



STERLING HEIGHTS

CLIMATE ACTION PLAN

Sustainability Open House
July 29, 2024



WELCOME

Why We're Here

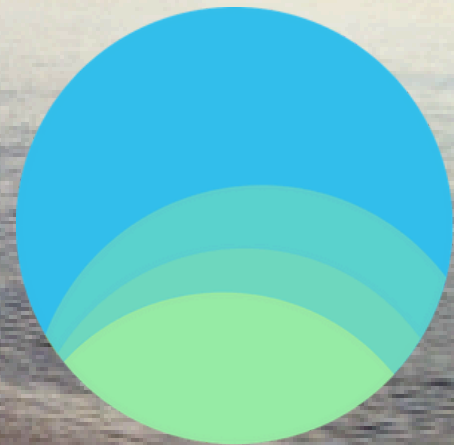
Open House Structure

Fresh Coast Introduction





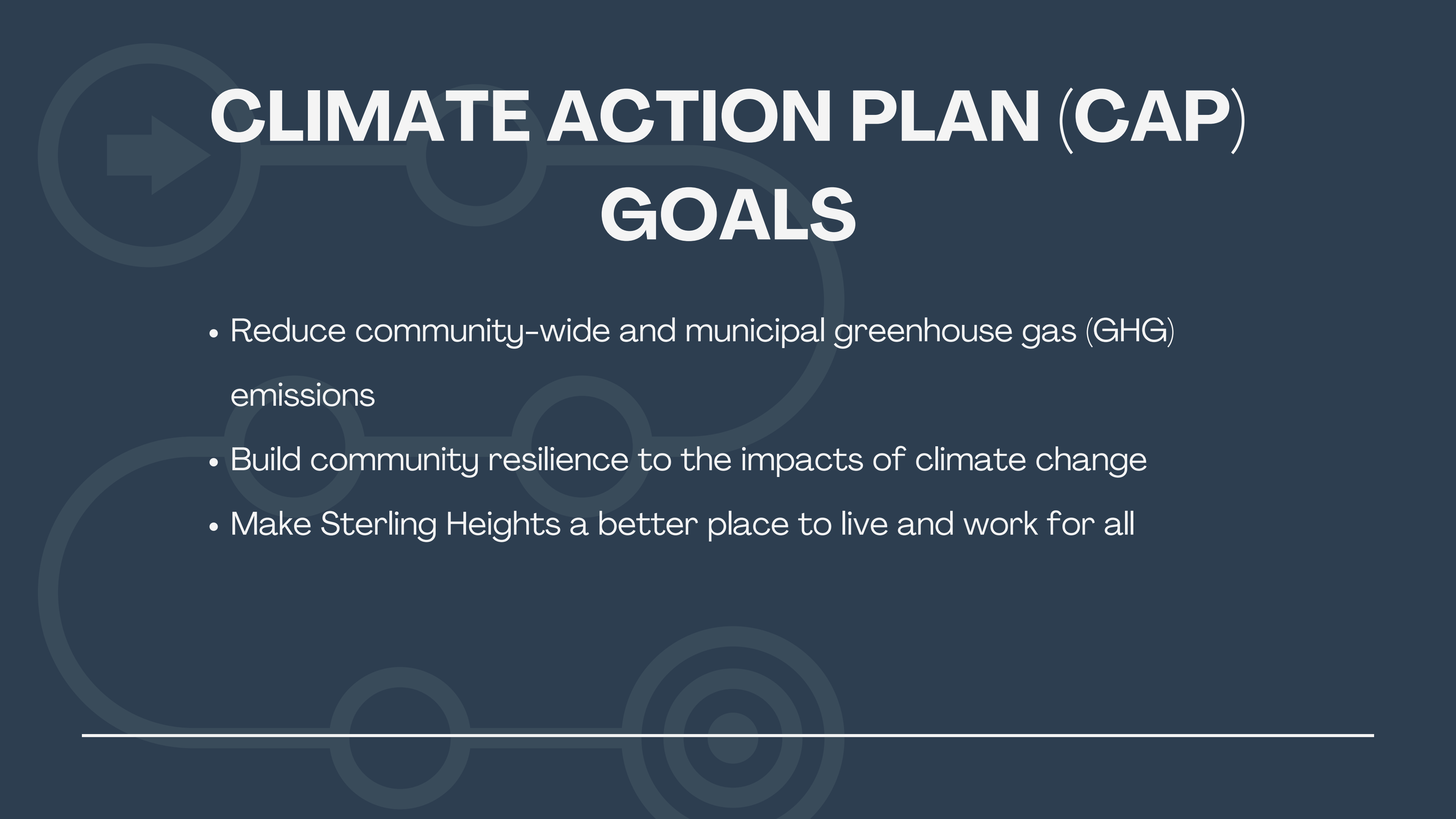
*We work to reverse climate change
by helping clients achieve bold, equitable,
and impactful solutions.*



**FRESH
COAST**

Climate Solutions

Bold Solutions. Transformative Action.



CLIMATE ACTION PLAN (CAP) GOALS

- Reduce community-wide and municipal greenhouse gas (GHG) emissions
 - Build community resilience to the impacts of climate change
 - Make Sterling Heights a better place to live and work for all
-

MI HEALTHY CLIMATE PLAN

GOALS

MICHIGAN - one of only 14 states with bold economy-wide goals

- ✓ Reduce GHG emissions 28% below 2005 levels by 2025 and 52% by 2030
- ✓ Achieve economy-wide carbon neutrality by 2050
- ✓ Maintain net negative GHG emissions thereafter

OBJECTIVES



Mitigate the worst impacts of climate change



Spur economic development and create good-paying jobs



Capture economic development and create good-paying jobs



Protect and improve the health of Michiganders

OBJECTIVES OF THE MI HEALTHY CLIMATE PLAN



Position Michigan as a leader in climate action



Protect our natural resources and wildlife



Make Michigan energy independent



Address environmental injustices

STERLING HEIGHTS CAP OVERVIEW

GOALS

- 1. Work in tandem with Land Use Plan process
- 2. Ensure input, ownership, and buy-in throughout engagement
- 3. Align with MI Healthy Climate Plan
- 4. Set goals through 2050
- 5. Develop an actionable plan that fits Sterling Heights

ENGAGEMENT

- 1. City leaders
- 2. City staff
- 3. Community workshops (June 10, July 29)
- 4. Interviews and surveys

TIMELINE

EO 2024 (same as Land Use Plan but bulk of work complete by Sept)

VALUE OF BASELINE GHG EMISSIONS INVENTORY

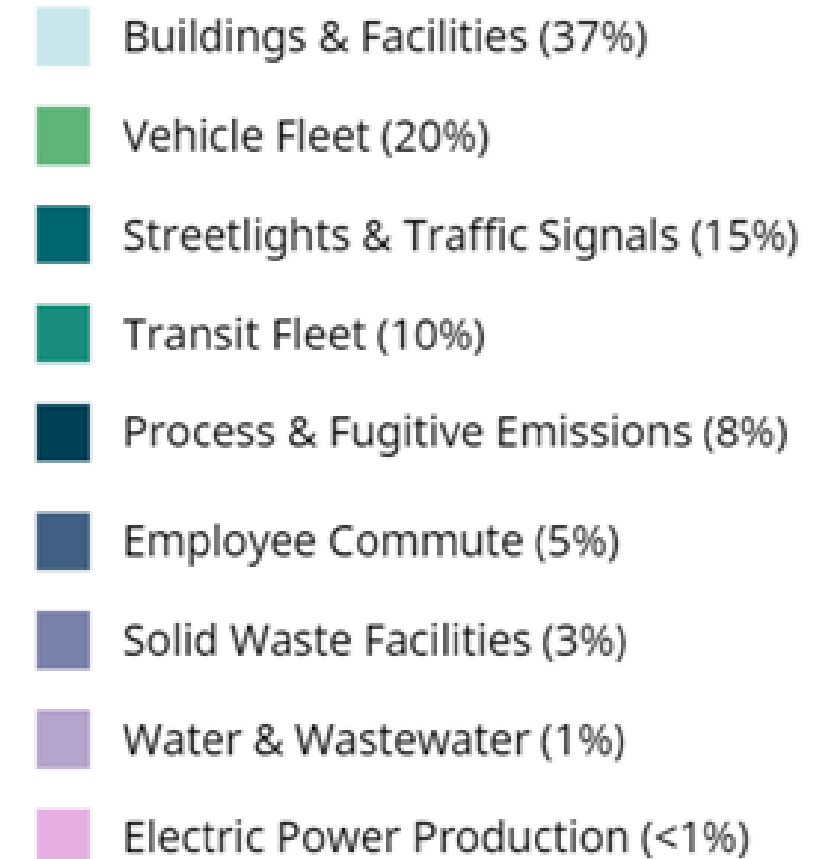
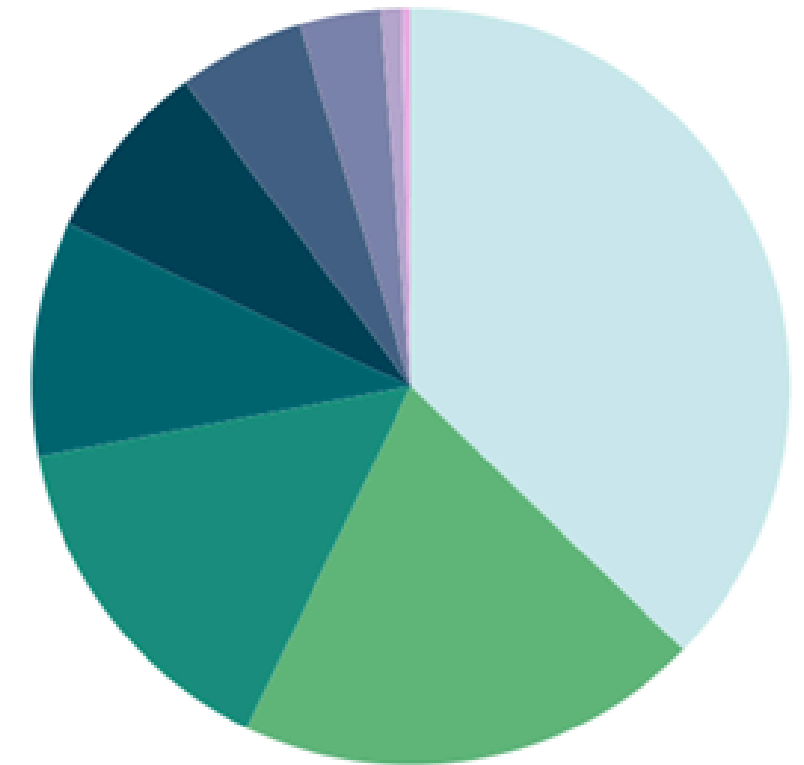


A baseline GHG emissions inventory is a foundational tool for effective and informed climate action, enabling informed decision-making, goal setting, and strategic planning to effectively reduce GHG emissions.

GOVERNMENT OPERATIONS GHG EMISSIONS

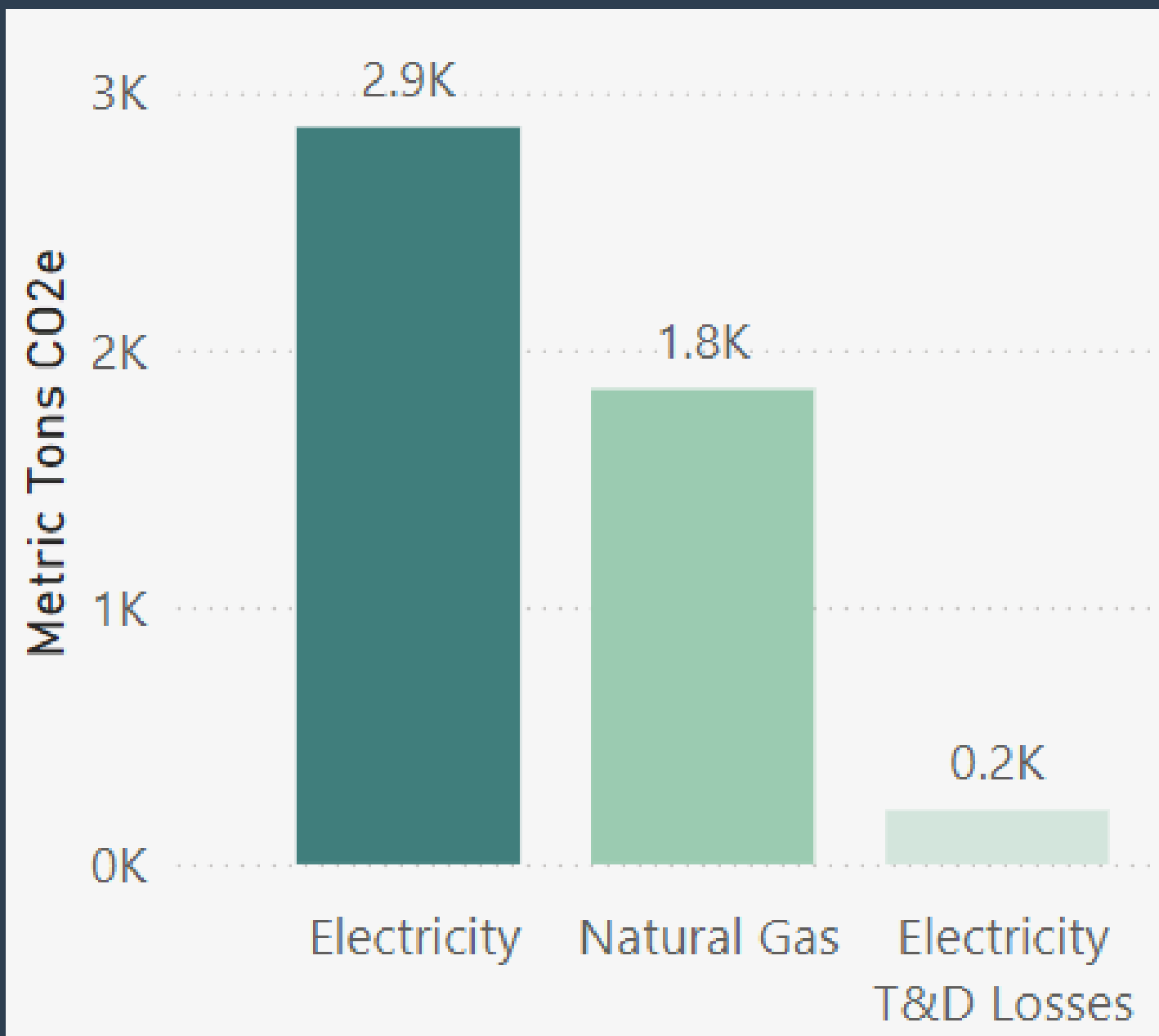
GOVERNMENT OPERATIONS EMISSIONS AT A GLANCE

- 1 Buildings & Facilities**
37%
- 2 Vehicle Fleet**
20%
- 3 Streetlights & Traffic Signals**
15%

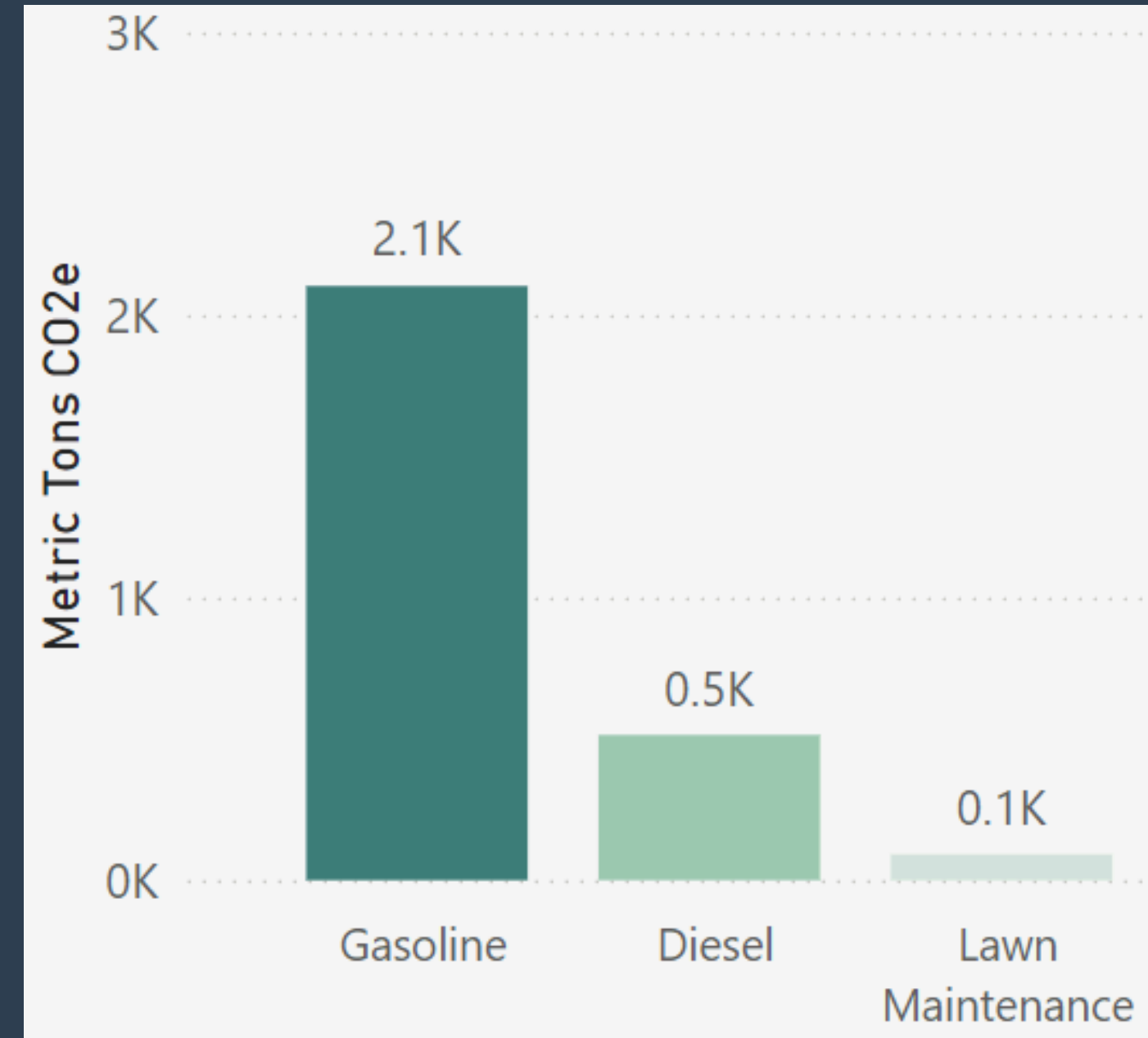


2022 LOCAL GOVERNMENT GHG EMISSIONS SOURCES

Buildings: 37% of Government Emissions



Vehicle Fleet: 20% of Government Emissions

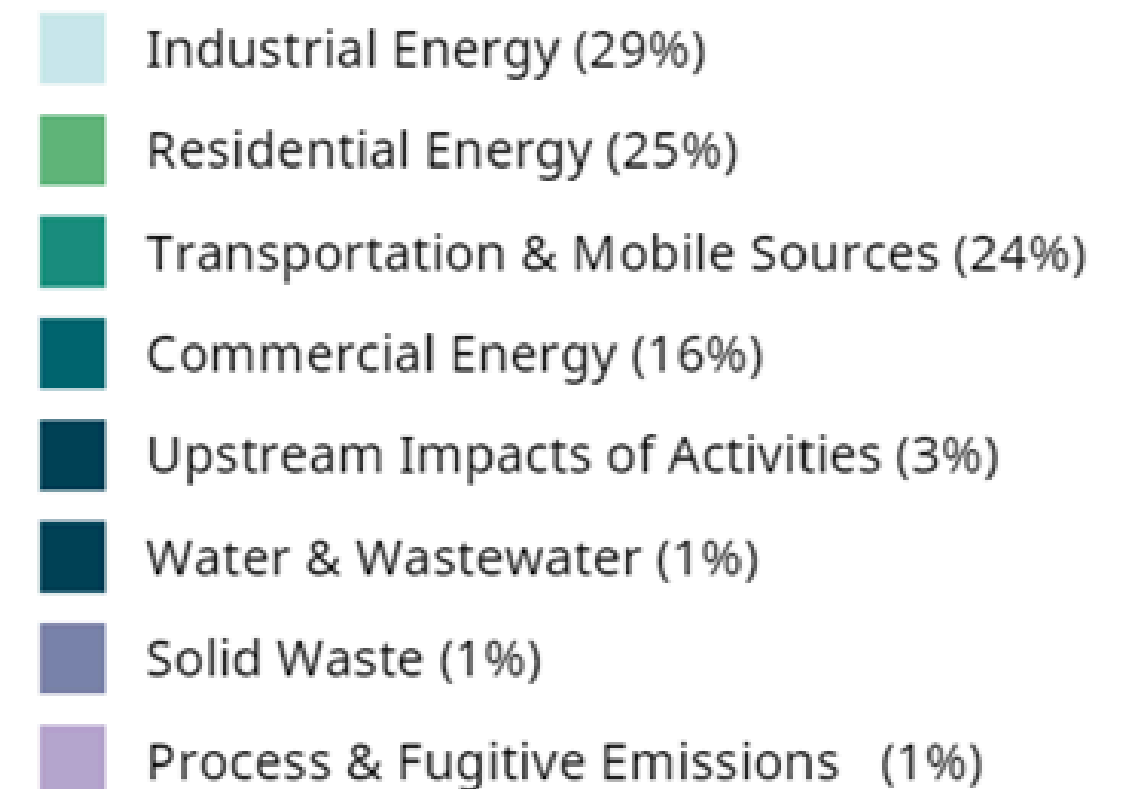
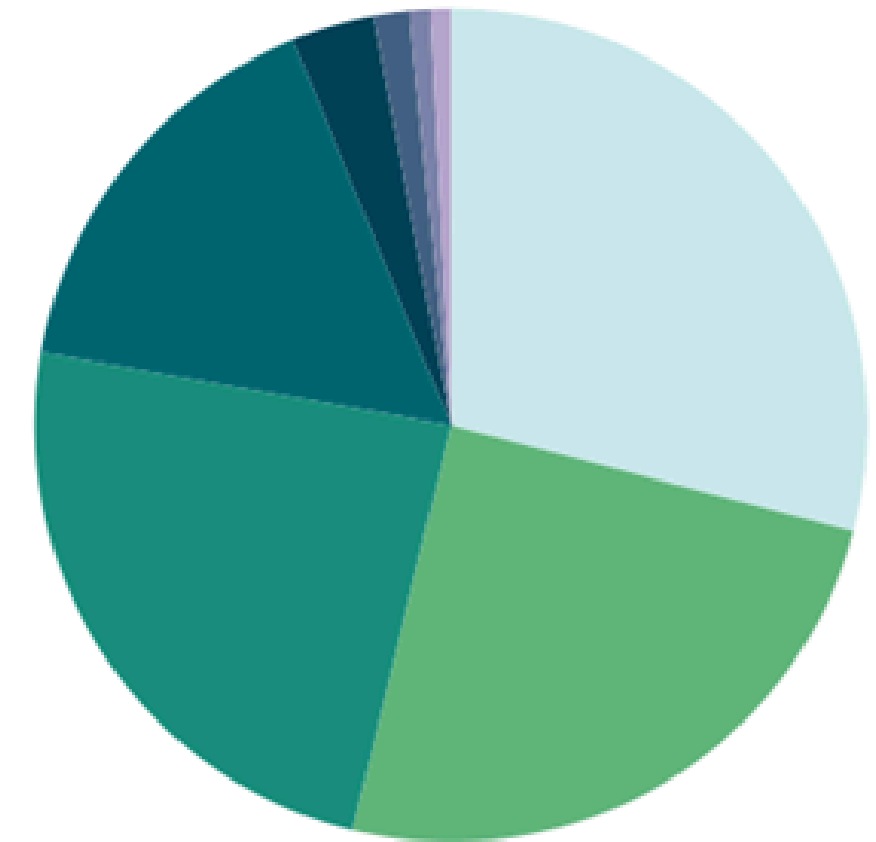


*Vehicle fleet does not include transit

COMMUNITY WIDE EMISSIONS

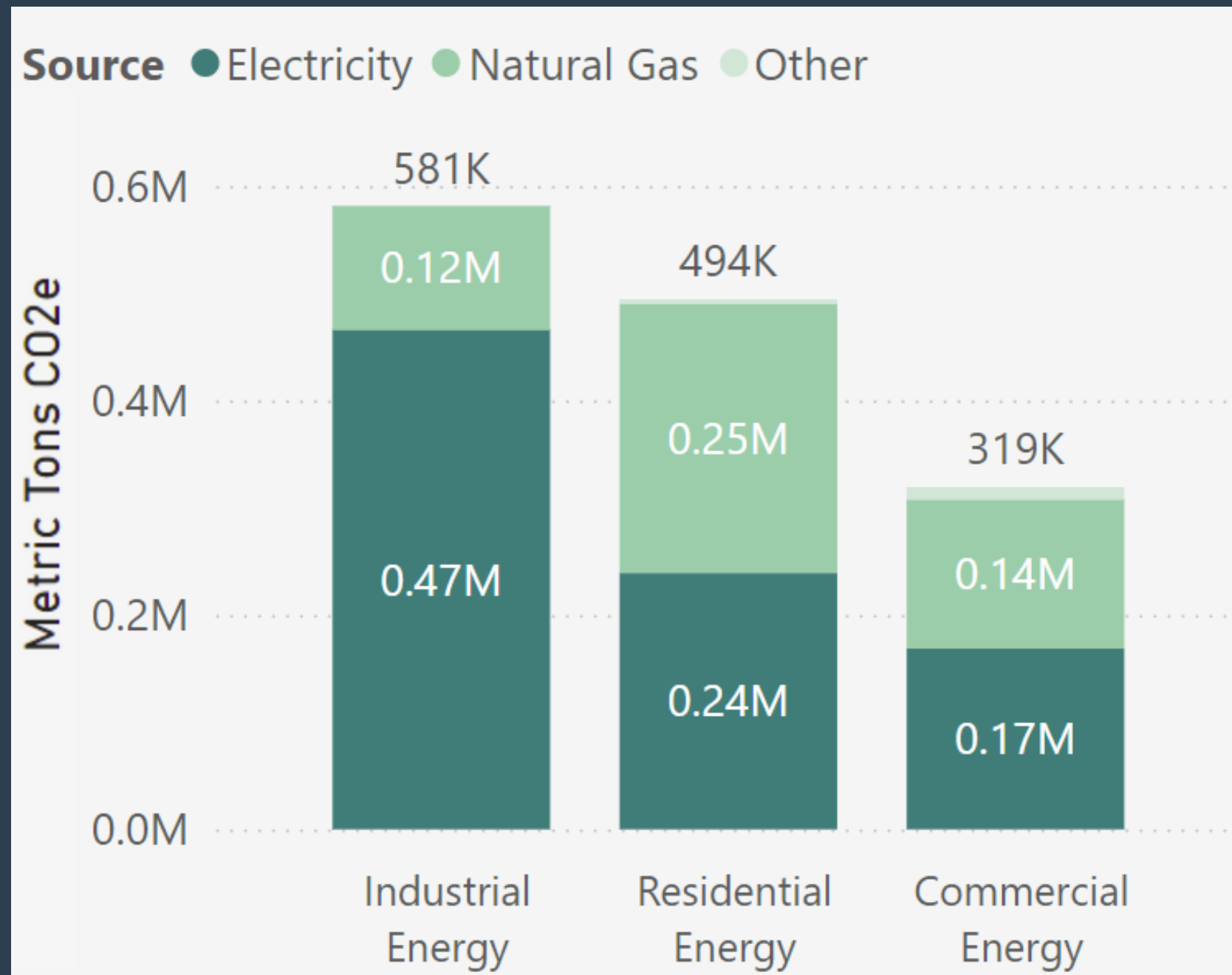
COMMUNITY EMISSIONS AT A GLANCE

- 1 Industrial Energy**
29%
- 2 Residential Energy**
25%
- 3 Transportation**
24%

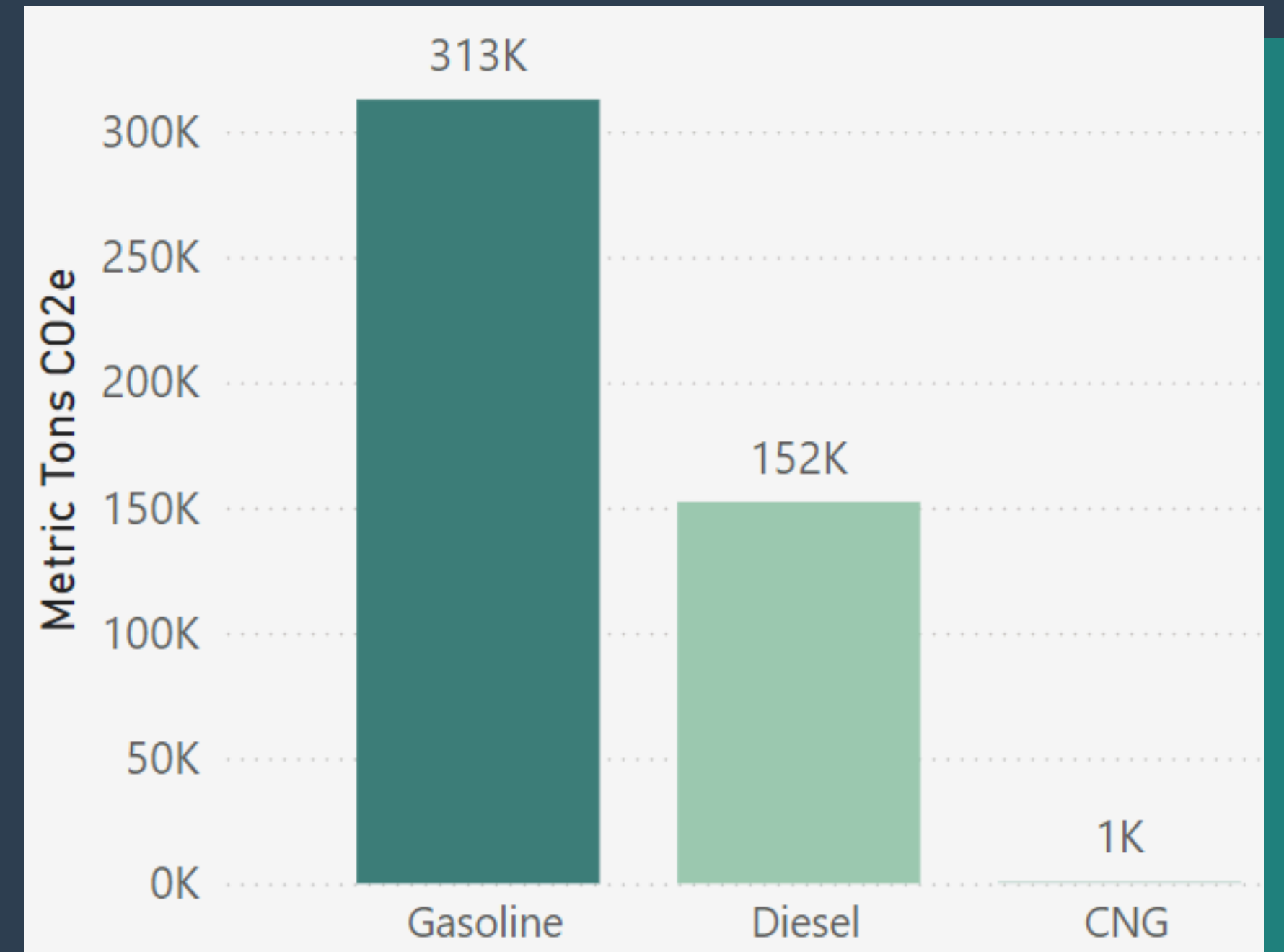


2022 COMMUNITY-WIDE GHG EMISSIONS SOURCES

Buildings: 70% of Total Emissions



Transportation: 24% of Total Emissions



CLIMATE CHANGE IN STERLING HEIGHTS

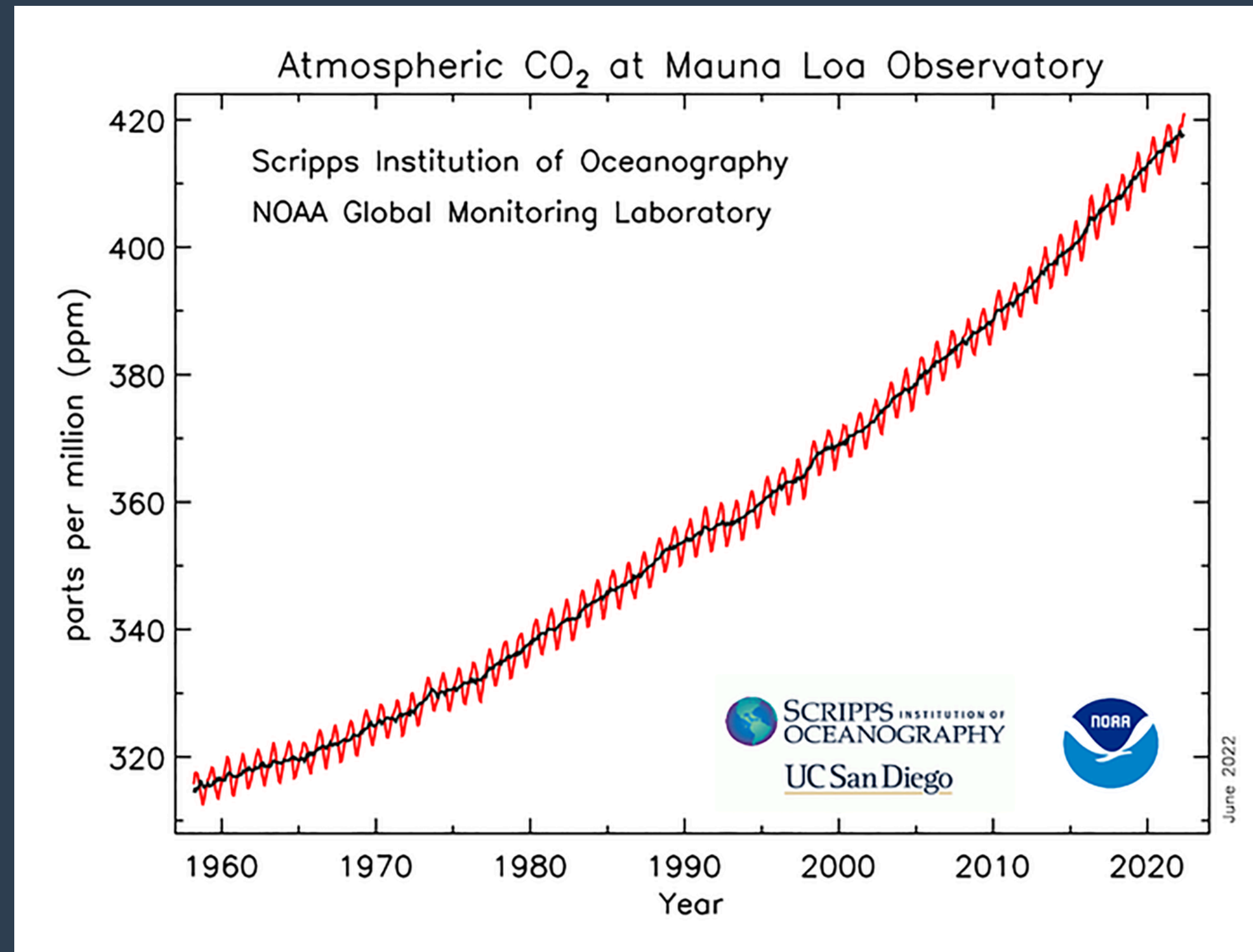
What is climate change?

- Anthropogenically driven climate change refers to long-term changes in temperature, precipitation, wind patterns, and other aspects of the Earth's climate system, primarily due to human activities such as burning fossil fuels, deforestation, and industrial processes.

“Human activities, principally through emissions of greenhouse gases, have unequivocally caused global warming, with global surface temperature reaching 1.1°C above 1850–1900 in 2011–2020.”

IPCC AR6 March 2023

ATMOSPHERIC CO₂ LEVELS



This graph shows the monthly mean carbon dioxide measured at Mauna Loa Observatory, Hawaii, the longest record of direct measurements of CO₂ in the atmosphere. Monitoring was Initiated by C. David Keeling of the Scripps Institution of Oceanography in March of 1958 at a NOAA weather station. NOAA started its own independent and complementary CO₂ measurements in May of 1974. (NOAA Global Monitoring Laboratory, Scripps Institute of Oceanography at the University of California San Diego.)

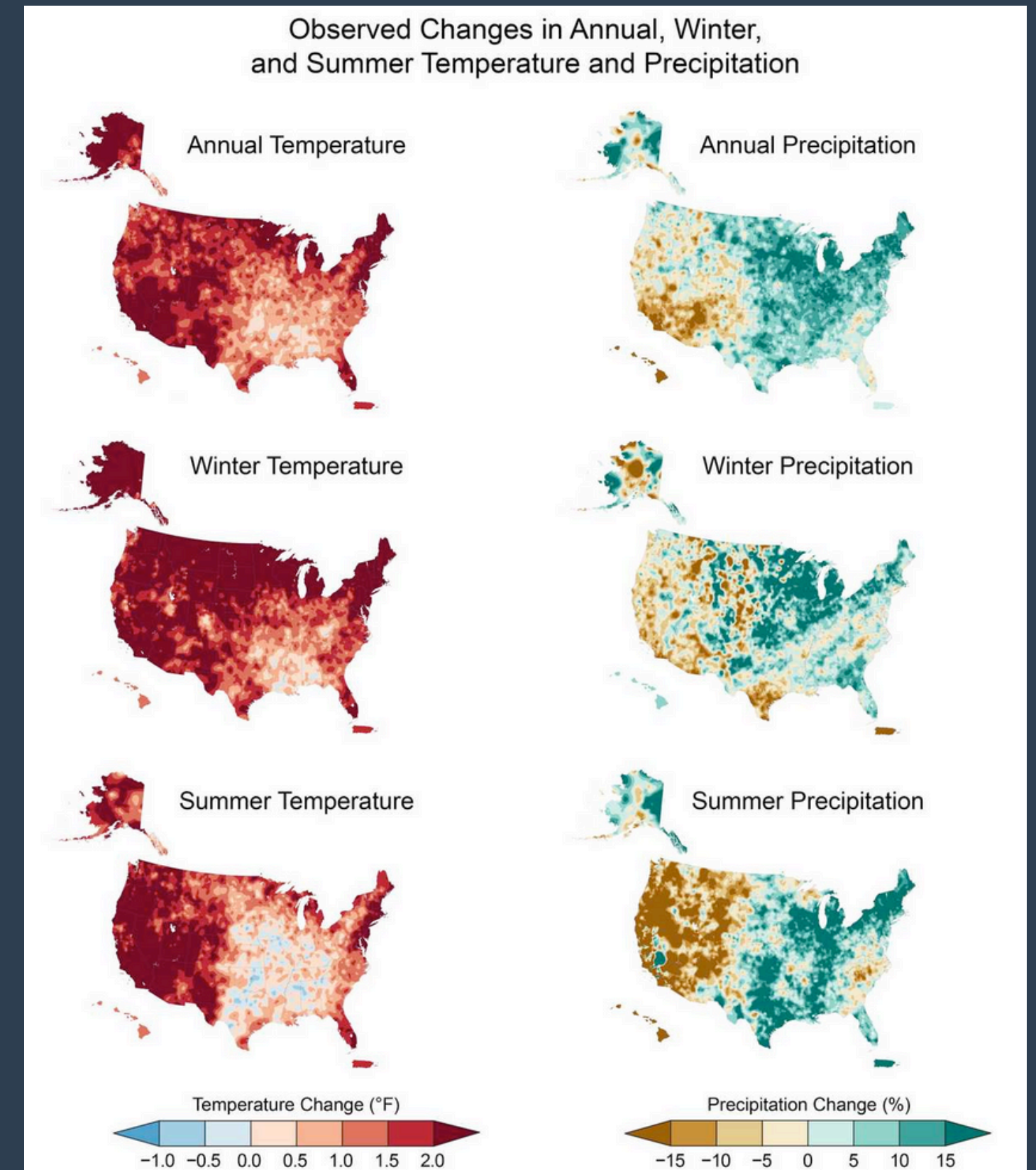
ANTICIPATED CLIMATE CHANGE TRENDS IN THE MIDWEST

What climatic data trends have been seen in the Midwest?

The climate of the Midwest has warmed since the first half of the 20th century, and annual precipitation has increased.

Resulting in:

- Increasing land surface temperatures and oscillations between extreme droughts and floods events



ANTICIPATED CLIMATE CHANGE RELATED TRENDS AND RISK IN STERLING HEIGHTS

What is projected climate change related risk for the City of Sterling Heights?



Land surface temperature in urban setting exacerbating the urban heat island effect



Extreme precipitation event frequency and severity, resulting in increasing flooding



Increasing severity of winter weather events as well as declining seasonal ice cover duration



Increasing convective storm frequency and severity resulting in increasing high winds and lightning events

CAP SECTORS



Buildings



Energy



Transportation



Waste



Public
Health



Natural
Resources

CURRENT EFFORTS IN STERLING HEIGHTS

SECTOR	PROJECT EXAMPLE	SUMMARY
 BUILDINGS	North Van Dyke Ave Overlay Zone	Smart growth principles, green infrastructure incentives encourage green buildings, green infrastructure, low impact design
 ENERGY	Go Green Grants	Provides incentives, support, and educational resources for businesses, households, and landlords to improve resiliency to climate change
 TRANSPORTATION	EV Charging Station Master Plan	MI will be receiving roughly \$110M for EV charging grants

CURRENT EFFORTS IN STERLING HEIGHTS

SECTOR	PROJECT EXAMPLE	SUMMARY
 WASTE	Universal Curbside Recycling	Universal curbside recycling was included in most recent waste contract and residents have received new bins.
 PUBLIC HEALTH	Dodge Park Farmer's Market	Enhances local fresh food access, supports local businesses, encourages community congregation
 NATURAL RESOURCES	Urban Reforestation Initiative	Initiative to reforest Sterling Heights is underway

EXAMPLES OF CLIMATE ACTION STRATEGIES



Buildings

- Retrofit existing buildings to improve energy efficiency
- Reduce energy demand of new buildings



Energy

- Increase use of renewable energy
- Improve capacity for energy storage



Transportation

- Improve public transit
- Improve city walkability and bikeability
- Increase electrical vehicle charging stations



Waste

- Improve recycling options/systems
- Expand education around waste reduction



Public Health

- Support local food systems
- Increase community resilience to extreme weather events



Natural Resources

- Plant trees extensively
- Improve city stormwater infrastructure
- Purchase land for conservation

CO-BENEFITS OF CLIMATE ACTION IN STERLING HEIGHTS



Q&A

Thank you!

