
Partners in Energy

Louisville

Community Decarbonization Plan

Workshop 1

July 2023



AGENDA

Time	Agenda Item
12:00 - 12:15 PM	Welcome & Introductions
12:15 - 12:30 PM	What is Xcel Energy's Partners in Energy?
12:30 - 12:45 PM	What is Decarbonization?
12:45 - 1:05 PM	Baseline – Where Are We Now?
1:05 PM - 1:50 PM	Where Do We Want To Go
1:50 PM - 2:00 PM	Wrap Up & Next Steps

PROJECT MANAGEMENT TEAM

Xcel Energy		Community Facilitators		City of Louisville
				
Sofia Trautman Partners in Energy Program Manager	Iffie Jennings Area Manager	Sarah Kaye Planning Lead	Terry Hatfield Data Lead	Kayla Betzold Sustainability Manager

OBJECTIVES

Planning Process Objectives:

Develop a community decarbonization plan that establishes:

- The aspirational vision for Louisville's decarbonization future
- Baseline conditions to inform decarbonization actions
- Measurable decarbonization goals that build upon Louisville's Climate Action Goals Dashboard
- A strategic short-term and long-term approach to achieving goals
- Measurable targets to evaluate progress

Workshop 1 Objectives:

- Clarify your role in shaping Louisville's Community Decarbonization Plan
- Identify community priorities to inform the vision
- Rally around existing goals and identify if secondary goals are needed through scenario planning
- Review Louisville's decarbonization baseline conditions

CENTERING EQUITY

- The City of Louisville aims to provide fair treatment, access, opportunity, and advancement for all people.
- As we walk through the context for this plan today, think through:
 - The impact of decarbonization on historically underrepresented groups (positive and negative)
 - Potential barriers to realizing the positive impacts
 - Potential opportunities to mitigate the negative impacts

Historically underrepresented groups include, but are not limited to, people of color, people who do not speak English as a first language, people with disabilities, unhoused populations, low-income populations, and LGBTQIA populations.

STAKEHOLDER EXPECTATIONS



Actively participate and engage in process



Educate team members on related topics so we all can learn



Represent your organization to share what's useful and what's not

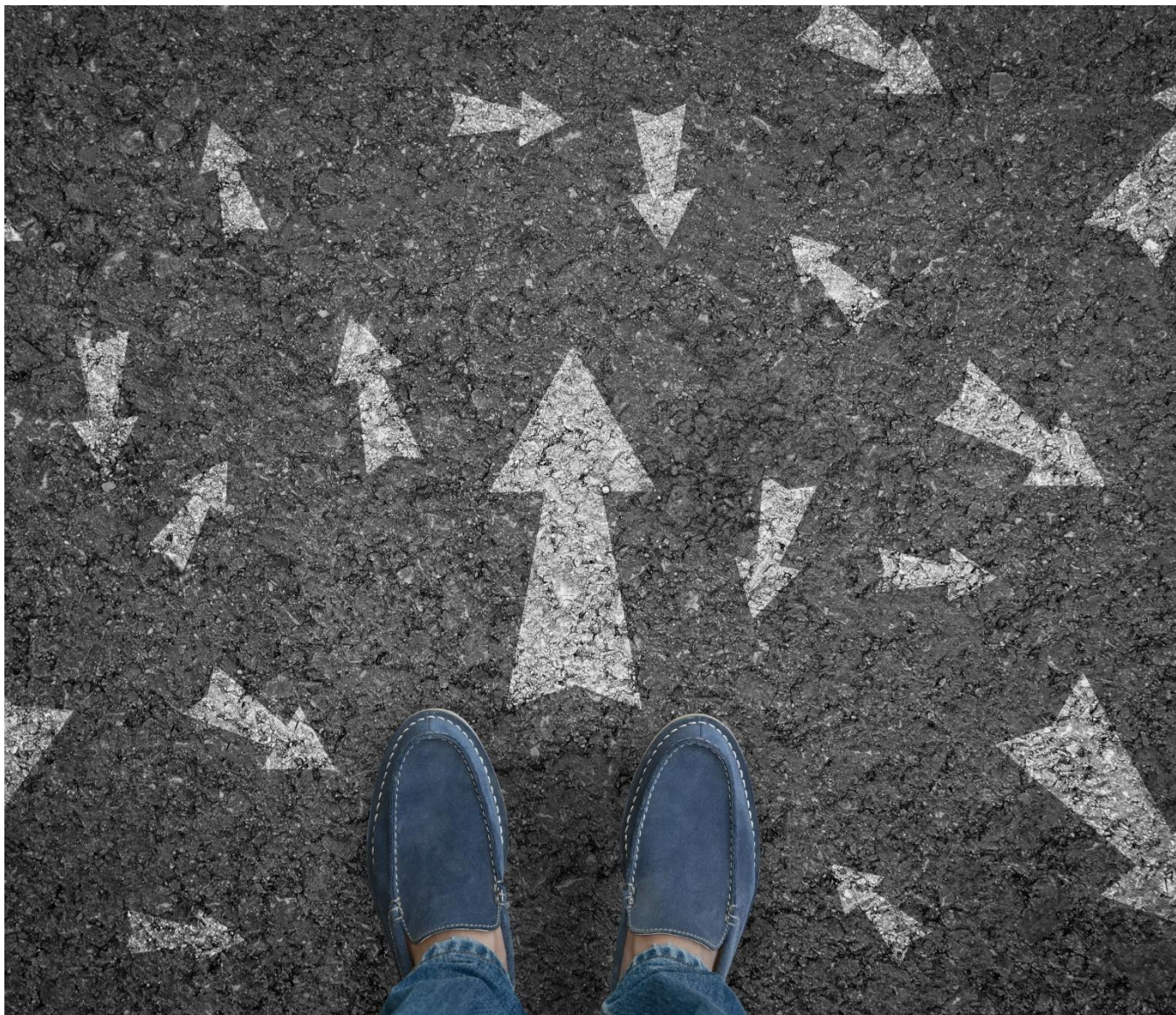


Be a critical eye for credibility, transparency, and accuracy

LET'S GET TO KNOW EACH OTHER

Introduce yourself:

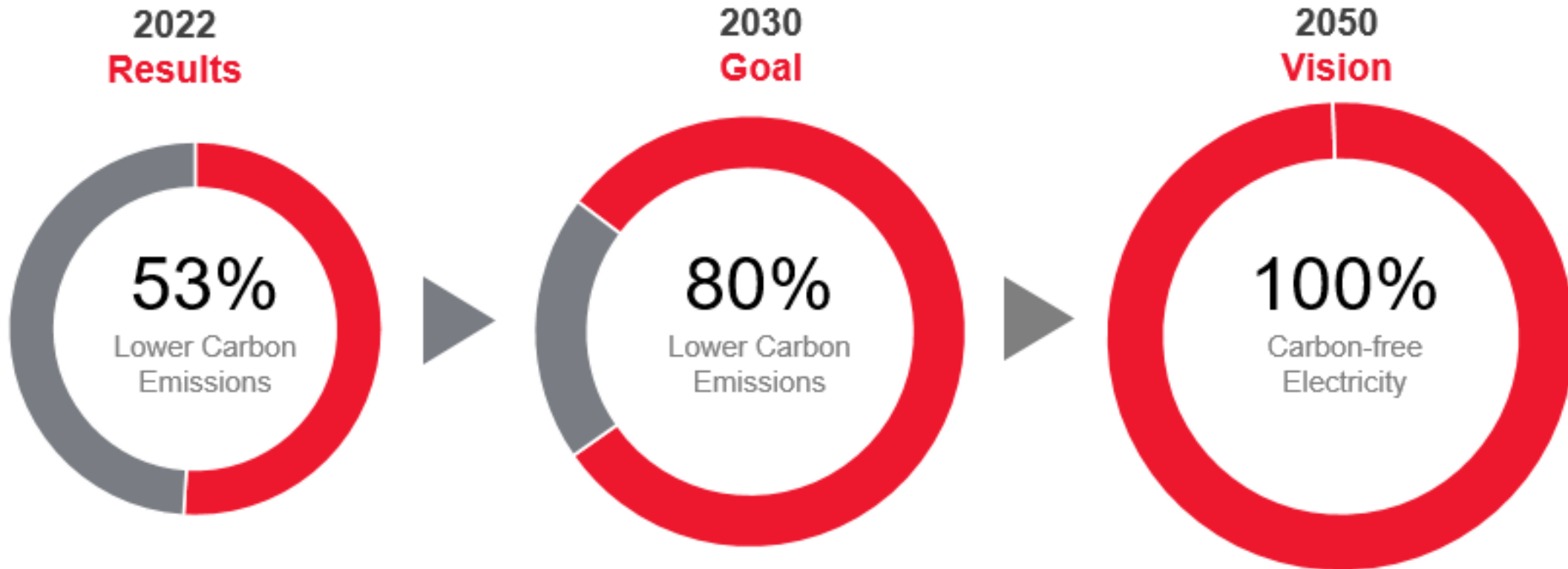
- Name
- Organization/Role
- Are you more of a *big picture thinker* or *detailed implementer*?



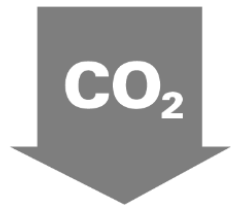
Source: Shutterstock

WHAT IS PARTNERS IN ENERGY?

XCEL ENERGY CARBON FREE FUTURE

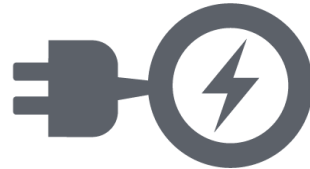


Our Vision is to enable one out of five vehicles in the areas we serve to be electric by 2030 and all vehicles to run on carbon-free electricity or other clean energy by 2050



ZERO CARBON ENERGY

Provide the fueling infrastructure and energy system to run all vehicles on carbon-free electricity or other clean energy



EASY CHARGING

All customers can conveniently access affordable EV charging at home or within one mile of home



ACCESS

Underserved communities can participate in our programs and the related economic development benefits



XCEL ENERGY FLEET

Our entire fleet runs on carbon free electricity or other clean energy

Grid Readiness



Key Context: Electrification at a progressive pace



Who's In Charge: Xcel Energy System Planning and Strategy Team



What's the Process: Cyclical annual planning process to ensure adequate capacity of distribution system



Communication is Key: Information from customers helps improve planning

WHAT IS PARTNERS IN ENERGY?

- Two-year collaboration with Xcel Energy to develop and implement **your community's energy plan goals**.
- Opportunity to engage stakeholders, create goals and strategies, and develop a work plan to be successful.



DELIVERABLE: COMMUNITY DECARBONIZATION PLAN

- Outcome of planning phase
- Plan for pursuing your community's decarbonization vision
- Guides implementation phase



COMMUNITY DECARBONIZATION PLAN OVERVIEW



Executive Summary

Shareable + graphically-rich



Introduction

Case for Community Decarbonization Plan



Where We Are Now

Decarbonization baseline and planning context



Where We Are Going

Vision and goals



How We Are Going to Get There

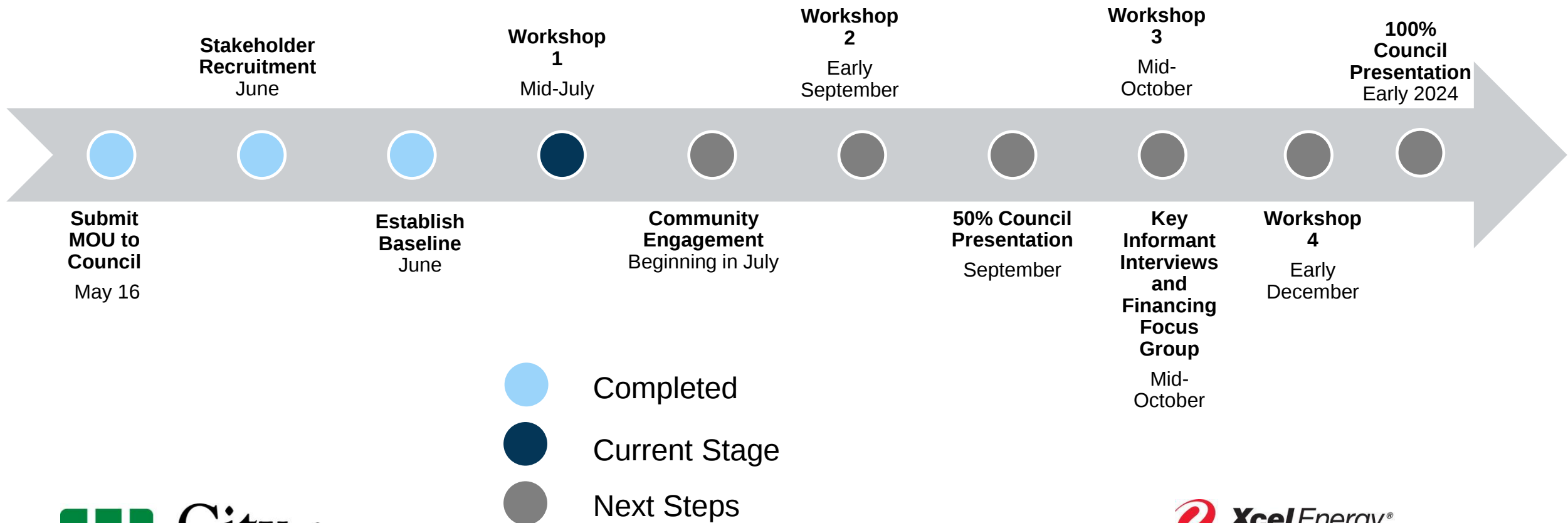
Strategies, implementation details, and impact modeling



How We Stay On Course

Implementation support and progress tracking

PLANNING TIMELINE



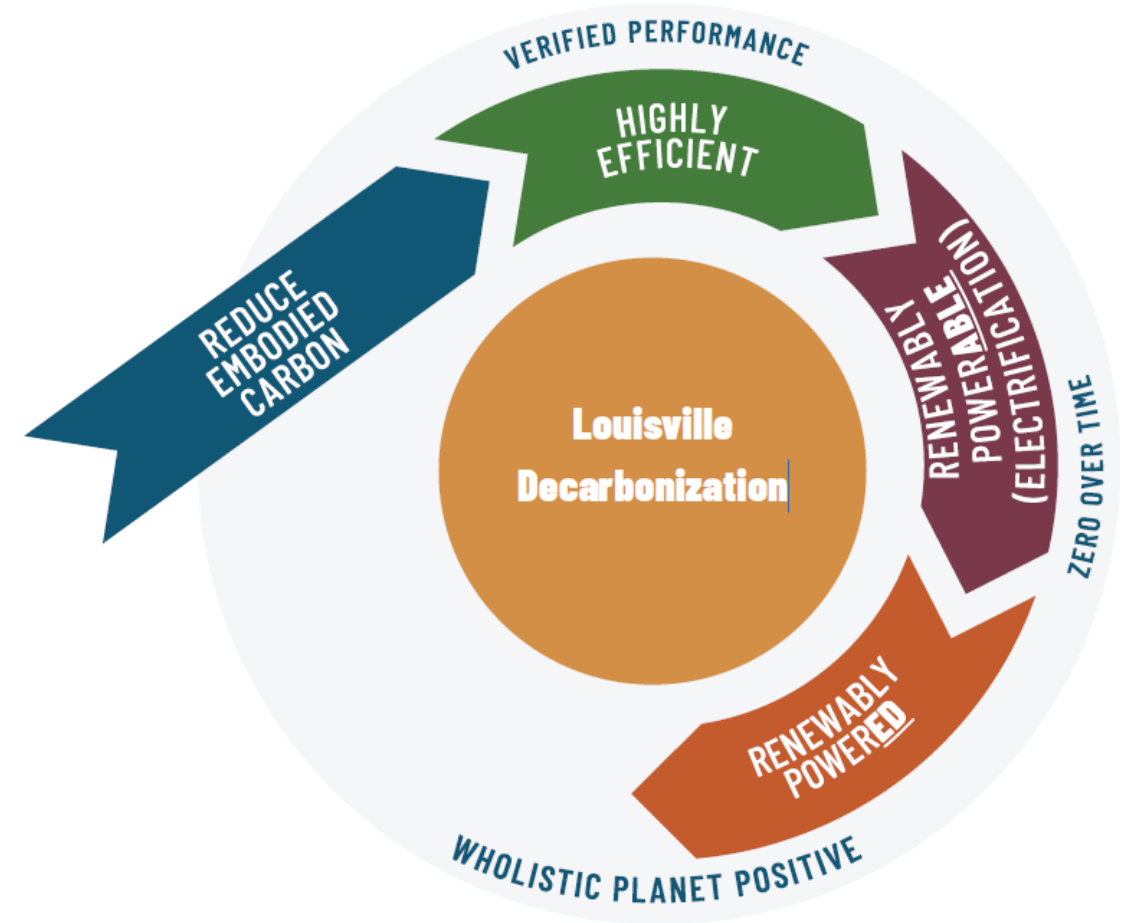


Source: Shutterstock

WHAT IS DECARBONIZATION

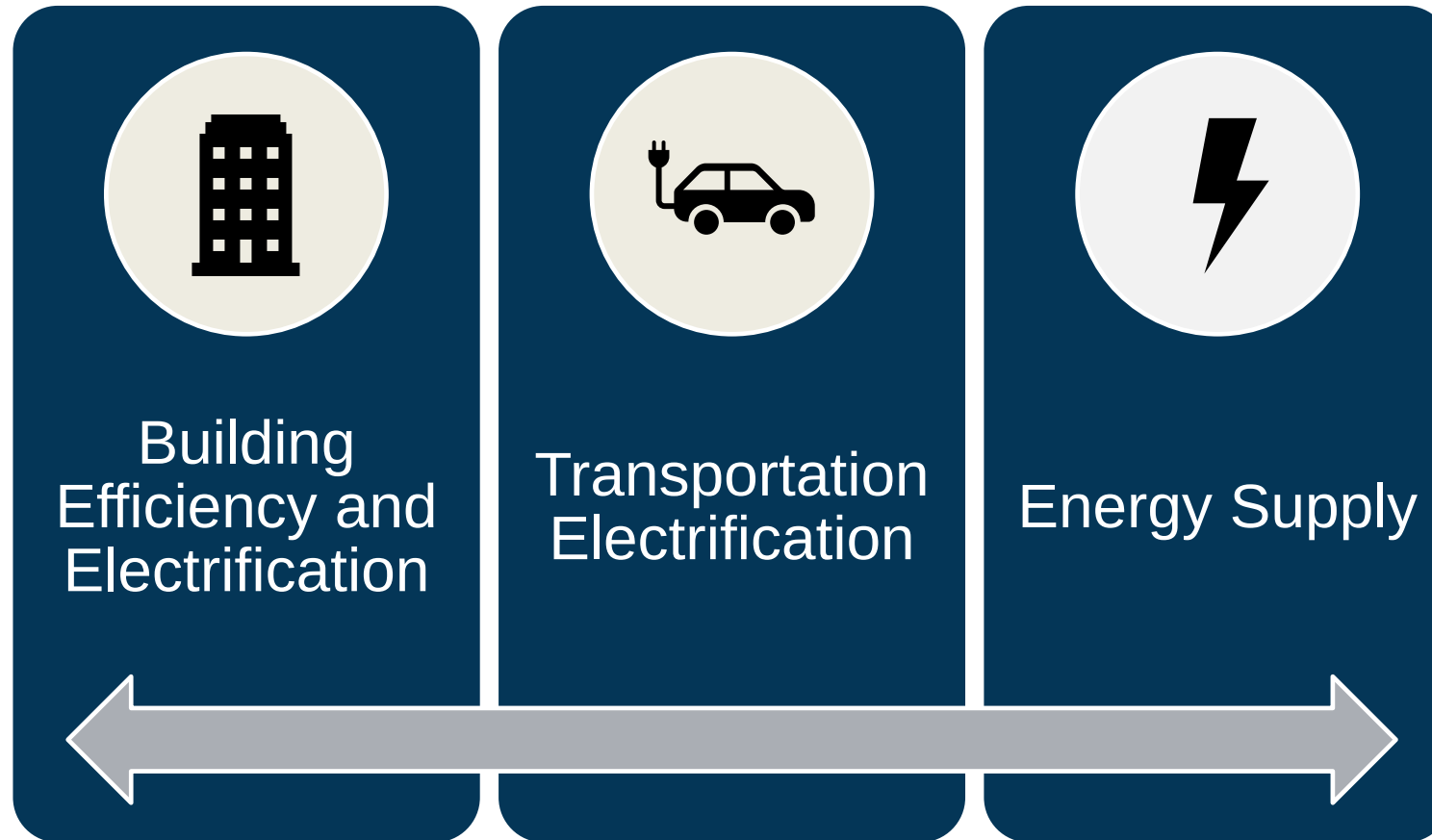
WHAT IS DECARBONIZATION

- **Retrofitting** buildings reduces carbon emissions associated with new construction
- Energy **efficient** buildings, equipment, and vehicles reduces potential energy use
- Electric building and transportation equipment are renewably **power-able**
- Equipment that is **renewably powered** helps realize Louisville's full decarbonization benefits



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

WHAT IS INCLUDED IN THE SCOPE OF THIS PLAN?



WHAT IS BUILDING ELECTRIFICATION?



Building
Electrification

- Refers to the electrification of any building mechanical system, such as HVAC or water heating systems.
- Also refers to electrification of appliances (cooking, etc.)

WHAT IS TRANSPORTATION ELECTRIFICATION

Transportation Electrification

- refers to the electrification of any mobility device, such as bikes, scooters, personal cars, carshare, fleet, or buses.

Types of Electric Vehicles

- Battery Electric Vehicles (BEVs)
- Plug-in hybrids (PHEVs)
- Hybrid Vehicles

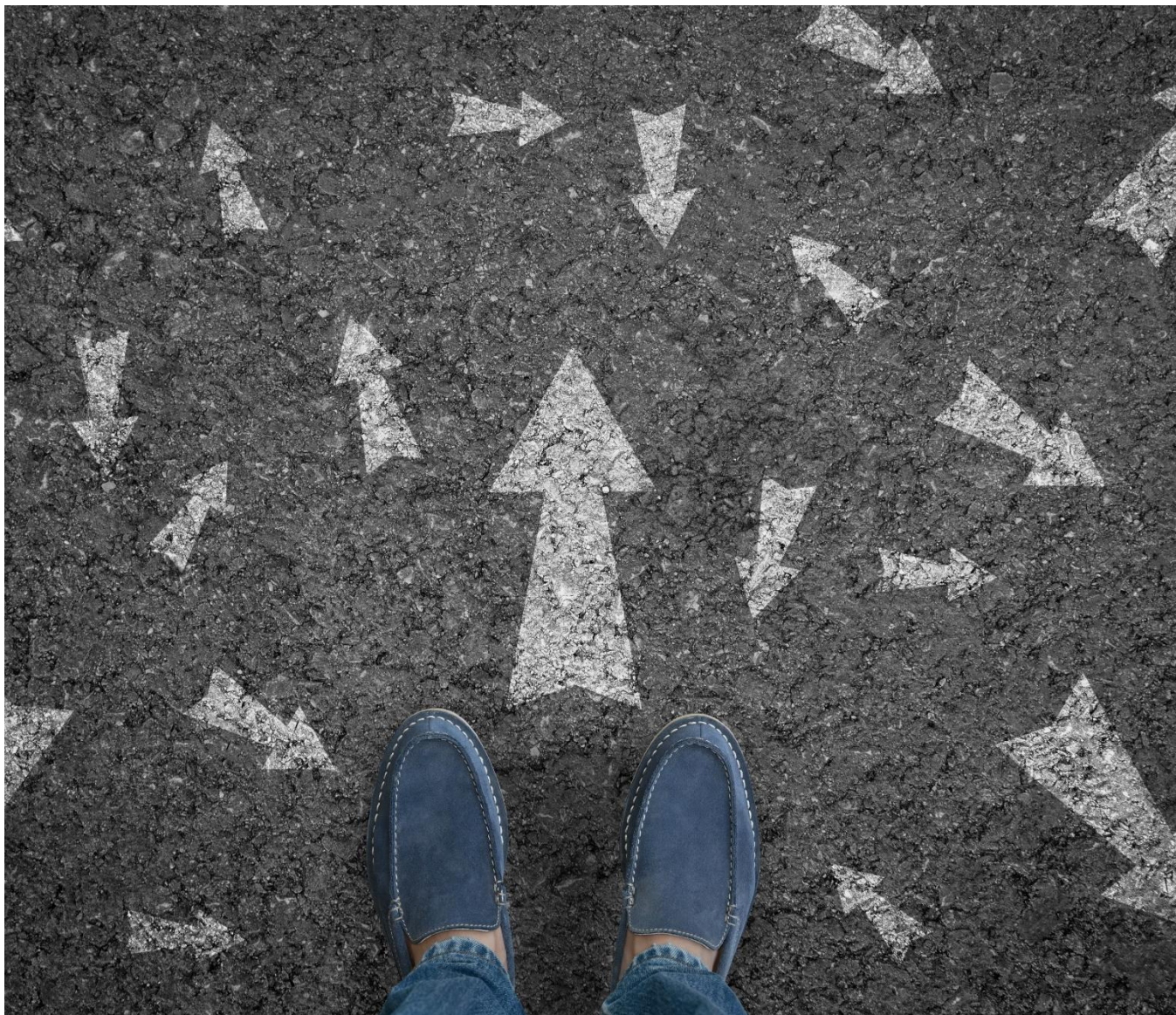
Types of Chargers

- Level 1 Charger - 5 miles/hour (120v)
- Level 2 Charger - 25 miles/hour (240v)
- DCFC - 100 miles / 30 minutes (480v)



WHAT'S EXPERIENCE DO YOU HAVE WITH DECARBONIZATION?

- Have you completed any energy efficiency, building electrification, or transportation electrification projects?
- If yes, what was your experience like?
- If not, what has prevented you from doing so?



Source: Shutterstock

WHERE ARE WE
NOW?

RELATED PLANNING EFFORTS: STATE AND REGIONAL

- Colorado 2023 EV Plan
- Xcel Energy Transportation Electrification Plan
- Regional Transportation Electrification Plan for Boulder County Communities
- Front Range Beneficial Electrification Network



Regional Transportation Electrification Plan
for Boulder County Communities
August 2022



2023 COLORADO EV PLAN

March 2023

 **COLORADO**
Energy Office

 **COLORADO**
Department of Transportation

 **COLORADO**
Air Pollution Control Division
Department of Public Health & Environment



TRANSPORTATION ELECTRIFICATION PLAN
SEMI-ANNUAL REPORT
PROCEEDING NO. 20A-0204E

OCTOBER 1, 2021

1

RELATED PLANNING EFFORTS - LOUISVILLE

Energy Action Plan (2016)

Energy Future Collaboration (2018)

Council Adopted Climate Action Goals
(2019)

Louisville's Sustainability Action Plan
(2020)

LOUISVILLE RESIDENTS

Population	Louisville	Boulder County
Total population	20,867	330,758
Total households	8,400	131,701
Speak a language other than English at home	7%	15.2%
Median income	\$109,797	\$92,466
Median age	42.8	37.2
Single family detached homes	76.2%	60%
Mobile Homes	1.3%	2.8%
Renter Occupied	32%	37.3%
Owns 2+ vehicles	67.3%	61.1%

LOUISVILLE BUSINESSES

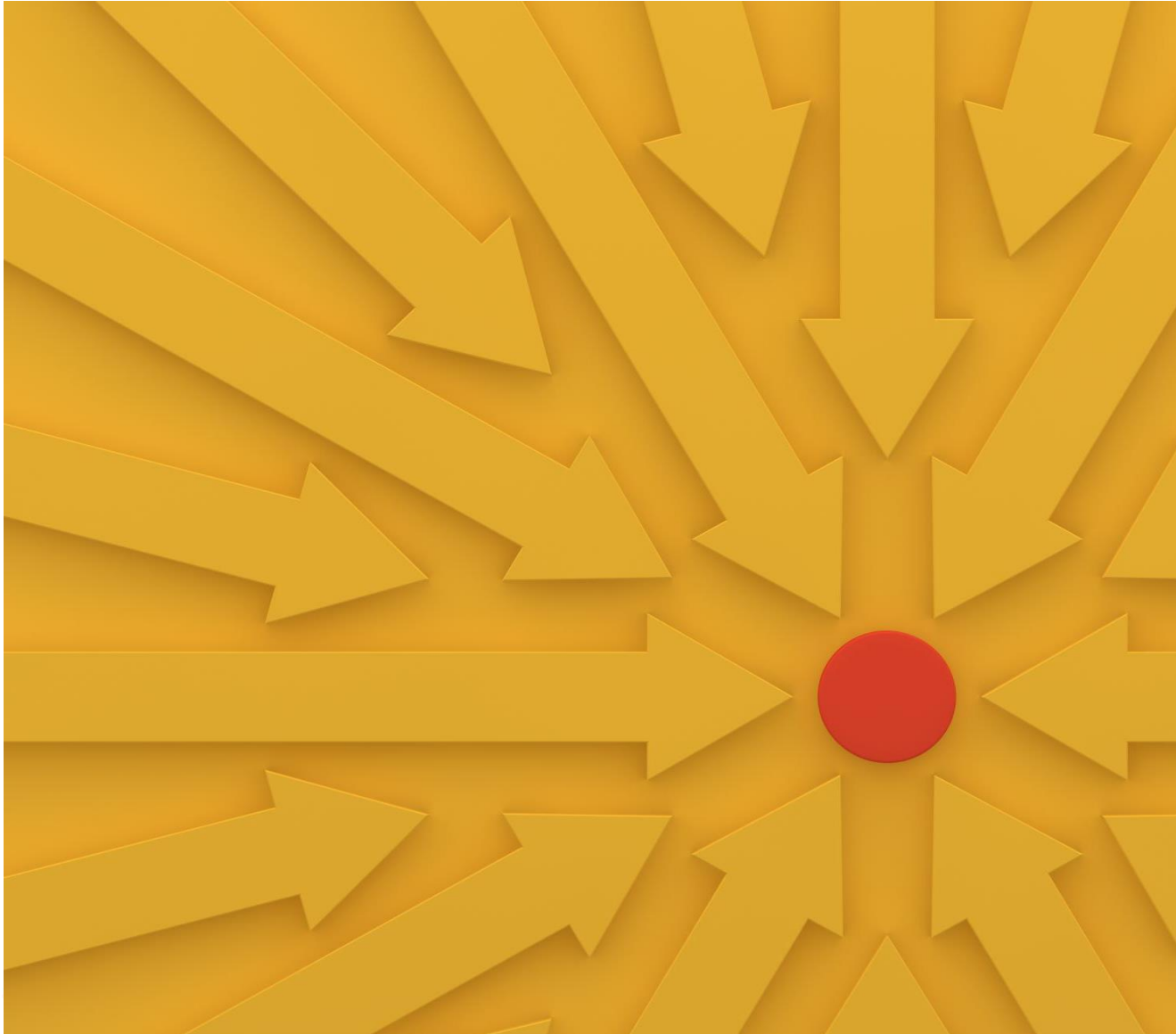
750 brick and
mortar
businesses

6 primary
business
districts

7 Community
Partners
Organizations

WHAT ELSE DO YOU THINK MAKES LOUISVILLE UNIQUE FOR DECARBONIZATION?





WHERE DO WE
WANT TO GO?

WHAT IS AN ENERGY VISION?

- Serves as a North Star throughout the planning process
- Embodies an ideal that Louisville will work toward planning and implementation
- Reflects Louisville's unique voice and community
- Provides a clear vision that will be used as a focusing tool
- Provides a “why” and “how” vs. a “what” and “who”

An energy vision statement is an expression of the community's shared energy intention.

EXAMPLE VISION STATEMENTS

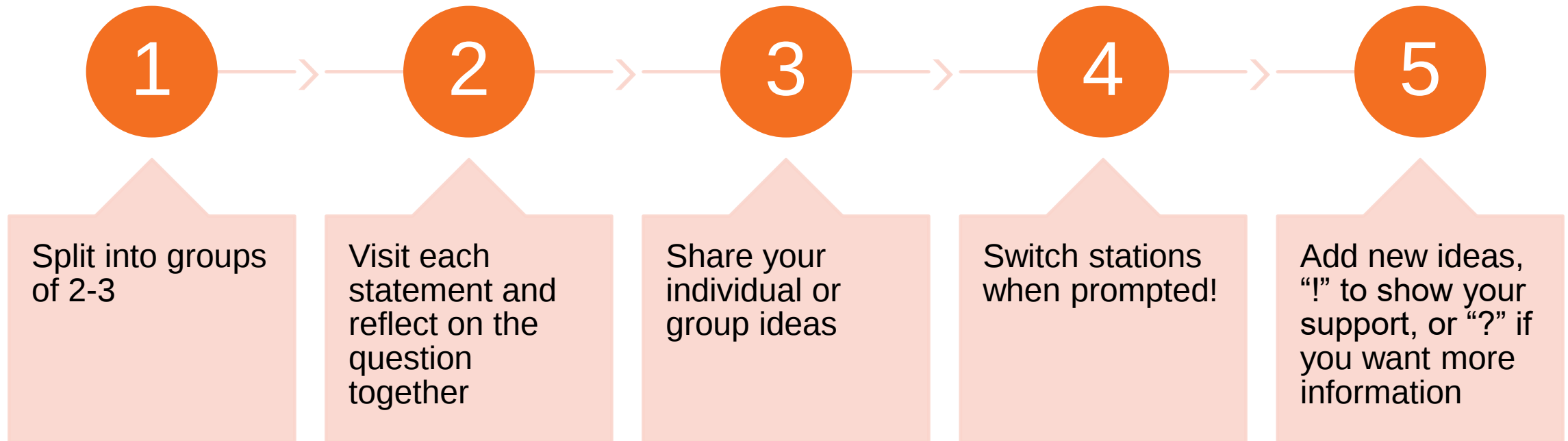


Boulder County communities will work together and with regional partners to implement solutions that support the large-scale and equitable transition to zero emission vehicles.



ACES aims to support environmental sustainability, to include management of waste, water and energy, and other activities that support resource conservation, improved air and water quality, and climate change mitigation.

WHAT IS YOUR DECARBONIZATION VISION



GOAL SETTING PROCESS



Step 1: Set a **Top-Down** Goal

- Begin with desired big picture impact
- Qualitative “level of ambition” or based on larger goals (e.g., state, climate)
- **Example:** “Louisville wants to be carbon neutral by 2030. What will it take to get there?”



Step 2: Refine Goal with **Bottom-Up** Analysis

- Refine by expected strategy impact
- May or may not change the initial goal
- **Example:** “Louisville wants 100 residents to electrify their HVAC systems. What is the GHG impact of that action?”



AN ITERATIVE PROCESS

What will it really take to achieve Louisville's decarbonization goals, and what would it mean to set our sights on a more ambitious decarbonization goal?

What resources are available to support community decarbonization activities and where are our resource gaps?

Are there key policies, programs, or financing solutions that can help us **fill identified resource gaps**?

CURRENT COMMUNITY GOALS

Community Goal Type	Goal	Baseline (2016)	Status (2022)
Carbon Free Electricity	<i>Generate 75% of Louisville's residential and commercial/industrial electric needs from carbon-free sources by 2030</i>	As of 2016, 30% of Louisville's community-wide electric needs came from carbon-free sources¹	As of July 2022, 45% of Louisville's community-wide electric needs come from carbon-free sources²
Reduction in GHG Emissions from Electricity and Natural Gas	<i>Reduce core community GHG emissions annually below the 2016 baseline through 2030</i>	163,950 MTCO2e in 2016	141,608 MTCO2e in 2022

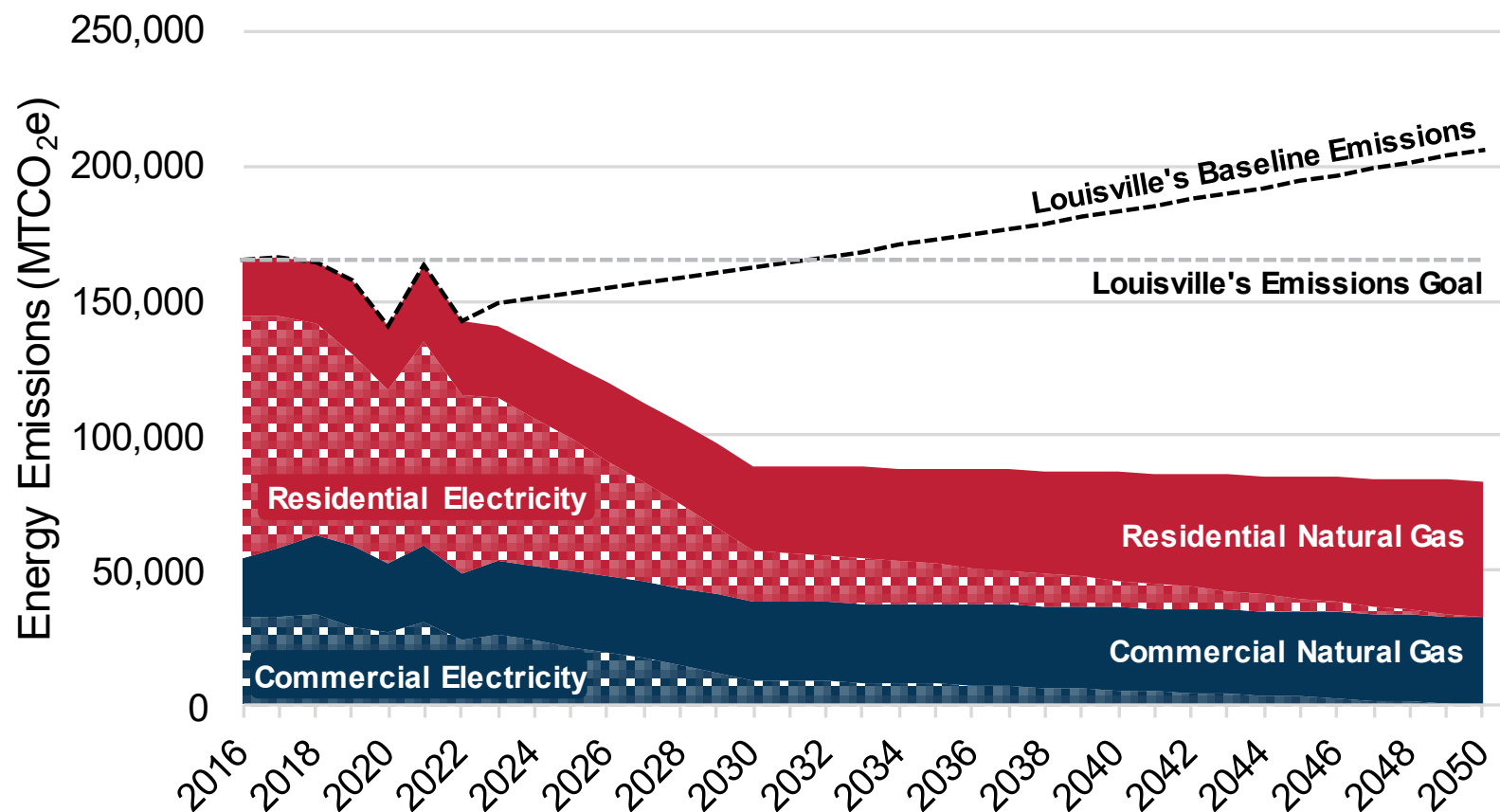
¹ Source: [Xcel Energy](#) and Louisville's 2016 Xcel Energy Community Energy Report, including community Windsource & Net Metering adoption for 2016.

² Source: Partners in Energy Dataset, and Louisville's 2022 Xcel Energy Community Energy Report, including community Windsource, Renewable*Connect & Net Metering adoption for 2022.

SCENARIO PLANNING BOUNDS (ILLUSTRATIVE)

Strategy	Illustrative pathway to achieve the current goal	Illustrative pathway to achieve carbon neutrality
Energy Efficiency	Maintain current levels of energy efficiency program participation	Ramp up program participation in line with community ambition
Building Electrification	n/a	Eliminate natural gas use in buildings through electrification
Transportation Electrification	n/a	Eliminate ICE vehicles through adoption of EV's, installation of infrastructure
Renewable Energy	Xcel Energy meets its carbon free electricity goals	• Xcel Energy meets its carbon free electricity goals • Community participation in REC-based programs increases in line with community ambition and increased electricity demand
Offsets	n/a	As needed to achieve carbon neutrality

City of Louisville Energy Emissions Forecast



WHERE ARE
LOUISVILLE'S
EMISSIONS
HEADING?

GOALS: LEVEL OF AMBITION

Conservative

- Achievable with current budget and workforce
- Benchmark: State (CO)
- 50% below 2005 GHG emissions by 2030

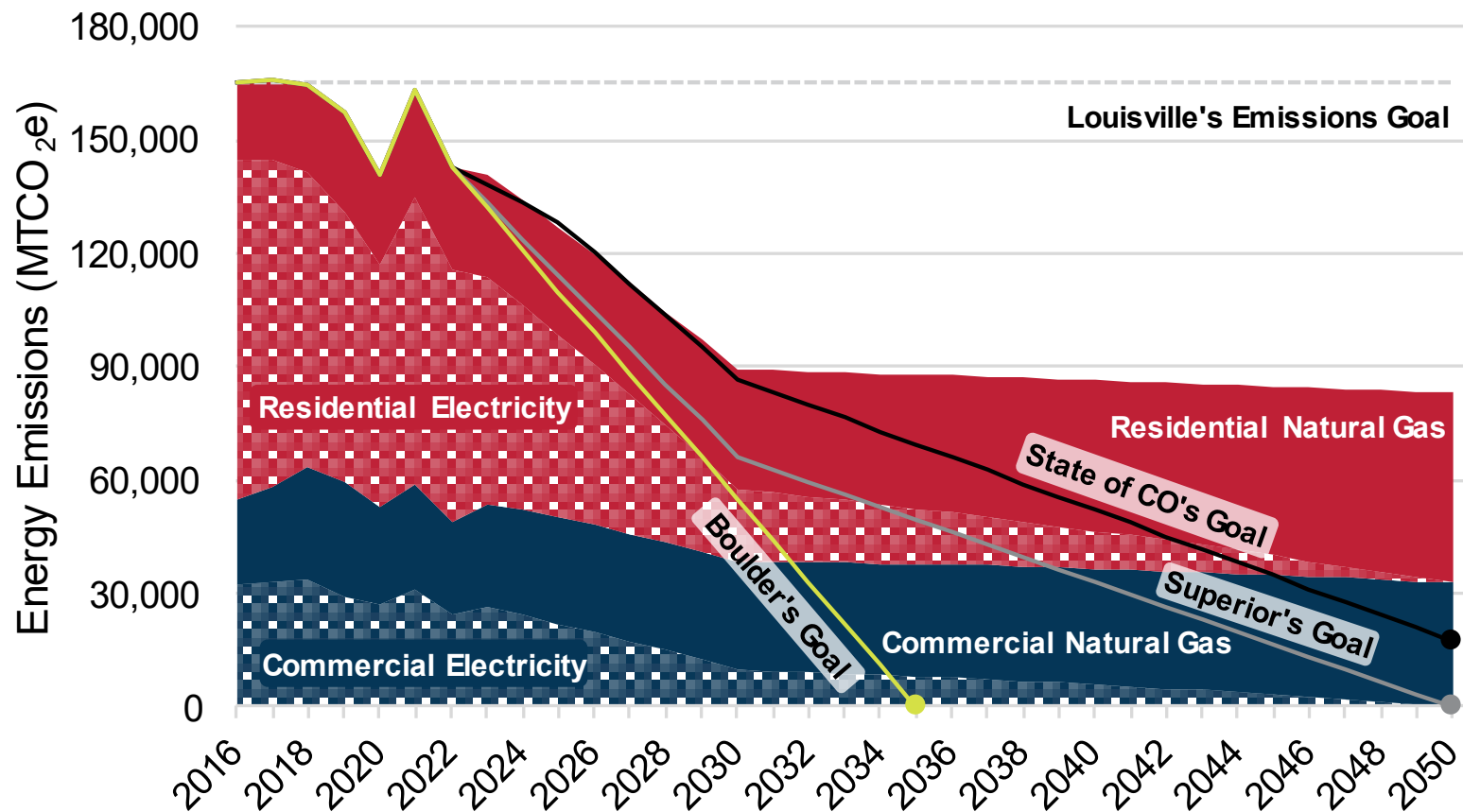
Ambitious

- Will require additional investment, but doable
- Benchmark: Superior
- 60% below 2016 GHG emissions by 2030 and net-zero GHG emissions by 2050

Aspirational

- Would need significant adjustment in current priorities to achieve
- Benchmark: Boulder
- Net zero emissions by 2035

City of Louisville Energy Emissions Forecast



VISUALIZING
LEVEL OF
AMBITION

GOAL AMBITION

What is the appropriate level of ambition for this plan's goal? Write your justification in 1-2 sentences and place your sticky along the poster!





Source: Shutterstock

WRAP UP AND NEXT STEPS



NEXT STEPS

- Workshop 2: Late August
 - Align on vision statement and goals for scenario planning
 - Present “big levers” necessary to meet Louisville’s goals
 - Discuss a Louisville-specific approach to meeting goals

Homework:

1. Review draft vision statements and goals
2. Review climate, transportation, and energy chapters in the sustainability plan
3. Review energy data and think about trends

SHOW AND TELL: PARTNERS IN ENERGY PORTAL

<https://xcelenergycommunities.com/>

Xcel Energy | Partners in Energy | x

xcelenergycommunities.com

**Xcel Energy**
PARTNERS IN ENERGY
An Xcel Energy Community Collaboration

HomeInfoLearn & InteractCommunitiesTools



What is Xcel Energy Partners in Energy?

Xcel Energy Partners in Energy provides communities in Colorado, Minnesota, and Wisconsin services to develop an energy plan and assistance with implementing that plan. Each community has its own unique energy needs and priorities, and Partners in Energy tailors its services to complement each community's vision.

More and more communities are realizing energy planning plays a critical role in helping them reach their goals. The benefits of wise energy choices are diverse. By working with citizens, businesses, and even their own government facilities, a community can shave dollars off utility bills, promote renewables, drive resource conservation or contribute toward greenhouse gas reduction goals. Partners in Energy helps address the challenge of identifying local priorities and then structures a path that leverages all resources available.

This site helps participating communities learn from and collaborate together to achieve

What are you looking for?

General Program Info

My Community

Learn & Interact

Electric Vehicle Toolkit



PARTNERS IN ENERGY
An Xcel Energy Community Collaboration