure to maintain an average hold time of two minutes or less for customer service over the phone.	\$250 per incident (Monthly Average)
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Failure to maintain an average abandonment rate of less than one percent of customer calls for customer service over the phone.	\$250 per incident (Monthly Average)
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Failure to resolve Customer or City	\$250 per Customer per day
-------------------------------------	----------------------------

complaints within 2 business days.

Failure to cleanup any vehicle leaks or collect materials spilled during the execution of Collection Services within 24 hours.	Twice the cost of cleanup to the City plus \$1,000 each incident
Failure to tag and communicate to customer contaminated materials and non pickup.	\$500 per incident
Failure to maintain carts in good working condition including needed repairs in accordance with the Agreement.	\$100 per cart
Late or incomplete submission of on request or monthly reporting.	\$250 per day
Failure to maintain vehicles that are clean, sanitary & in good working order.	\$250 per incident
Failure to provide Bulky Item collection within 1 calendar week of Customer request.	\$250 per Customer per day
Driver providing Collection Service utilizing a cell phone in a moving vehicle.	\$500 per cell phone infraction
Failure to maintain required color-coding for Solid Waste, Recyclable Materials or Compostables OR to maintain printed material guidelines on Recyclable Materials or Compostable Materials carts.	\$250 per cart per day
Failure to distribute approved notifications & collection calendars OR to develop/use approved service tags.	\$250 per day

The above table is not an exclusive list of the acts or omissions for which a penalty may be assessed. Also, the contract shall include provisions detailing those acts and omissions of the contractor which shall be considered violations or breaches of the contract. The contract will reserve to the City the right to exercise any and all remedies it may have with respect to these and other violations and breaches. Any schedule of penalties shall not affect the City's ability to terminate the contract for breach.

5.5 Contract Default

The contractor shall provide a Performance Bond in the amount of \$500,000 or equal to the cost of three months' service to the City, whichever is greater, to cover the City's costs in the event of

contractor default. The contract for the services will include a number of provisions protecting City interests in case of contractor default. These provisions may include requirements for surety interest in the contractor's equipment. The contract will also include provisions for successive levels of dispute resolution prior to litigation.

5.6 Force Majeure

The contract will provide that neither party shall be liable to the other for any delay in, or failure of, performance where performance is prevented or delayed by acts of God, fire, explosion, accident, flood, earthquake, epidemic, war, riot, rebellion, restraints or injunctions, or other legal processes from which a party affected cannot reasonably relieve itself by security or otherwise.

5.7 Indemnification and Insurance

The contractor shall be required to indemnify and hold harmless the City, its officers and its employees, from and against all liability, claims, and demands, on account of any injury, loss, or damage, which arise out of or are connected with the contractor's performance of the contract, if such injury, loss, or damage, or any portion thereof, is caused by, or claimed to be caused by, the act, omission, or other fault of the contractor or any subcontractor of the contractor, or any officer, employee, or agent of the contractor or subcontractor, or any other person for whom the contractor is responsible. The contract shall include provisions for the contractor to defend against such claims.

5.8 Compliance with Laws and Miscellaneous

The contractor shall be responsible at its expense for obtaining and complying with all necessary permits, ordinances, and laws. The contract shall also include provisions concerning independent contractor status, equal employment opportunity, non-assignment, disclosure of information and records, applicable law, and such other terms and conditions as the City may require.

6. Self-Reliance

The City makes no guarantee on any of the estimates contained in the RFP and provides this data for informational purposes only. Contractors are expected to conduct their own investigations and research of relevant information used to develop their proposals, including but not limited to the estimated number and type of housing units, anticipated participation, diversion, container weights and all conditions related to the services provided.

The contractor shall make no claims against the City as a result of estimates or projections used herein, statements, or interpretation of data by City staff or its agents.

7. Information Requests and Requirements

Contractors are to indicate the number of residences in Louisville currently being served including the number of accounts served through homeowner associations. Information on container size, the number of containers, number of accounts recycling, composting, and utilization of special services are to be provided. Contractors should also provide available information on the gross weight of recyclables and compostables being collected from accounts in Louisville.

8. Review and Assessment Criteria

Contractors shall provide 3 hard copies of their proposal in addition to a pdf copy on flash drive in a sealed envelope.

Proposals shall be sent to the City of Louisville, Department of Public Works, 749 Main Street, Louisville, CO 80027 in a sealed envelope marked “City of Louisville Waste Collection Proposal” and shall be received by **4:00 p.m. on Friday, February 2, 2024**.

Contractors will be evaluated on the following Criteria:

Pricing	Additional Services/Outreach Programs	Schedule	Equipment	RFP/Interview	Customer Service Commitments
60%	10%	5%	10%	5%	10%

LOUISVILLE SUSTAINABILITY ADVISORY BOARD

2024 DRAFT WORK PLAN

LSAB Role

Advise & Recommend

- Provide feedback to staff regarding programs, projects, etc.
- Sustainability budget recommendations
- Council work plan recommendations
- Council policy discussion memos
- Additional memos to Council – Board recommendations

Research & Analysis

- Vetting ideas through cost/benefit analysis, alignment with City plans, equity lens, etc.
- Prepping for future budget requests/work plan ideas

Outreach & Engagement

- Coordination with partners and community members
- Distribution of materials
- Monthly eNewsletter
- Additional strategies

2024 Priority Items

1. Community Decarbonization Plan implementation

- Residential Engagement
 - Program branding, outreach and communications, website development, resource guides
 - Home Electrification Workshop Series
 - Rebates/incentives
- Mobile Home and Renter Engagement
- Commercial Research (student research)
- Commercial Advisement (PACE advising)

Sustainability Division Role: Lead Plan implementation – workshop creation, student research oversight, PACE advisor management, Partners in Energy coordination, Plan progress tracking, rebates/incentives, communications and outreach

LSAB Role: Assist with branding, outreach and communications for residential and commercial programs and incentives, provide residential workshop recommendations (content, partners), provide resources and feedback for Community Decarbonization website and collateral

2. Internal Decarbonization Plan implementation

- Scope finalization
- Grant writing and management

- Project management

Sustainability Division Role: Project management, staff team coordination, grant writing and management, project communications, provide monthly updates to LSAB

LSAB Role: Discuss project updates, provide regular feedback to City Council through memos

3. Bag tax funded commercial and residential sustainability programs implementation

- Program/event coordination & management, alignment with Community Decarbonization Plan
- Program review and analysis

Sustainability Division Role: Program development, coordination and management, program analysis and reporting

LSAB Role: Community program recommendations, programs/events outreach and engagement, volunteer recruitment, event support

4. Coordinate Sustainability Division events

- Home Electrification Workshop Series (May – Nov)
- Spring Cleaning Event (April)
- Farmers Market/tabling opportunities (June - September)
- Labor Day parade/festival (September)
- Ecotoberfest (October)

Sustainability Division Role: Event strategy and development, coordination with partners

LSAB Role: Event recommendations, event outreach and engagement, volunteer recruitment, event support

5. Coordinate regular sustainability communications

- Create content for Sustainability Spotlight (bi-monthly)
 - Staff writes in Jan, March, May, July, September, November
 - LSAB writes Feb, April, June, August, October, December
- Monthly e-newsletter
- Quarterly print newspaper
- Regular utility bill inserts
- Regular social media posts
- Other communications (postcards/yard signs) as needed

Sustainability Division Role: Communications strategy, content creation and publishing

LSAB Role: Research Sustainability Spotlight topic, write content, provide content to Manager for publication, provide recommendations to staff regarding outreach and communications strategies and ideas

6. 2025/2026 Sustainability Division budget requests

- Provide recommendations for operating budget requests
- Work with staff to finalize 2025/2026 operating budget

Sustainability Division Role: Discuss and finalize recommendations for 2025/2026 sustainability operating budget

LSAB Role: Recommend items to be included in Sustainability operating budget (April)

7. Comprehensive Plan Feedback

- Engagement with City's Comprehensive Plan project
- Provide recommendations to staff that enhance sustainability initiatives/outcomes throughout the Plan development process

Sustainability Division Role: Participate in Comprehensive Plan project management team, advocate on behalf of LSAB to PMT, share project updates and engagement opportunities

LSAB Role: Engage with Comprehensive Plan presentations and provide feedback to staff, attend and participate in Comprehensive Plan engagement opportunities as available, share information about Comprehensive Plan with individual networks

8. City Council 2025 Work Plan & Sustainability Division/LSAB 2025 Work Plan Recommendations

- Provide recommendations for Council, Sustainability Division and LSAB work plans to staff
- Draft and send memo to Council with work plan recommendations
- Draft and publish Sustainability division/LSAB 2025 work plans based on feedback

Sustainability Division Role: Discuss and make recommendations for 2025 Work Plan, communicate with Council on LSAB's behalf, draft and publish 2025 Sustainability Division Work Plan

LSAB Role: Recommend items to be considered for City Council 2025 Work Plan (May) and recommend items to be considered for 2025 Sustainability Division Work Plan (November)

9. Research and analysis for new potential sustainability initiatives (As Needed)

- Alignment with Sustainability Action Plan and Climate Action Goals
- Cost/benefit analysis
- GHG reduction potential
- Equity evaluation in support of City's EDI goals

Sustainability Division Role: Discuss and decide on new sustainability initiatives, as needed

LSAB Role: Conduct research and analysis, present results to Manager and board, as needed

10. Exploring funding sources/grants & identifying uses in alignment with Sustainability Action Plan, Climate Action Goals, Internal Decarbonization Plan, Community Decarbonization Plan (As Needed)

Sustainability Division Role: Discuss and decide on new grant initiatives, as needed

LSAB Role: Conduct research and analysis, present results to Manager and board, as needed

2024 Meeting Outlines

Month	Focus	Lead/Partners/Notes
January	- Welcome new member(s) - Comprehensive Plan - Discussion/approval of 2024 LSAB work plan - Sustainability Spotlight writers - Officer Election (Chair, Vice Chair)	-Jeff Hirt, Planning Manager
February	- Youth Advisory Board collaborative project - Community Decarbonization Plan, Home Electrification Workshop Series Goals (themes, partners), Discuss/approve CDP memo - Solid Waste RFP – sustainability components - Council Feedback – LSAB Work Plan	-Partners in Energy -Youth Advisory Board chair
March	- Residential/Neighborhood Engagement Strategy - City engagement strategy (neighborhood liaisons) - Neighborhood sustainability program research - Sustainable Neighborhood Network - Potential new memos: Front Range Passenger Rail and state lawn equipment bans	- Derek Cosson, Senior Communications Specialist -Hannah Miller, Sustainability Specialist -Jonathan Wachtel, Board Chair, Sustainable Neighborhood Network
April	- Sustainability 2025 budget priorities - Bag tax community programs overview and feedback - City's façade improvement program	- Hannah Miller, Sustainability Specialist
May	- Council 2025 Work Plan priorities - Internal Decarbonization Plan	
June	- Commercial Decarbonization Strategy (research and advising) -LSAB sub-committees discussion	Jenn Dingman, PACE fellow
July	-LSAB By-laws Discussion and Update	

August	TBD	
September	- Annual Sustainability Update	
October	- Climate Action Plan feedback	Hannah Miller, Sustainability Specialist
November	- 2025 LSAB work plan discussion -Comprehensive Plan	Jeff Hirt, Planning Manager
December	- Lafayette, Louisville, Superior collaboration	

Additional Focus Items

- Council Work Plan Items
 - LSAB work plan may change if sustainability items are added to Council's work plan
- City Programs/Projects/Plans Alignment
 - LSAB work plan may change if there is a need for sustainability feedback/advising in regards to other City programs, projects and plans

Additional Information

If a board member would like an item added to the 2024 Work Plan or discussed in a monthly meeting, the board member will email the Chair and Sustainability Manager directly with the request. After evaluation and approval, the work plan will be modified to accommodate the new item, without impacting existing meeting schedule and priority items.

There may be needs for project-specific support in 2023. Staff will communicate these needs to the board as they arise.

Commercial program outreach and engagement needs

- a. Green Business Program
- b. PACE programs, rebates and incentives
- c. Xcel Energy programming
- d. Additional incentives

Residential program outreach and engagement needs

- e. EnergySmart programs
- f. Xcel Energy programs
- g. City EE/electrification rebates
- h. Additional incentives



Sustainability Advisory Board

February 2024

Kayla Betzold, Sustainability Manager

Discussion Item: Youth Advisory Board Collaboration

- Staff/YAB Update
 - Overview of YAB project and LSAB collaboration
- Public Comment (3 minutes per comment)
- LSAB Discussion
 - Ideas for YAB to include in project scope?

Discussion Item: Community Decarbonization Plan

- Staff/Chair Update
 - Overview of Community Decarbonization Planning process
 - Stakeholder team
 - Workshops
 - Plan strategies
 - Residential Electrification Workshop Series highlight
- Public Comment (3 minutes per comment)
- LSAB Discussion and Direction
 - Does LSAB have ideas for workshop series components or partners?
 - What does LSAB want to include in the Council memo?
 - Draft memo outline and appoint member to draft memo
 - Motion
 - Seconded motion
 - LSAB vote
 - Record vote

Planning Timeline

**Stakeholder
Recruitment**
June

**Workshop
1**
Mid-July

**Workshop
2**
Early
September

**Workshop
3**
Mid-
October

**100%
Council
Presentation**
Early 2024

**Submit
MOU to
Council**
May 16

**Establish
Baseline**
June

**Community
Engagement**
Beginning in July

**50% Council
Presentation**
September

**Key
Informant
Interviews
and
Financing
Focus
Group**
Mid-
October

**Workshop
4**
Early
December



Completed

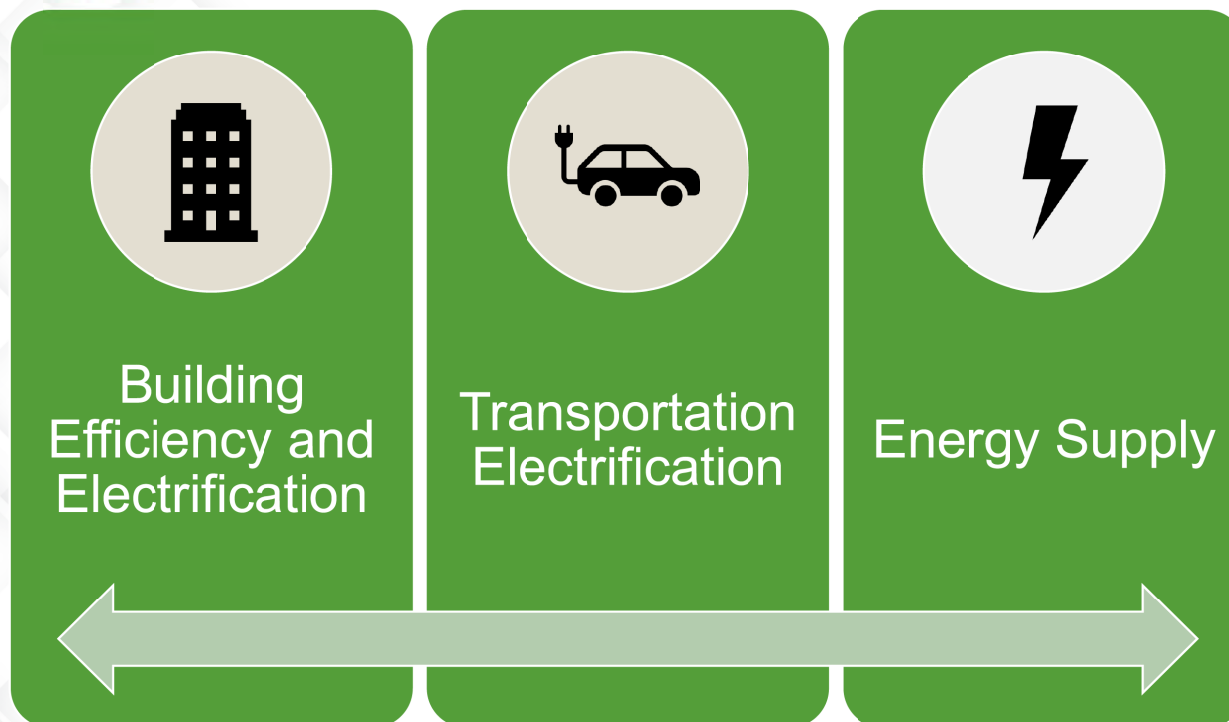


Current Stage



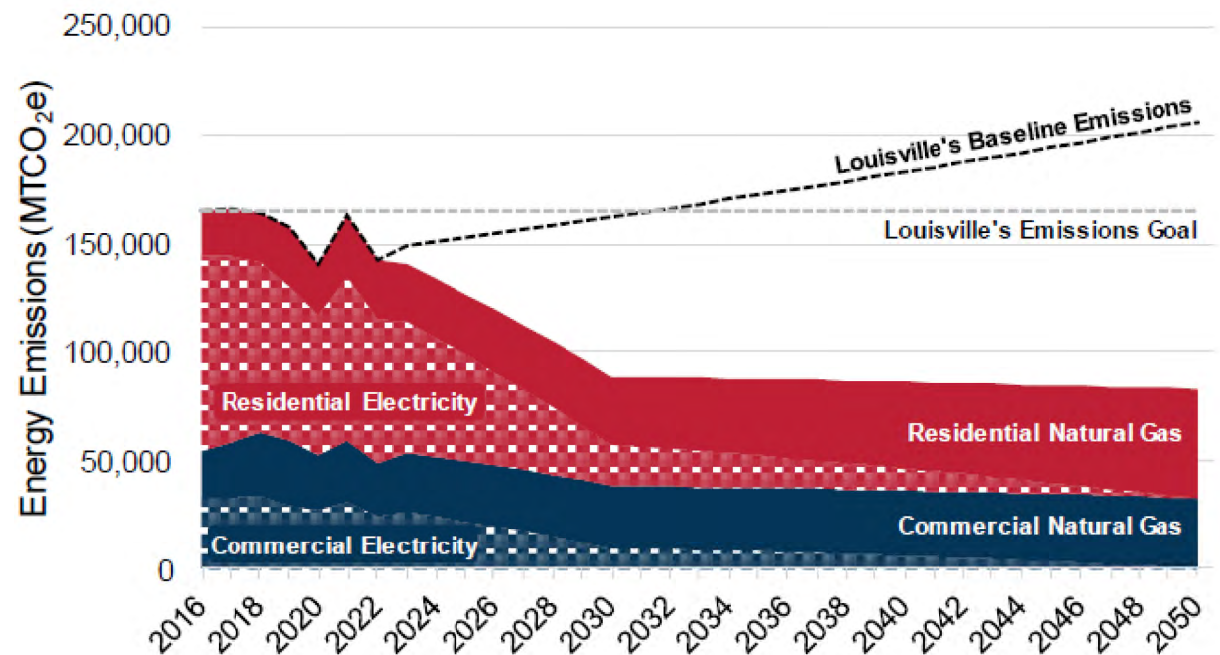
Next Steps

What is Included in the scope of this plan?

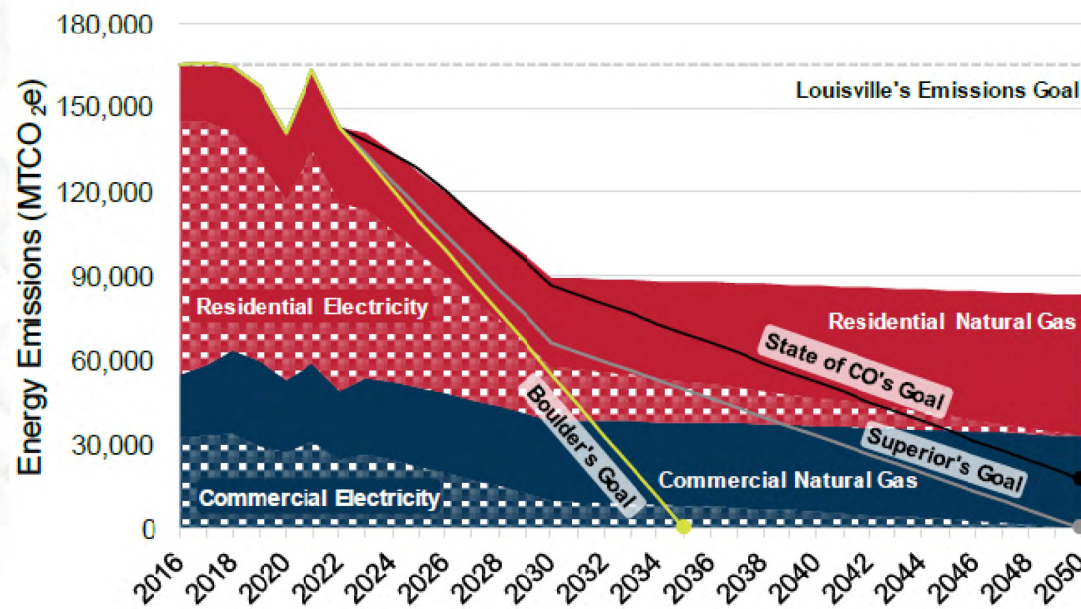


Louisville Energy Emissions Forecast

Current goal: Reduce core community GHG emissions annually below the 2016 baseline through 2030.



Energy Benchmarks Used to Inform Goal Setting



	Conservative	Ambitious	Aspirational
Definition	Achievable with current budget and workforce	Will require additional investment, but doable	Would need significant adjustment in current priorities to achieve
Benchmark	Benchmark: State (CO)	Benchmark: Superior	Benchmark: Boulder
Goal	50% below 2005 GHG emissions by 2030	60% below 2016 GHG emissions by 2030 and net-zero GHG emissions by 2050	Net zero emissions by 2035

Community Decarbonization Plan Goal

The stakeholder team agreed to align with the “ambitious” benchmark, which establishes the following goal for this Community Decarbonization Plan:

The City of Louisville will reduce energy-related emissions 60% below 2016 by 2030 and will be carbon neutral by 2050.

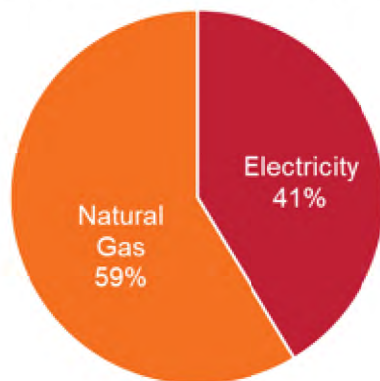
When staff brings the Plan before Council in March, we will be asking them to update the 2019 adopted Climate Action Goals to align with the CDP goal above.

Current goal: Reduce core community GHG emissions annually below the 2016 baseline through 2030.

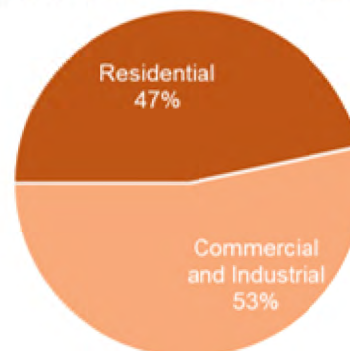
New goal: Reduce energy-related community GHG emissions 60% below 2016 by 2030 and achieve carbon neutrality by 2050.

COMMERCIAL AND RESIDENTIAL ENERGY USE IN LOUISVILLE

2022 Energy Use Breakdown
Total Energy (MMBtu): 1,683,197

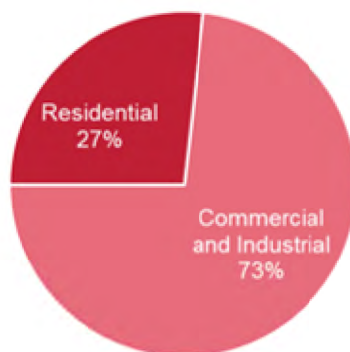


Sources: Partners in Energy dataset



Natural Gas (9.87M therms)

- More evenly split across sectors
- Primarily from space heating & water heating



Electricity (204.0M kWh)

- Driven by commercial sector
- **Residential:** Primarily from AC, lighting & electric water heating/space heating
- **Commercial:** Primarily from HVAC, lighting, and refrigeration



PARTNERS IN ENERGY
An Xcel Energy Community Collaboration

15

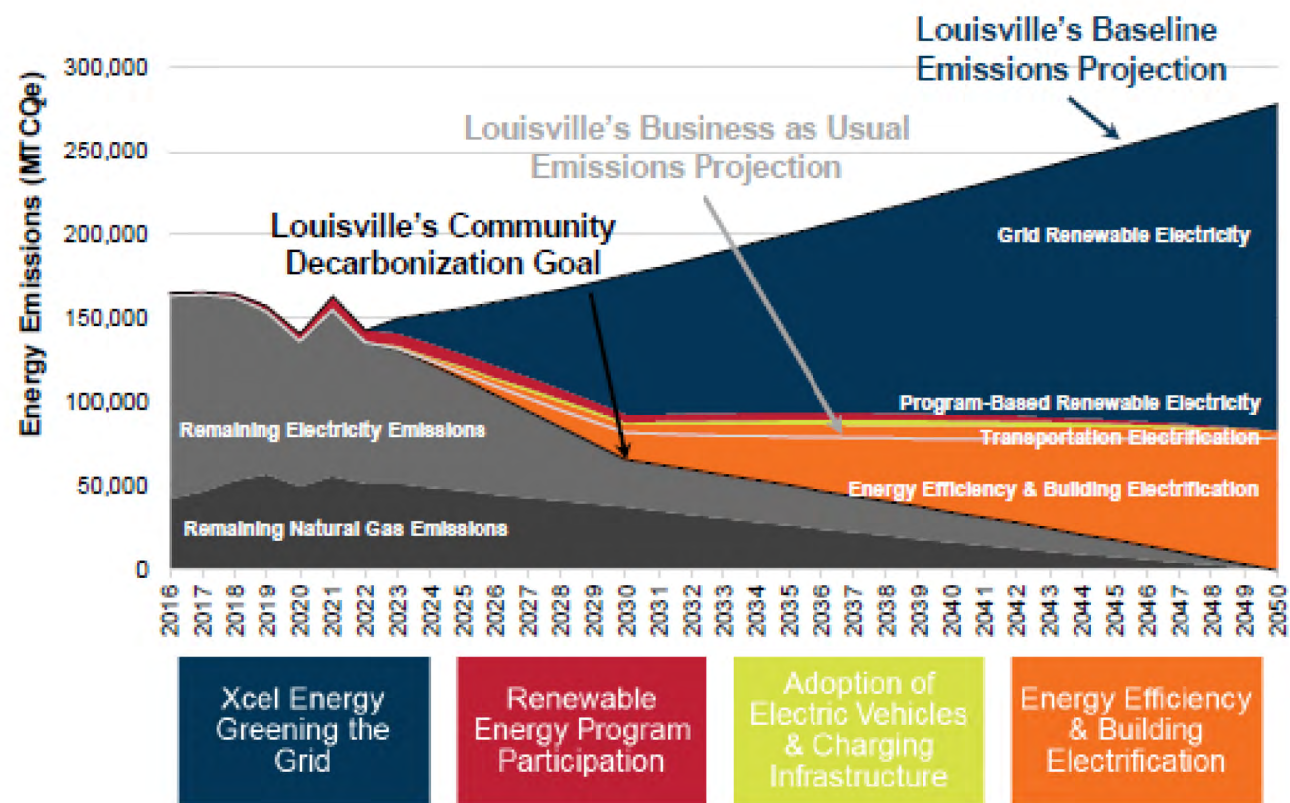
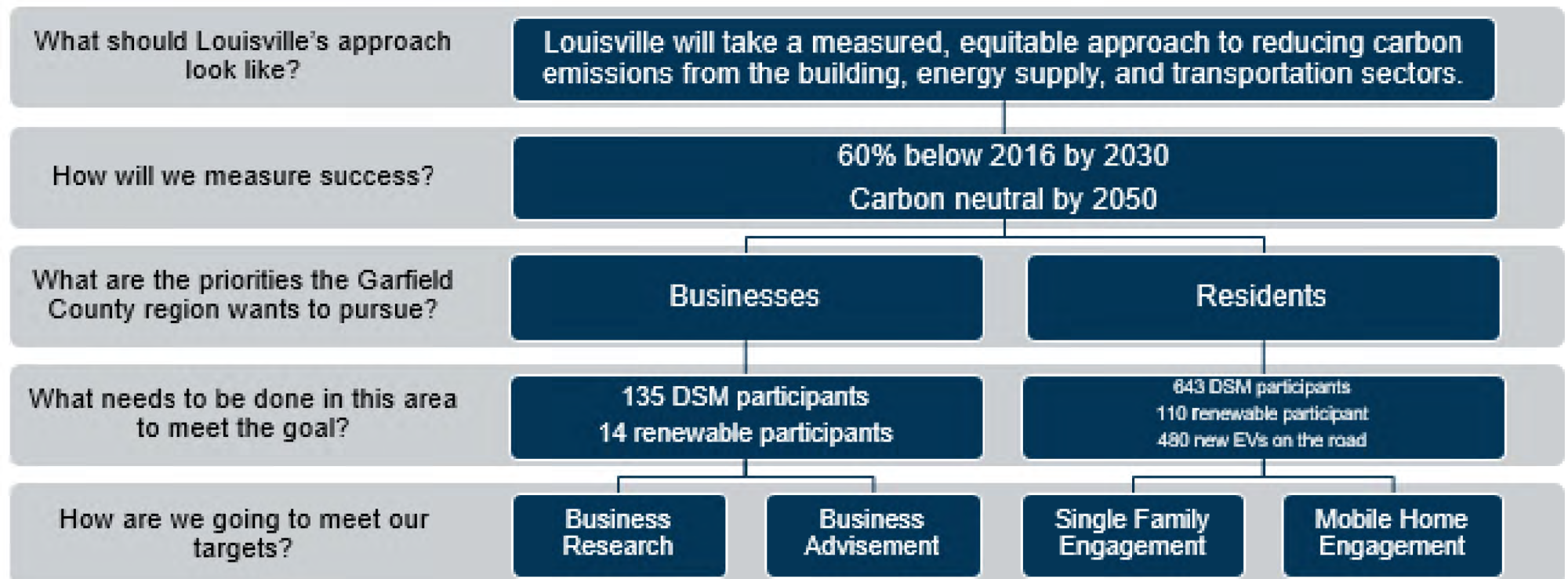


Figure 6. A carbon neutral pathway to meet Louisville's emissions goal

PLAN FRAMEWORK



Community Decarbonization Plan – Residential, Single Family Engagement Strategy Highlight

- Home Electrification Workshop Series (2024)
 - Branded as “1-2-3 Electrify”
 - **Home Electrification 101** – *Wednesday, May 8*
 - Basics, overview, step by step process
 - **Plan** - *Thursday, June 20*
 - How can I improve my building envelope with insulation/air sealing? How old is natural gas-powered equipment? When will I next consider leasing/purchasing a vehicle? What is the solar potential of my home?
 - **Purchase** – *Saturday, July 13*
 - Electrification Expo – vendors, contractors, EV ride ‘n drive
 - **Perfect** – *Thursday, August 15*
 - Maintenance plan, utility bills, next steps

Discussion Item: Community Decarbonization Plan

- Public Comment (3 minutes per comment)
- LSAB Discussion and Direction
 - Does LSAB have ideas for 1-2-3 Electrify components or partners?
 - What does LSAB want to include in the Council memo?
 - Draft memo outline and appoint member to draft memo
 - Motion
 - Seconded motion
 - LSAB vote
 - Record vote

Discussion Item: Solid Waste Contract RFP

Staff Update – RFP Components

- Base Rate Proposal
 - 3-bin system (trash, recycling, compost) – up to largest size of recycling and compost included, pay-as-you-throw for trash
- Added to Base Rate
 - Weekly recycling & composting prices
 - All-electric collection equipment and verifiable GHG emission offsets that accounts for Xcel's electricity mix
 - OR verifiable GHG emission offsets that offsets emissions of collection equipment that utilizes clean/renewable natural gas
- Additional Services
 - 1 bulky item per quarter & annual curbside bulky item event
 - Curbside spring and fall leaf/tree branch pickup and holiday tree recycling
 - Finished compost available to residents annually at no cost
 - Front door pick-up or roll-out service

Discussion Item: Solid Waste Contract RFP

- Public Comment (3 minutes per comment)
- LSAB Discussion
 - What components of the RFP are the board's largest priority items?

Discussion Item: 2024 LSAB Work Plan at Council

- Staff Update
 - Kayla and Todd will be presenting LSAB Work Plan to Council on March 12, LSAB members are invited to join!
 - Highlights/successes from past year
 - 2024 Work Plan
- Public Comment (3 minutes per comment)
- LSAB Discussion and Direction
 - Are there areas in which the board would like City Council input/feedback?
 - What questions do you have for City Council?

LSAB February 2024 Meeting

Sub-Committee and Board Member Updates

Administrative Tasks

- Allison to write next Sustainability Spotlight, due March 15

Discussion Items for Next Meeting

- Residential/Neighborhood Engagement Strategies
 - City engagement strategy
 - Neighborhood sustainability program research
 - Sustainable Neighborhood Network
- Potential new memos
 - Front Range passenger rail
 - State ban, electric lawn equipment

Adjourn