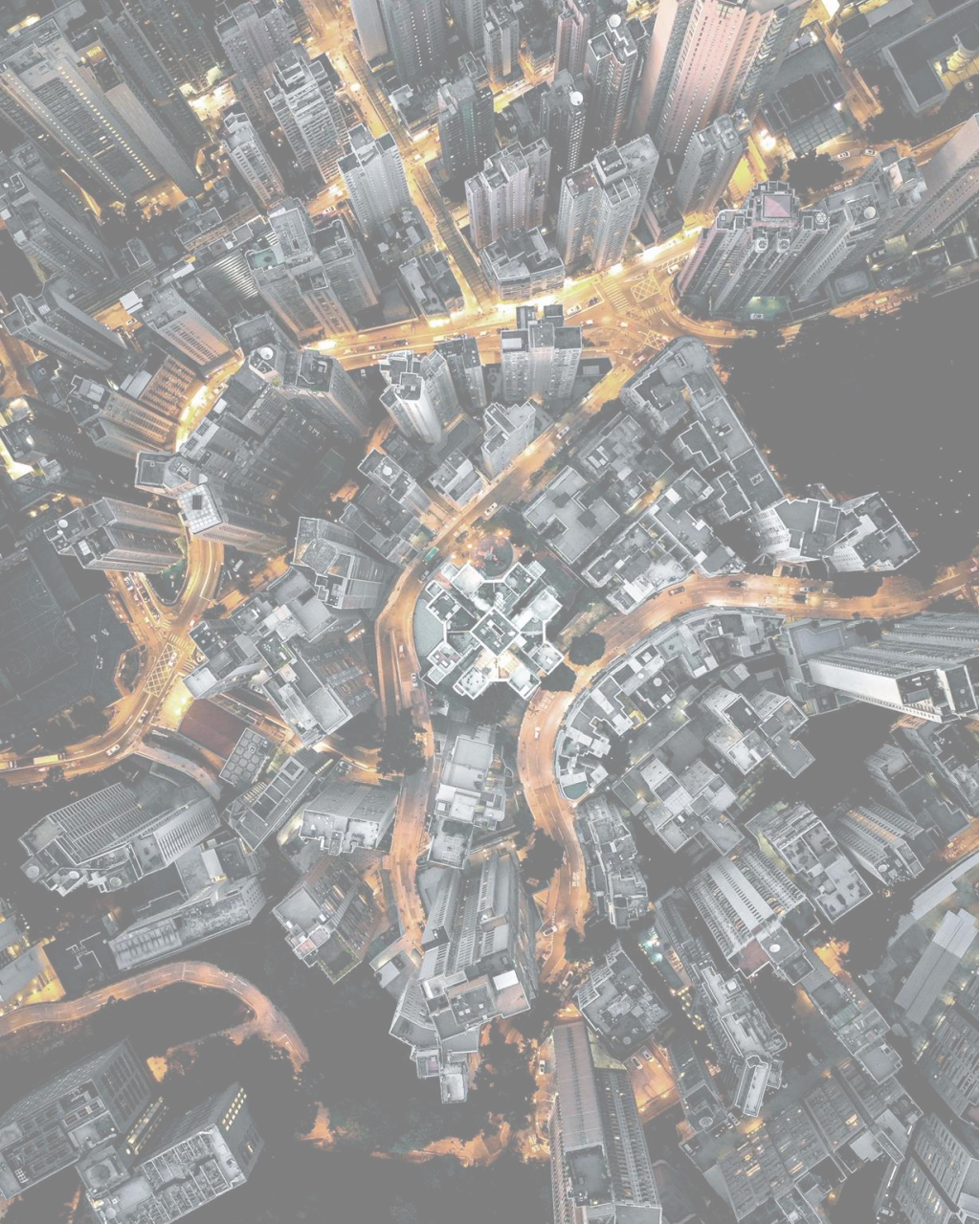


ULI Net Zero Imperative: Cities & Real Estate Accelerating Decarbonization in the Built Environment

URBAN LAND INSTITUTE

NOV 3, 2021





Housekeeping



Participants will remain on mute



Please submit questions through Q&A feature



A webinar recording will be sent to all registrants

Introductions



Brian Swett
Arup



Ashley Sadowski
KC Building Energy
Exchange



David Hodgins
LA Better Buildings
Challenge



Phoebe Romero
City of Austin Office of
Sustainability

ULI Net Zero Imperative

Given the climate need and the growing global mandate for zero carbon buildings, how can we accelerate market transformation towards a net zero built environment?

- Thanks to a generous gift from Owen Thomas, ULI is launching the Net Zero Imperative – a multi-year initiative to accelerate decarbonization in the built environment.
- The program will hold technical assistance panels in five global cities per year, designed to help building owners, cities, and other relevant constituents reduce carbon emissions associated with buildings, communities and cities.
- The fundamental goal of the effort is to provide concrete ideas and strategies to real estate owners, public sector leaders, and the general public to eliminate carbon emissions from the built environment to reach net zero.



Why is this Important?

Real estate has a responsibility and opportunity to address the climate crisis and reach net zero

Buildings are responsible for 40% of global greenhouse gas emissions, and up to 70% of emissions in urban cities

- Over the past five years nearly every country and more than 300 US cities made a commitment to achieve the Paris Climate targets, but as of 2020 only a handful of cities have made meaningful progress in developing climate action plans that will accelerate decarbonization of the built environment.
- Cities, countries, investors, and tenants are looking to the buildings sector to meet comparable greenhouse gas reduction goals.
- Leading investors are including ESG in their real estate debt and equity considerations, leading tenants are including it in their leasing decisions, and regulators are incorporating a path to net zero into their building codes and regulations for new and existing buildings.

Key Components



Leverage a 2-day technical assistance event in each city to help the public and private sector develop a “roadmap to decarbonization”



Run long-term on-the-ground campaigns in 4-6 global cities to accelerate decarbonization of the built environment



Build a global cohort who can receive ongoing technical assistance to refine their on the ground campaigns, and work together to share best practices and lessons learned



Create global resources (research, toolkits, and other tools) to help all ULI members accelerate decarbonization in their real estate operations (and in their cities)

Long-Term Goals

- 1 *Accelerate the decarbonization of the built environment in cities*
- 2 *Chart a cost-effective path to zero for the real estate industry*
- 3 *Leverage the power of ULI's global network to drive development and investment that supports this path to decarbonization*
- 4 *Get the private sector working hand-in-hand with cities on policy and incentives that can help accelerate investment in decarbonization.*
- 5 *Develop case studies and tools based on global best practices highlighting cost-effective strategies across geographies, asset classes, and building types*

NZI Cohort Participants

8 participants accelerating the built environment to net zero across the globe



- Austin
- Beijing
- Kansas City
- Los Angeles
- Minneapolis
- San Jose
- Shenzhen
- Toronto



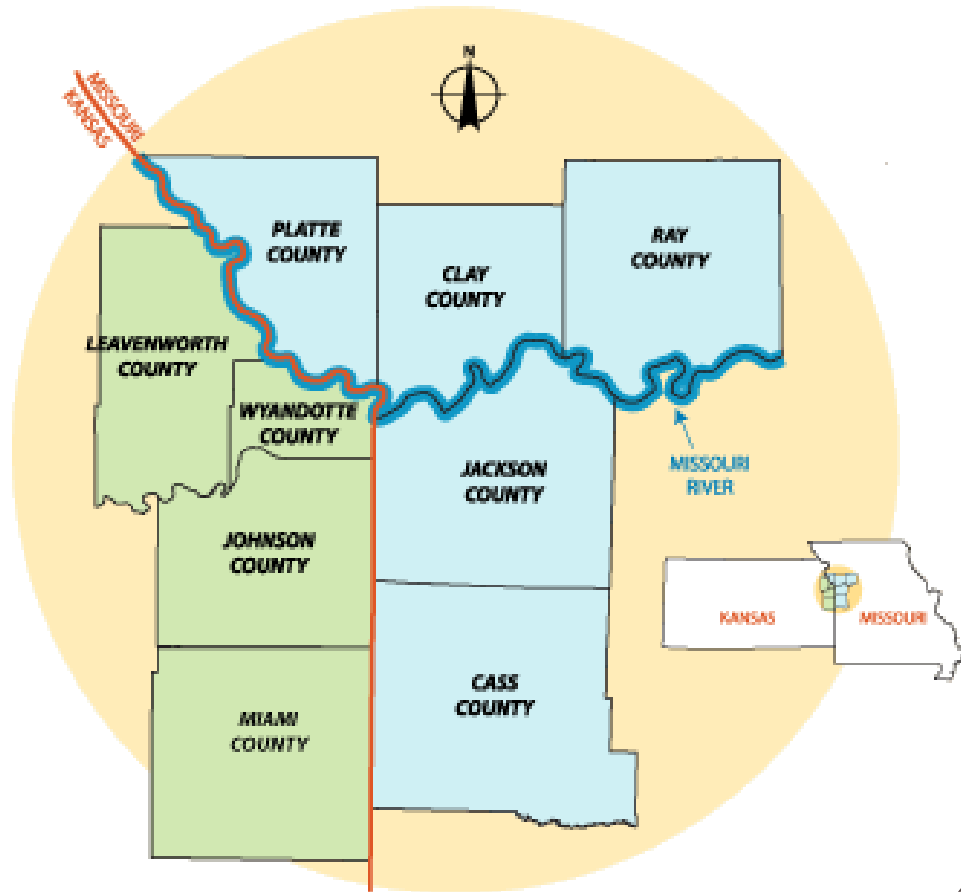
Kansas City



Transforming Building Energy in the Kansas City Region

Kansas City Region

- 2.1 million people, Kansas + Missouri
- “City of Fountains” + “Paris of the Plains”



Kansas City is on the RISE

- Greater Downtown Population grew 29% in the last 10 years.
- 14% gain in City of Overland Park, Kansas and 7.4% increase in Kansas City, KS.
- Streetcar Expansion
- KCI Airport Terminal debuts in 2023









KC Region is moving towards a Net Zero Economy

- Kansas + Missouri pass securitization legislation
- Kansas wind energy has grown from <1% to 40% in 15 years
- 2,000-acre solar farm proposed near KCI airport = 300 megawatts of power





Mayor Mike Kelly - Roeland Park



Councilwoman Lindsey Constance - ...



Tom Jacobs - Environmental Program...



Tru-Kechia Smith - Director of Progr...



Heather Ousley - Shawnee Mission S...



Jeremy Knoll - BNIM, Project Manager



Jance' Hanzlick - Johnson County Co...



Mayor Damien Boley - Smithville



Mayor Carol Suter - Gladstone, MO

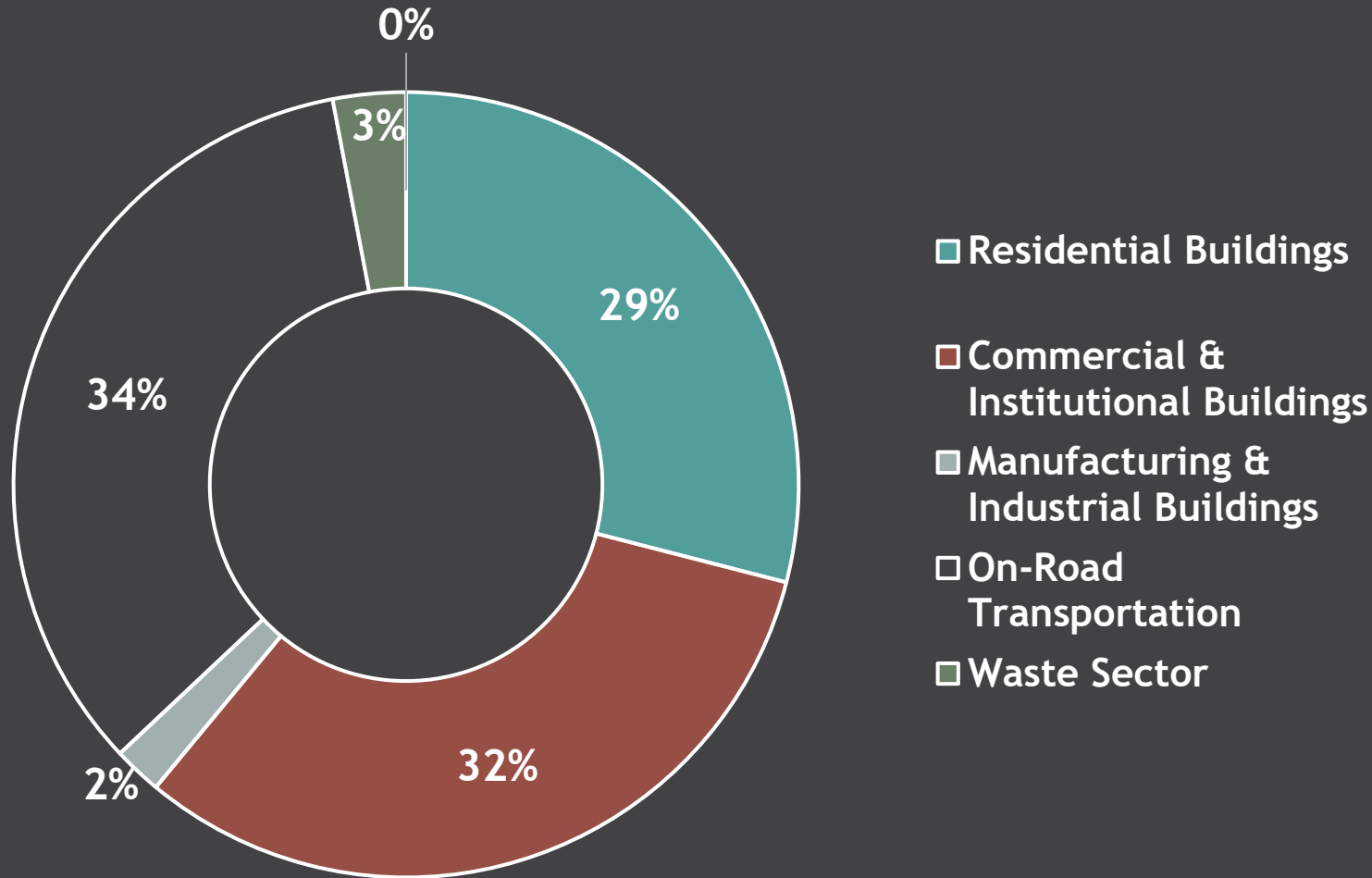


CLIMATE ACTION KC

150+ Elected Officials, 1000 volunteers



GHG Emissions Inventory



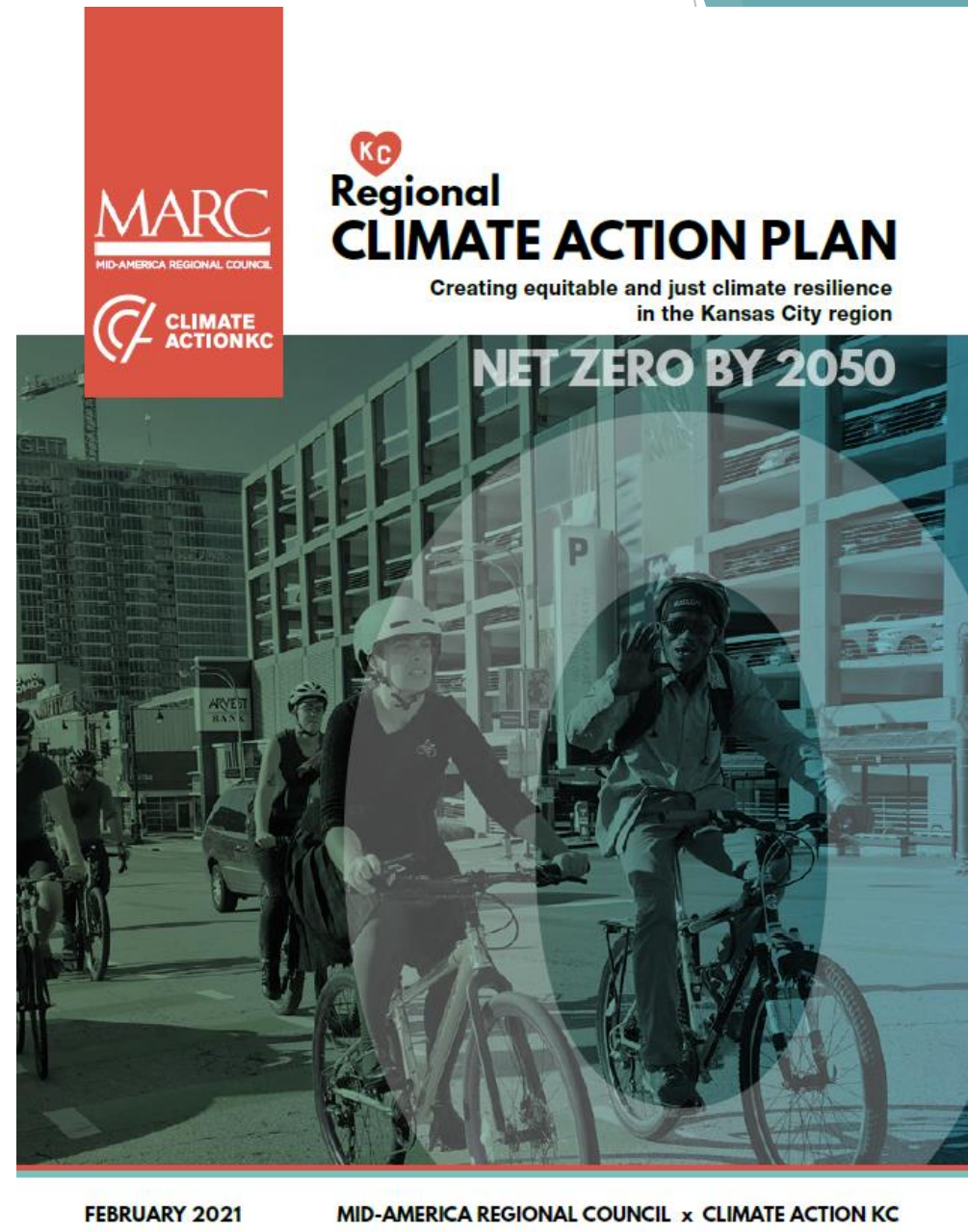
63%

of Kansas City Metro Area's Greenhouse Gas Emissions are **BUILDINGS**

Net Zero Goals Kansas City

- **2035** - Municipal Government
- **2040** - Buildings
- **2050** - Economy-wide

<https://climateactionkc.com/plan>



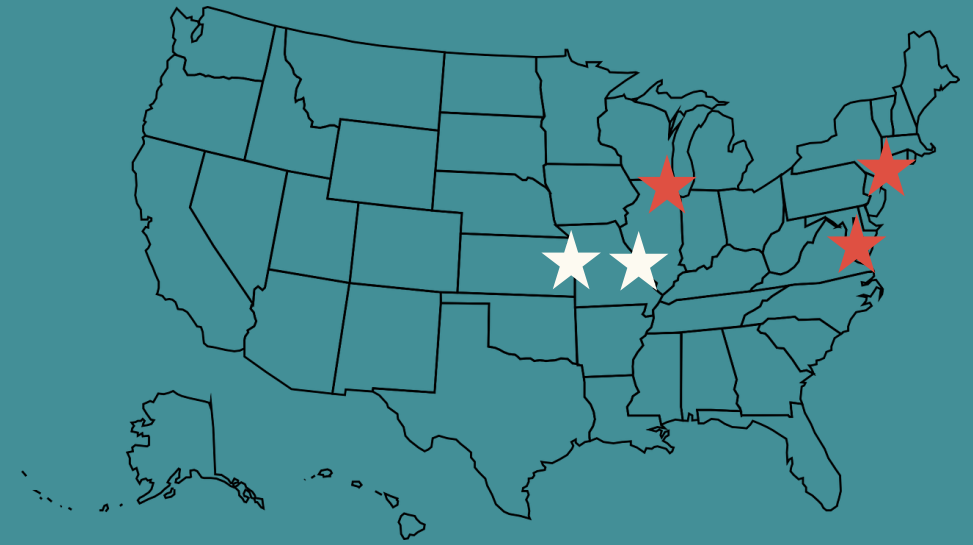
Building Energy Exchange KC (BE-Ex KC)

MISSION: To advance building energy performance by mobilizing the **professional expertise, funding, and technical resources** the real estate industry needs to address affordability, improve the health and comfort of residents, and position Kansas City as a resilient and carbon neutral region.





Regional Partners + Funders



National Partners + Role Models



Journey to Net Zero | MULTI-FAMILY HOUSING

Initiatives + Services

Data Analysis

Networking + Events

Technical Concierge

Financial Concierge

Fund Development

Recognize + Replicate



Policy Objectives

Adoption of IECC 2021

Holistic Housing
Affordability

Energy Equity

Empower Climate
Vulnerable Communities

Tenant's Rights/Quality
of Life Improvements



Energy Efficiency Investment Fund



LLSC GREATER KANSAS CITY

- “EEIF”: Regional Fund with Public, Private, and Philanthropic capital
- Lending products to facilitate energy efficiency design and retrofits.
- Funds will initially prioritize LMI communities and affordable housing
- 21 green banks in 16 states & D.C. during last 10 years
- \$1.0 billion spent with \$7 billion of total investment

Thank you!



Kansas City

KC Building Energy
Exchange
An initiative of Climate Action KC





Los Angeles, CA



Los Angeles

DECARBONIZE BUNKER HILL

A ROADMAP TO DISTRIBUTED DISTRICT ENERGY

NOVEMBER 3, 2021



What is the LABBC?

- Network of +900 buildings totaling +125 million square feet in Los Angeles
- Partners commit to reducing energy and water use in line with LA's "Green New Deal" and the Paris Climate Accord
- LABBC offers advisory services and programs, including hands-on technical assistance to develop deep retrofits and create pathways to scale



LA100: Achieving 100% Renewable Energy

- LADWP + NREL partnered on the LA100 study
 - first-of-its-kind, highly detailed, rigorous and science-based
 - analyzes potential pathways to a 100% clean energy future
- LA recently voted to transition to 100% clean energy by 2035



The Los Angeles 100% Renewable Energy Study

El Estudio de 100% Energía Renovable de Los Angeles

Identify both technical and market strategies to decarbonize the Bunker Hill neighborhood with a district energy system across assets with multiple private owners.

Serve as a scalable and replicable roadmap for cross-sector collaboration to harness the power of energy efficiency and grid integration on a community-level scale.

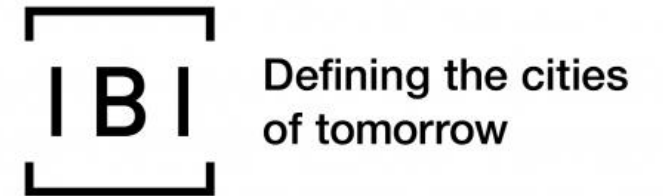
Bunker Hill, DTLA

A Historic Hilltop District

Known for cultural institutions such as the Walt Disney Concert Hall, the Museum of Contemporary Art (MOCA) and the Broad Museum, the district is also home to some of the biggest and most prestigious office towers in Los Angeles.



Who's Involved



RISING

Brookfield

Gensler

CIM

RELATED

Low Carbon Leaders

Collaborating with leading building scientists from the National Renewable Energy Laboratory, the Department of Energy and local experts to develop new pathways to zero net carbon by 2050.



CommonWealth Partners

City National Plaza

- 2.2 Million SF
- Office + Retail

Since taking ownership in 2013, Commonwealth Partners has reduced energy use by 38.1%



Museum of Contemporary Art (MOCA)

MOCA Grand Avenue

- 107,000 SF
- Museum

MOCA's initiatives to modernize its HVAC and lighting systems has reduced energy use by 50%



A Roadmap to Net Zero

How can we leverage public-private partnerships during retro-commissioning and implementation phases to optimize building performance all around, in a replicable way?

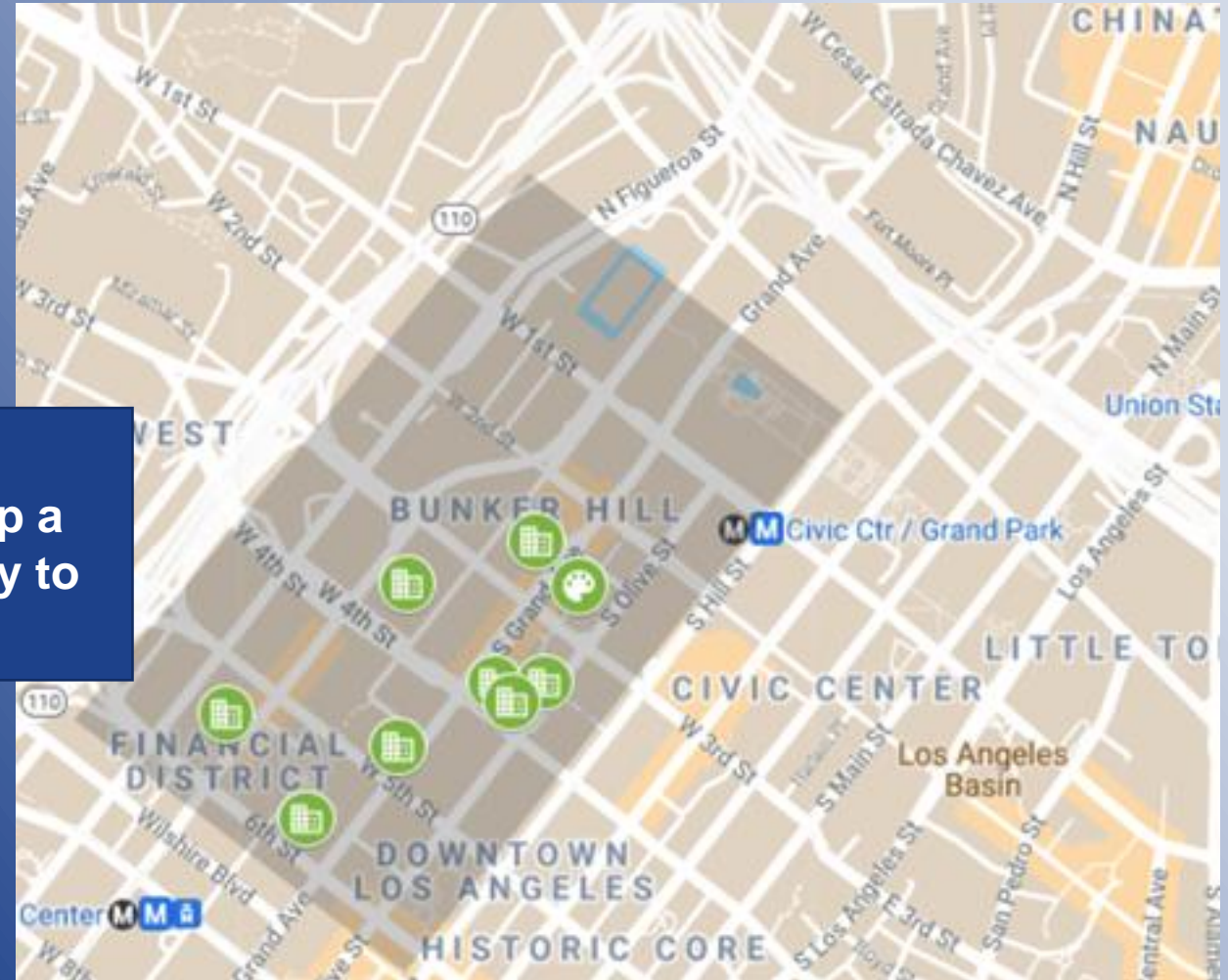
We propose a roadmap to cross-sector collaboration that would harness the power of energy efficiency and grid integration on a community-level scale.



ULI NET ZERO IMPERATIVE

A Roadmap to Net Zero

These buildings, which utilize their own central plants efficiently, happen to sit atop a separate central plant that has the capacity to serve power to the wider district.



ULI-LA Members & LABBC Partners in Bunker Hill

NET ZERO IMPERATIVE

Distributing District Energy

Expand, update and integrate an existing central plant located beneath City National Plaza

As a district-wide asset, the plant can serve more nearby buildings and take advantage of economies of scale, redundancy and special negotiated utility rates.

Central Plant Example Only

Integrated Impact

- Encourages public-private collaboration about policies and incentives to accelerate investment in decarbonization
- Promotes equity [through distribution of energy]
- Strengthens community resilience





The future is already here. It's just not evenly distributed yet.

— William Gibson





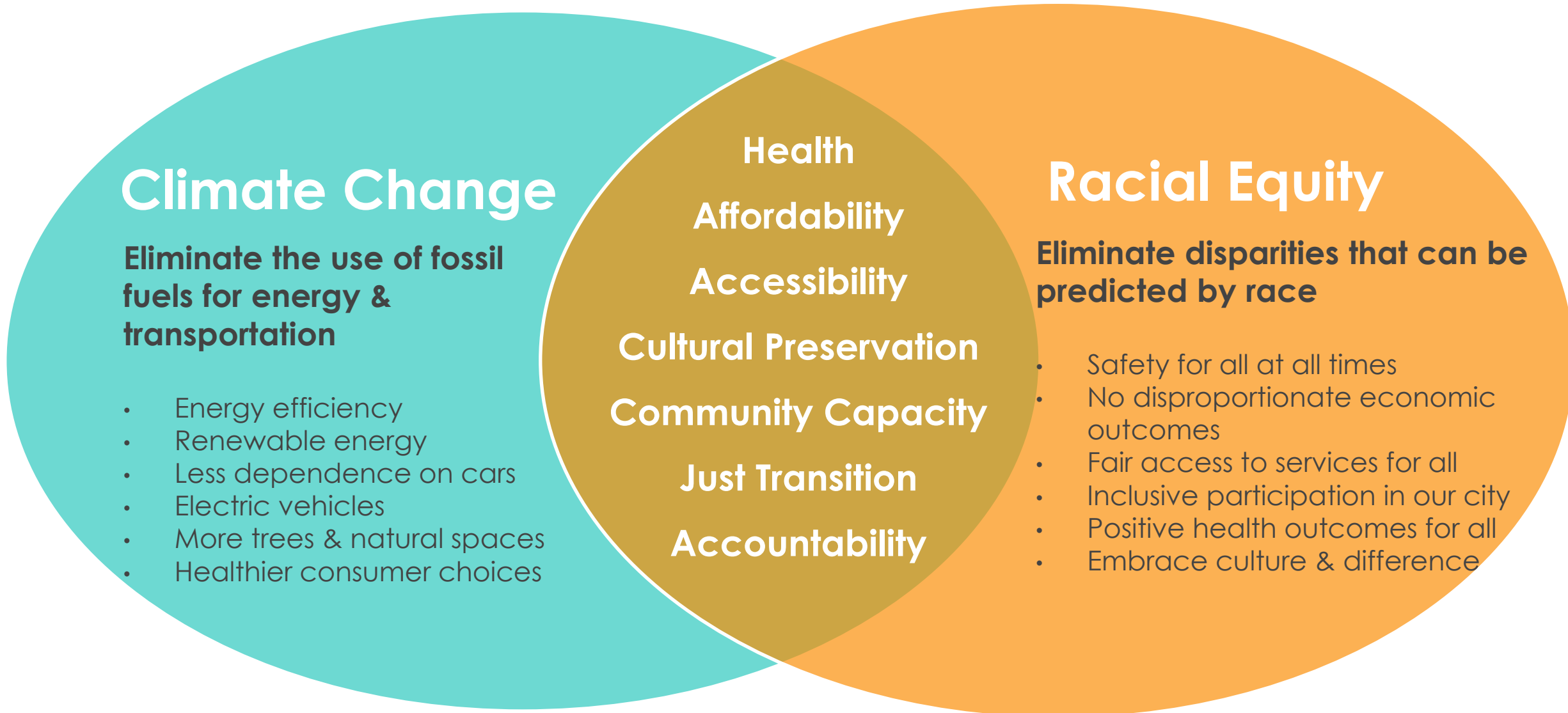
Austin, TX

ULI Net Zero Imperative

Phoebe Romero,
City of Austin Office of Sustainability



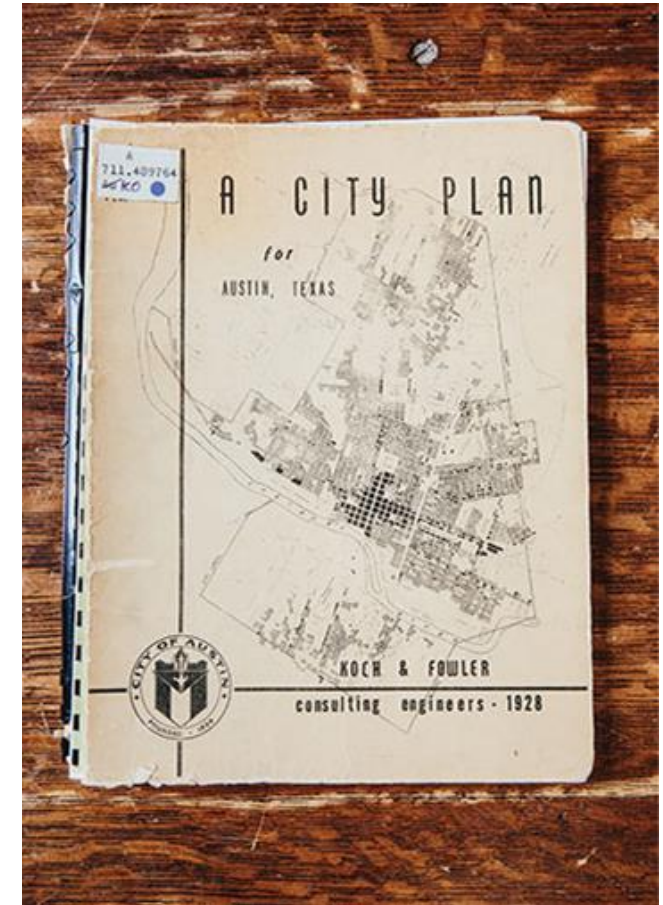
Plan Commitment to Racial Equity



If we're not proactively addressing equity, we're perpetuating injustice.

Understanding History

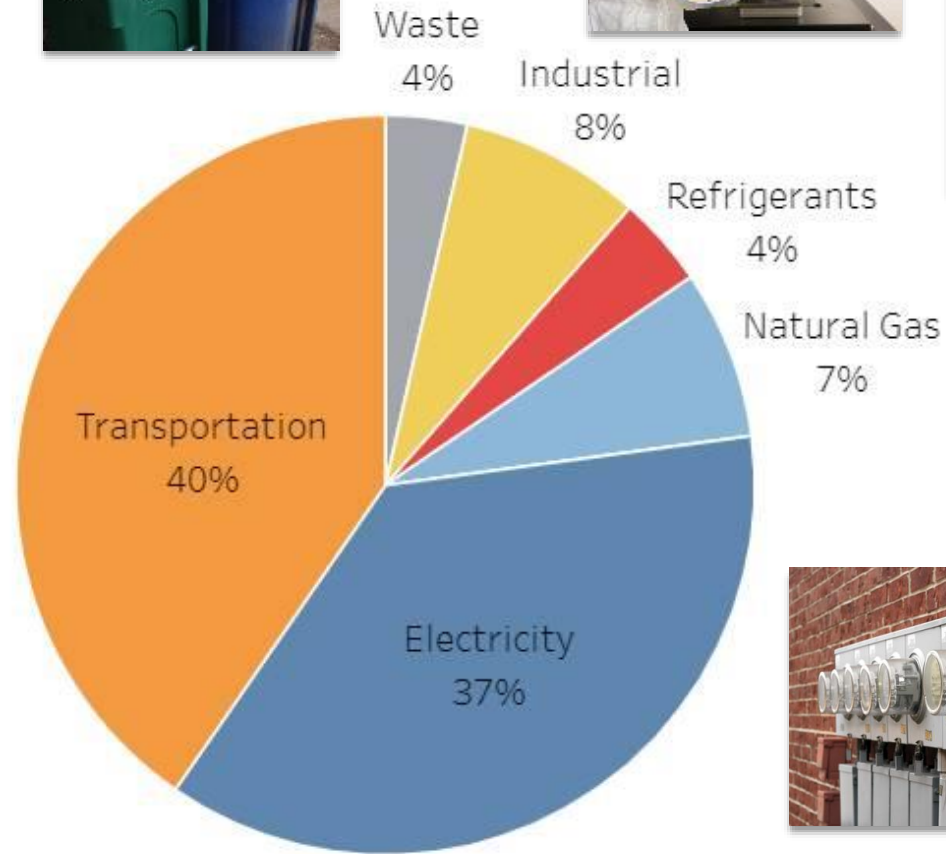
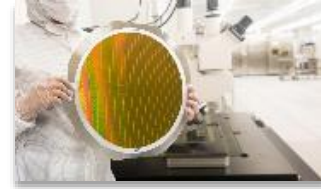
- The Austin 1928 Master Plan divided the city along racial lines, **forcibly displacing Black residents into specific, undesirable areas.**
- Under the 1957 Industrial Development Plan, **property in East Austin was zoned as “industrial,”** including existing single-family residential areas.
- The Tank Farm fuel storage facility, Eastside Landfill, and the Holly Power Plant **exposed people of color to toxic pollution in East Austin neighborhoods.**
- Local Environmental Justice and Community-based organizations have examined the impact of the City of Austin’s historical land use and planning policies and how they have **harmed residents in East Austin.**
- **Gentrification is happening** in areas of the city where low-income people and people of color have been forced to live, and **the African-American share of the Austin population is declining,** from 12% in 1990 to 7.7% in 2010.



Equity Process for Advisory Groups



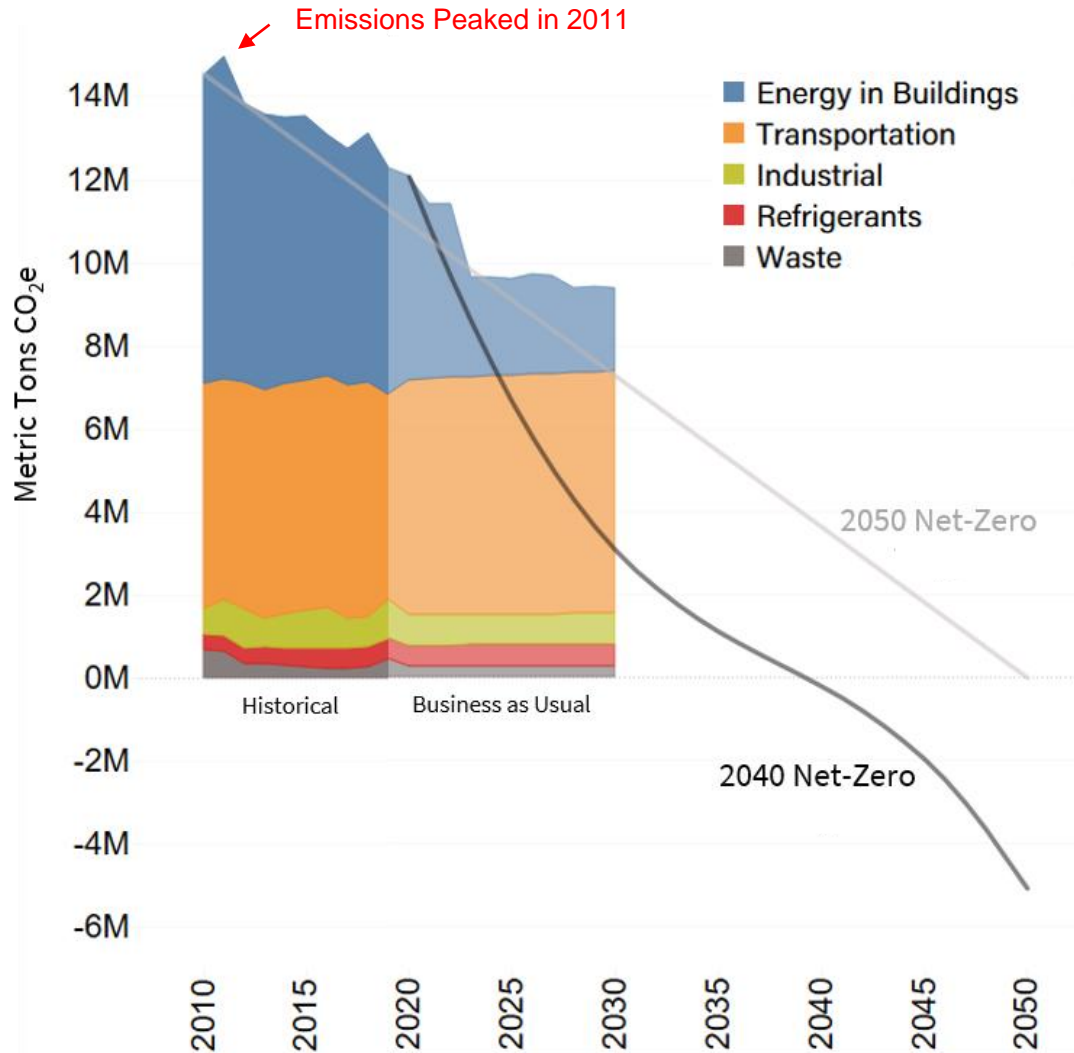
City of Austin – Community Carbon Footprint



2019: 12.3 million metric tons CO₂e



New Proposed Community-Wide Goal



Previous Goal: Net-zero by 2050
(Adopted by Council)

New Proposed Goal: Net-zero by 2040
(Staff recommendation - requested by Council)

Plan Overview

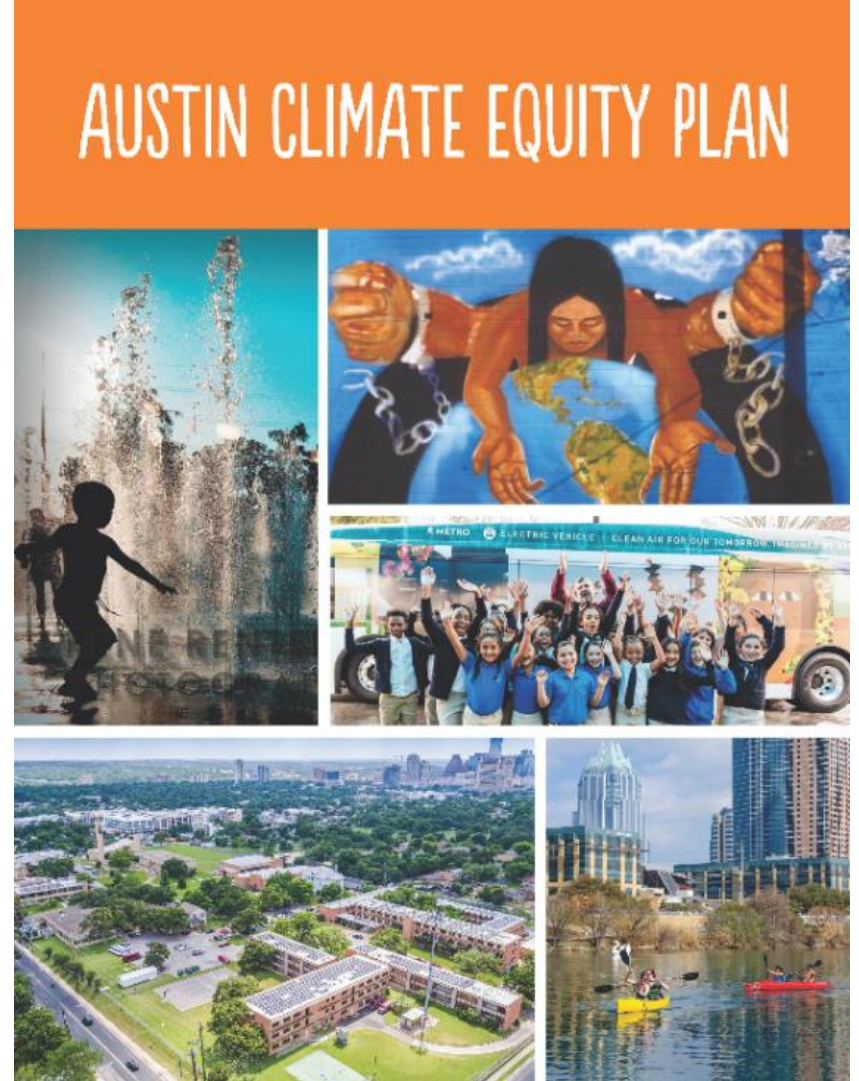
4 Cross-Cutting Strategies - Big picture **themes**

17 Goals – To be accomplished **by 2030** to keep on track

74 Strategies - Progress in next **5 years**

Equity Throughout, particularly in *Strategies*

- Prioritize **incentives** + target communications towards **low-income & communities of color**
- Anti-displacement focus
- Just transition **to green jobs** for new industries & technology
- Prioritize health + other benefits for **Eastern Crescent**
- **Center communities of color** in ongoing learning



2030 RESOURCE GENERATION PLAN



Customer Driven.
Community Focused.™

- 93% carbon-free generation by 2030, 100% by 2035
- 1,200 MW of conservation, including 225MW of peak capacity
- 1% of retail sales per year in energy efficiency savings, at least 25,000 customer participants annually, 25% limited income
- 375 MW of local solar, 200 MW of customer-sited
- 40 MW of local thermal storage
- REACH – market based approach for short term carbon reduction
- No new Austin Energy carbon generating assets
- Retire Decker Steam Units in 2020, 2021
- Close Austin Energy's share of Fayette at the end of 2022
- Commitment to equity evaluation for programs

Focus Area

Sustainable Buildings – Goal to be achieved by 2030

1: Achieve net-zero carbon for all new buildings and reduce emissions by 25% for existing buildings while lowering all natural gas related emissions by 30%.

- Ensure benefits flow to low income communities and communities of color
- Enhance understanding of energy consumption
- Energy efficiency net zero carbon buildings
- Ensure equitable workforce development for emerging technologies



Foundation Communities Lakeline Learning Center

Defining Net Zero Buildings

For this goal, net-zero carbon implies operational carbon, which refers to the CO₂ emitted from operations, such as lighting and heating, during the in-use phase of a building.

A net-zero operational carbon building is **highly efficient and entirely powered by on- or off-site renewable energy.**

Study Area

What would help get developers on board with implementing net zero initiatives in commercial and multifamily buildings?

Net Zero Imperative Participation Goals

- Understand barriers to advancing net zero goals in our building community
- Spread awareness and catalyze motivation and enthusiasm for advancing climate equity goals
- Facilitate authentic conversations and foster relationship-building with the development community
- Learn from other cities and organizations in the participating cohort

Sustainable Buildings – 3 additional goals

2: Reduce community-wide greenhouse gas emissions from refrigerant leakage by 25%.

- Capture and destroy old refrigerants
- Improve building codes to encourage cleaner refrigerants
- Create incentives for leak detection and repair
- Awareness and training for HVAC service providers
- Reduce the volume of refrigerants

3: Reduce the embodied carbon footprint of building materials used in local construction by 40%.

- Lead by example through design and construction standards
- Incentivize lower-carbon materials
- Educate stakeholders on materials best practices
- Stimulate decarbonization with local producers

4: Equitably achieve a community-wide water demand of 152,000 acre-feet per year.

- Engage residents in technological transitions and conservation programs
- Evaluate program participation criteria
- Reduce emissions at the water-energy nexus

Community priorities & concerns



Thank you!

Q&A

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