# Sustainability in Kansas City

## A&WMA Midwest Annual Technical Conference

May 2, 2023

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# Kansas City Snapshot

- Over 319 sq miles
- Population (‘22) – 508,394
  - 59.7% white
  - 26.5% black or African American
  - 13.8% other
- Median Income - $60,042
- 53% homeowners
- Council approved $2.06 billion budget
- Over 300 city facilities
- Approx. 4500 employees


# Where we started…

# The aftermath…

- Remediate/clean up Fort Hazard
- KCMO Regional Household Hazardous Waste Center
- $250,000 SEPs
- Self Audit/report/correct areas on noncompliance
- Office of Environmental Quality
- Environmental Management System

# Climate Action Planning in Kansas City

**2008:**
**Climate Protection Plan**

**2020:**
City Council directs staff to update the Climate Protection Plan to include new greenhouse gas reduction goals, resiliency, and equity

**2021-2022:**
Brendle & Sophic Solutions as the consultant team works with community members to build a Climate Protection & Resiliency Plan

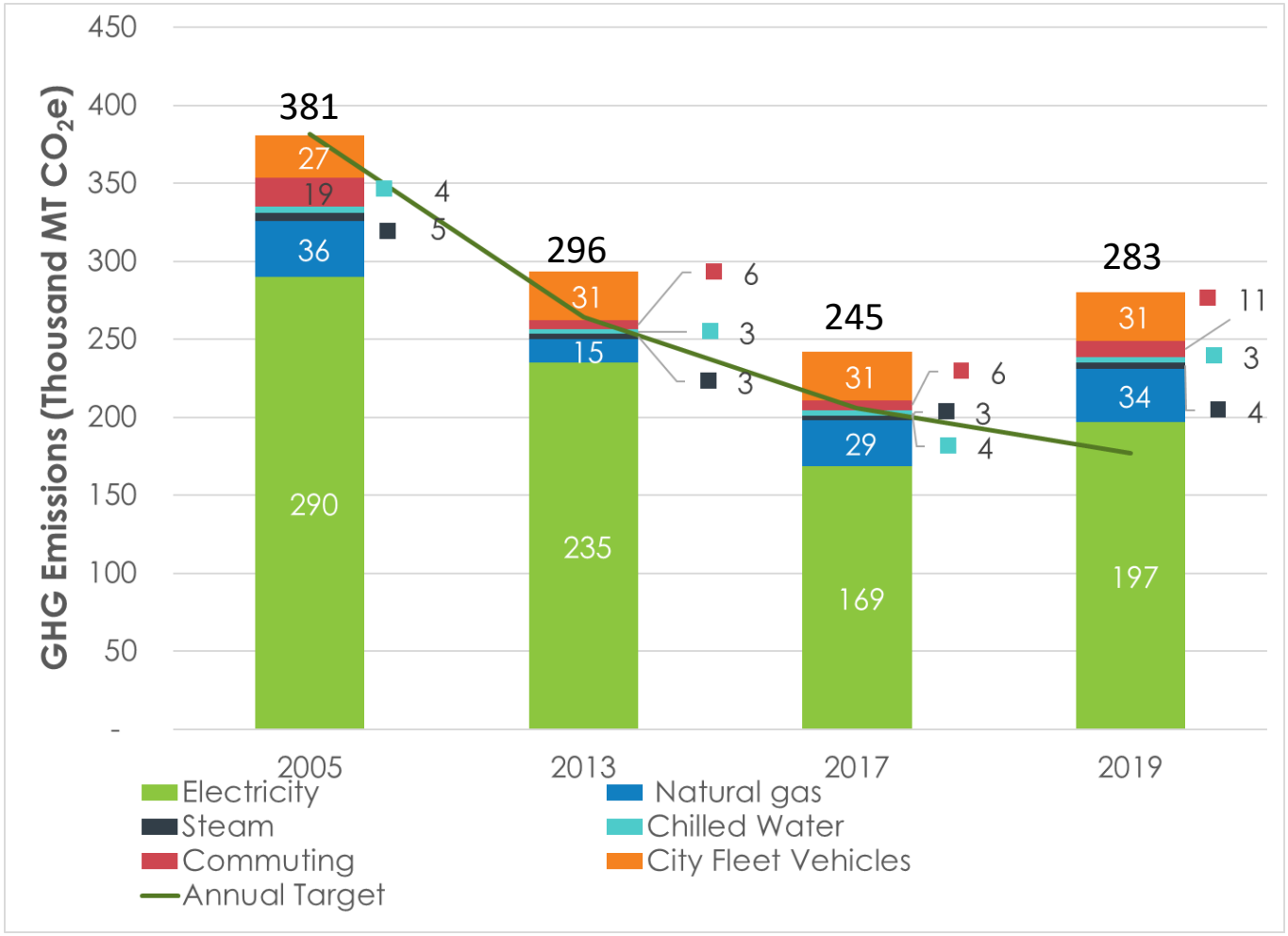
**2040:**
carbon-neutral, equity-focused and resilient Kansas

# Resolution No. 200005
# Emission Reduction Goals

| | 2022 | 2025 | 2030 | 2040 |
|---|---|---|---|---|
| Community Emissions | | 30% reduction overall | 50% reduction overall<br>100% reduction from electricity use | Climate neutral |
| Municipal Emissions | 100% reduction from electricity use | 70% reduction overall | Climate neutral | |

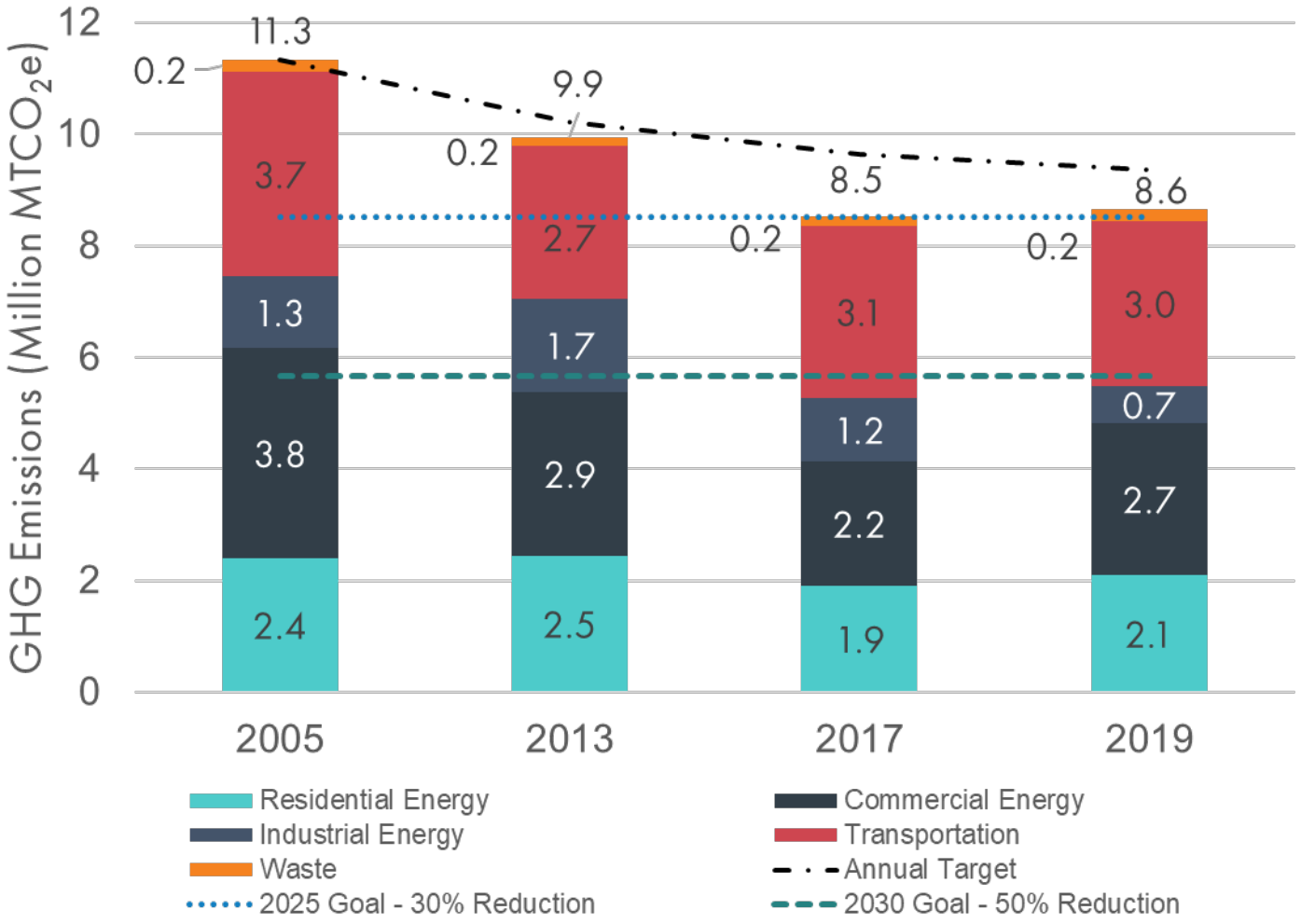
# Greenhouse Gas Inventory

# Municipal GHG Emissions (2005-2019)



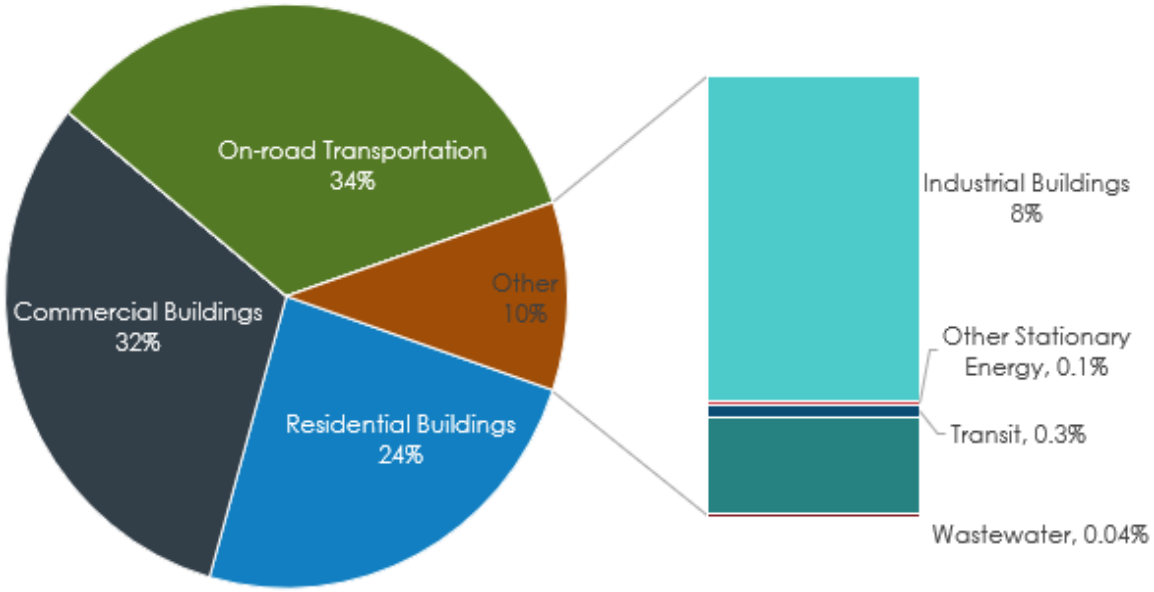

- Municipal Emissions 26% below 2005
- Significant progress needed to hit 2025 goal of 70% Reduction
  - Will meet target if goal of 100% electricity from renewable energy is met.
- Commuting emissions dropped 42% though they have increased since 2017.
- Emissions from fleet vehicles have increased since 2005.

# GHG Emissions in Kansas City (2005-2019)




- 24% reduction in GHG emissions from 2005 to 2019
- On track to hit 2025 goals.
- Largest emissions source shifted from commercial energy to transportation
- Significant sources of emissions reduction:
  - Electricity generation shifting to cleaner sources
  - Reduction in industrial emissions
  - Transportation emissions decreased 5%

# Where do our GHG emissions come from?




**Total 2019 Emissions = 8,660,000 MTCO2e**

Buildings

Transportation

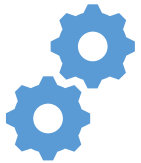
Processes

# What is the Kansas City Climate Protection and Resiliency Plan?

A roadmap to help the Kansas City community achieve its greenhouse gas emission reduction goals and adapt to the climate impacts we are already facing by:

Building on existing data and regional efforts

Gaining a deeper understanding of the challenges our neighborhoods are facing



Identifying neighborhood-specific solutions

Identifying roles, responsibilities, and resources to implement those solutions

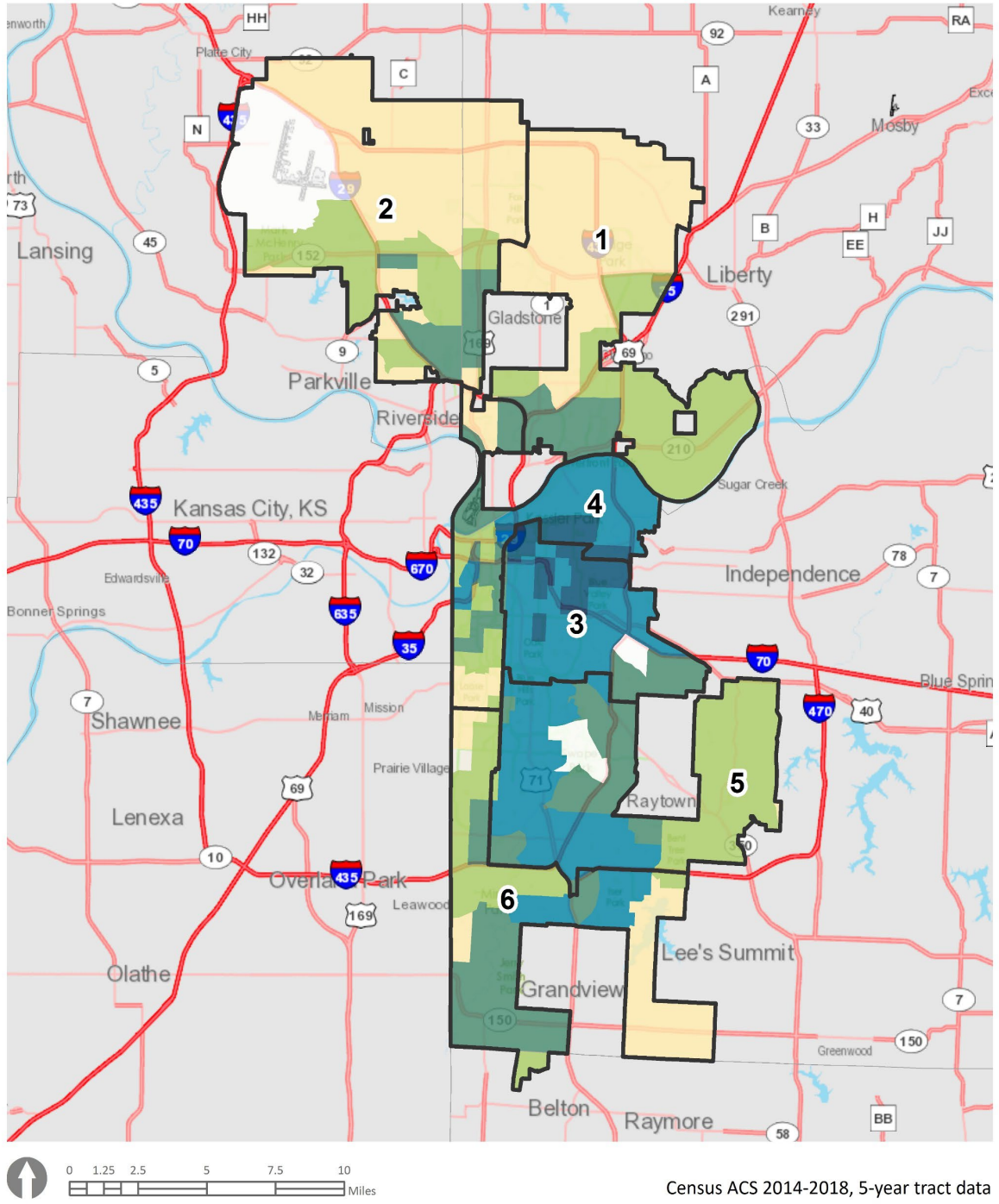
# Climate Adaptation & Resilience: What Impacts are Expected?

The changes in precipitation and temperature patterns that are already being seen due to climate change will likely result in the following climate change impacts in Kansas City.

| | |
|---|---|
| **Severe Heat Events** | More frequent & intense |
| **Flooding** | More severe |
| **Climate Migration** | More people displaced from their homes |
| **Air Quality** | Increased air pollutants |
| **Disease** | Increased frequency |

# Disproportionate Impacts Related to Climate Change Impacts & Hazards

*"aging and disabled communities, and Latino/Latinx and Black/AA communities, are hardest hit during these [climate] events."*




Census ACS 2014-2018, 5-year tract data

Source: Mid-America Regional Council Climate Vulnerability Maps

KC GREEN

# CLIMATE PROTECTION & RESILIENCY PLAN

# What is in the Plan

Framework for Ongoing Climate Action

Key Strategies by Focus Area & Geography

Key Implementation Partners

Short-term Actions with Funding Opportunities

Community Co-Benefits by Strategy

# What is NOT in the Plan

- Mandates on Businesses
- Mandates on Residents
- Fully Developed Policies and Procedures
- All the Partners Needed to Implement Actions
- Fixed Implementation Strategies

# Climate Action Areas

**Mobility**
- Moving around the city

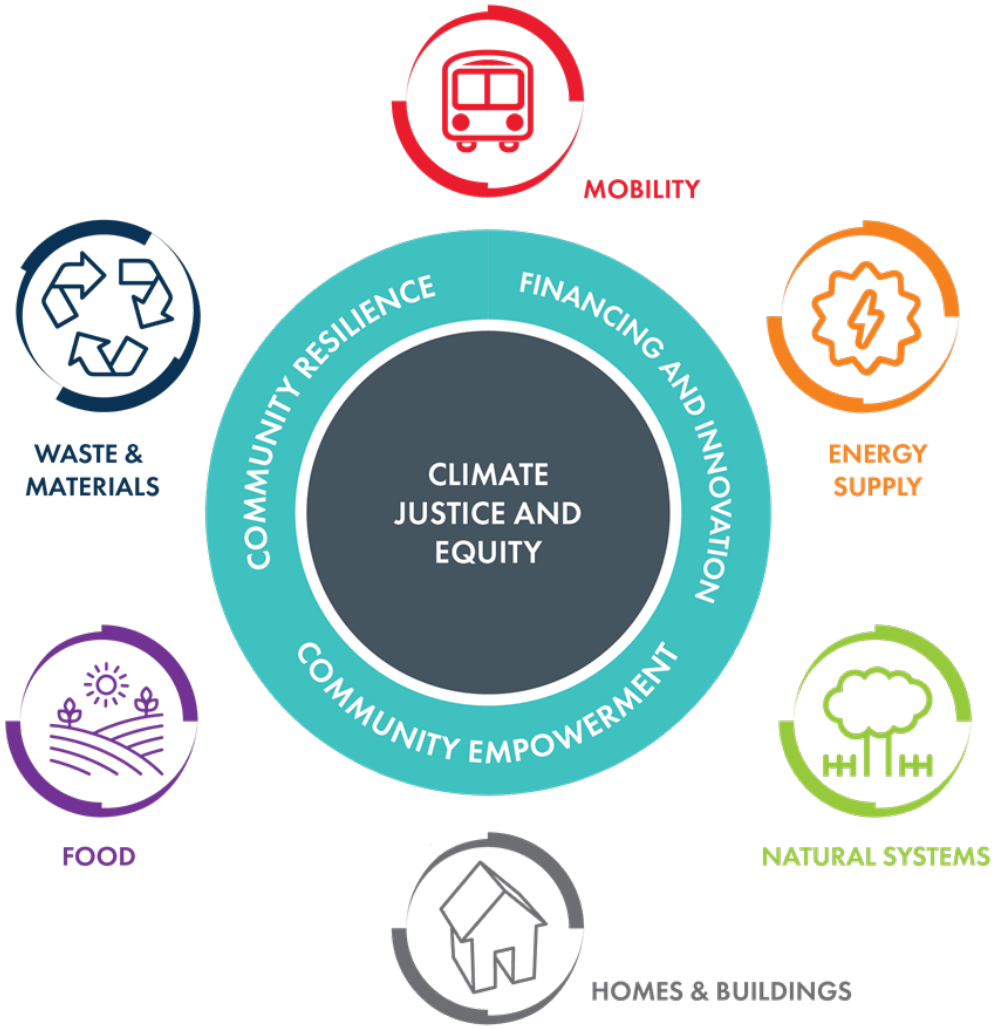
**Energy Supply**
- Providing clean and affordable energy

**Natural Systems**
- Using nature to cool our city, prevent flood damage, and clean our air and water

**Homes and Buildings**
- Creating healthy indoor spaces for living, working, and enjoying

**Food**
- Growing and sharing local and nutritious food

**Waste & Materials**
- Reducing our impact and reusing our resources



# Strategies by Focus Area

## MOBILITY

M-1: Reduce vehicle miles traveled (VMT) through coordinated and planned development
M-2: Shift trips to bicycling and walking by expanding a network of safe and accessible routes
M-3: Shift trips to transit by building efficient and effective transit systems and mobility hubs
M-4: Reduce vehicle emissions from idling by reducing congestion and improving parking management
M-5: Reduce vehicle emissions through low- and no-emission vehicles

## ENERGY SUPPLY

E-1: Transition energy grid mix to renewable energy
E-2: Expand neighborhood, commercial, and municipal renewable energy generation
E-3: Improve grid stability and resilience
E-4: Purchase utility-scale renewable energy

## NATURAL SYSTEMS

N-1: Expand network of trees and natural areas
N-2: Promote regenerative, ecologically healthy soils and landscapes
N-3: Sustainable water supply and use
N-4: Use natural systems to manage stormwater runoff

## HOMES & BUILDINGS

B-1: Increase building efficiency and health for commercial and public buildings
B-2: Improve the efficiency, affordability, and durability of homes
B-3: Ensure climate-ready, efficient construction
B-4: Promote equitable building decarbonization

## FOOD

F-1: Increase production of local food
F-2: Improve healthy and sustainable food access

## WASTE & MATERIALS

W-1: Divert waste from the landfill and reduce illegal dumping
W-2: Divert organic waste from the landfill through composting
W-3: Reduce waste and embodied carbon by expanding the reuse and repair economy

# Mobility:
# *Moving around the city*

**Strategies:**

**M-1** Reduce vehicle miles traveled (VMT) through coordinated and planned growth

**M-2** Shift trips to bicycling and walking by expanding a network of safe and accessible routes

**M-3** Shift trips to transit by building convenient transit systems and mobility hubs

**M-4** Reduce vehicle emissions from idling by reducing congestion and improving parking management

**M-5** Reduce vehicle emissions through low- and no-emission vehicles


# EV Charging….

# Electrify the fleet….

# Natural Systems: *Using nature to cool our city, prevent flood damage, and clean our air and water*

**Strategies:**

**N-1** Expand network of trees and natural areas

**N-2** Promote regenerative, ecologically healthy soils and landscapes

**N-3** Promote sustainable water supply and use

**N-4** Use natural systems to manage stormwater runoff

# Energy Supply:
## *Providing clean and affordable energy*

**Strategies:**

**E-1** Transition energy grid mix to renewable energy

**E-2** Expand neighborhood and commercial renewable energy generation

**E-3** Improve grid stability and resilience

**E-4** Purchase utility-scale renewable energy

# What are we doing now - Renewables

**Solar Generating Capacity -** Installation of sixty 25 kW solar panel installations on rooftops of 58 City buildings totaling 1.5 MW capacity

# Renewables Direct

- Power purchase agreement with Evergy
- Cimarron Bend III Wind Resource in Clark County, KS
- 18 MW
- 19.5% electricity usage from resource; 60 % overall
- In 2021, City saved $1.9M in electricity costs for participation in program
- Waiting for resource to service the metro

# KCI Solar Energy Project


Kansas City International Airport
Solar Energy Project Conceptual Rendering – Airport View

SOLARIZE

KANSAS CITY

# Homes & Buildings: *Creating healthy indoor spaces for living, working, and enjoying*

**Strategies:**

**B-1** Increase building efficiency and health for commercial and public buildings.

**B-2** Improve the efficiency, affordability, and durability of homes

**B-3** Ensure climate-ready, efficient construction

**B-4** Promote equitable building decarbonization

# Energy Efficiency….

**Energy Efficiency Projects**

- LED Lighting
- Occupancy sensors
- Variable frequency drives
- ESCO contracts
- Energy Star Certification
- LEED Gold Standard

# LED Streetlight Conversion

# Food: *Growing and sharing local and nutritious food*

**Strategies:**

**F-1** Increase production of local food

**F- 2** Improve healthy and sustainable food access

# Waste & Materials: *Reducing our impact and reusing our resources*

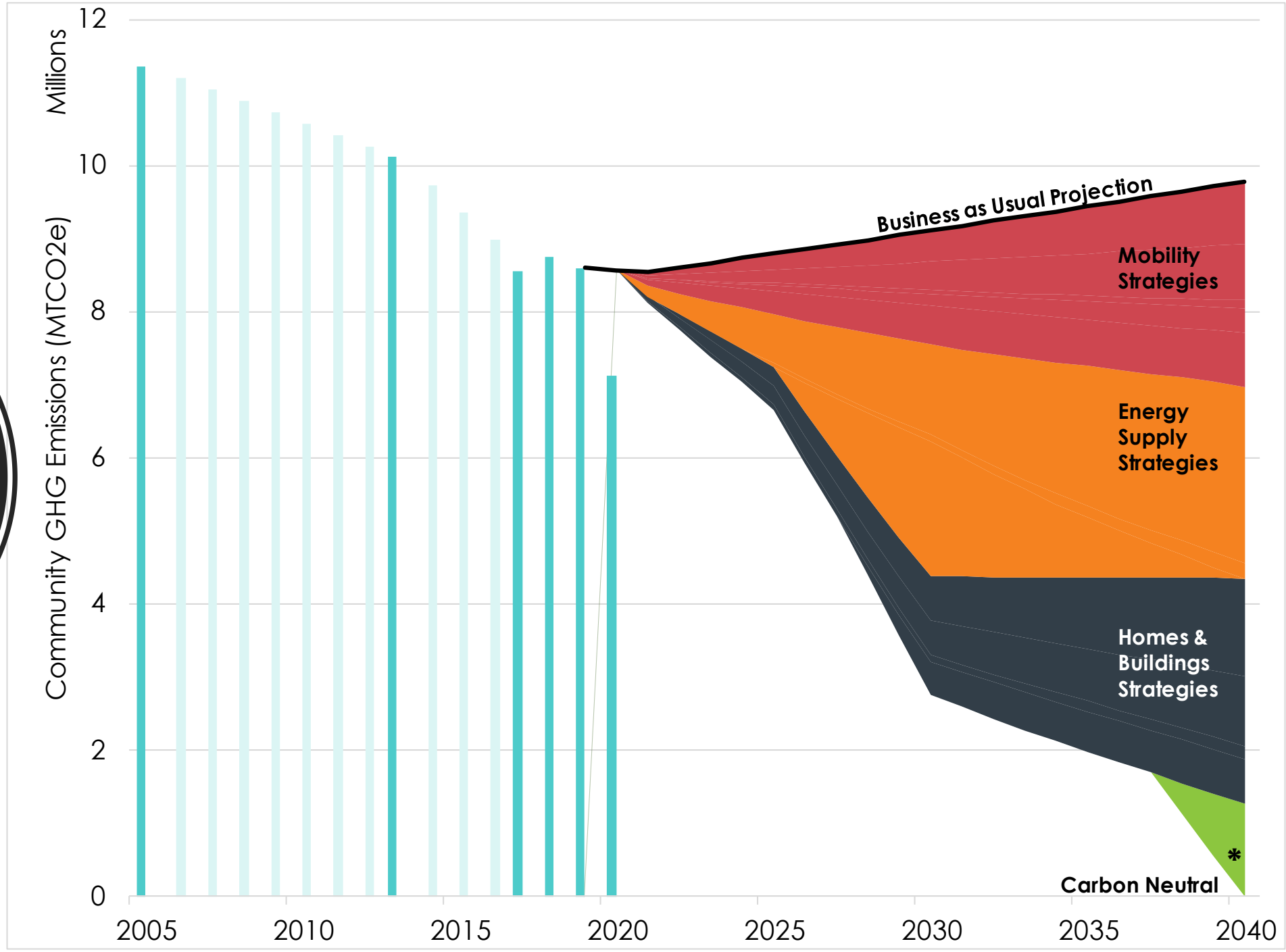
**Strategies:**

**W-1** Divert waste from landfills and reduce illegal dumping

**W-2** Divert organic waste from the landfill through composting

**W-3** Reduce waste and embodied carbon by expanding the reuse and repair economy

# Potential Impact of Mitigation Strategies



# Where do we go from here….

- Climate Resilience Plan - Implementation
- Implementation of Urban Forest Master Plan
- ENERGY STAR® Certification for eligible City buildings
- Assist utility in community solar program
- Energy Efficiency in residential and its tie-in to affordable housing

# In closing…..

- Start with the basics
- Look for low hanging fruit…
- Set goals/Measure your progress
- Collaborate
- Share your successes!

# Sustainability in Kansas City

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