

1/6/2026

GREENHOUSE GAS INVENTORY AND CLIMATE ACTION STRATEGIES

Town Council Meeting



TOWN OF CARRBORO • NC

Greenhouse Gas Inventory Agenda

1. Background
2. Most recent Inventory
3. Year-to-Year comparison
4. Target Areas
5. In-Progress Reductions



Introduction

What is a greenhouse gas inventory?

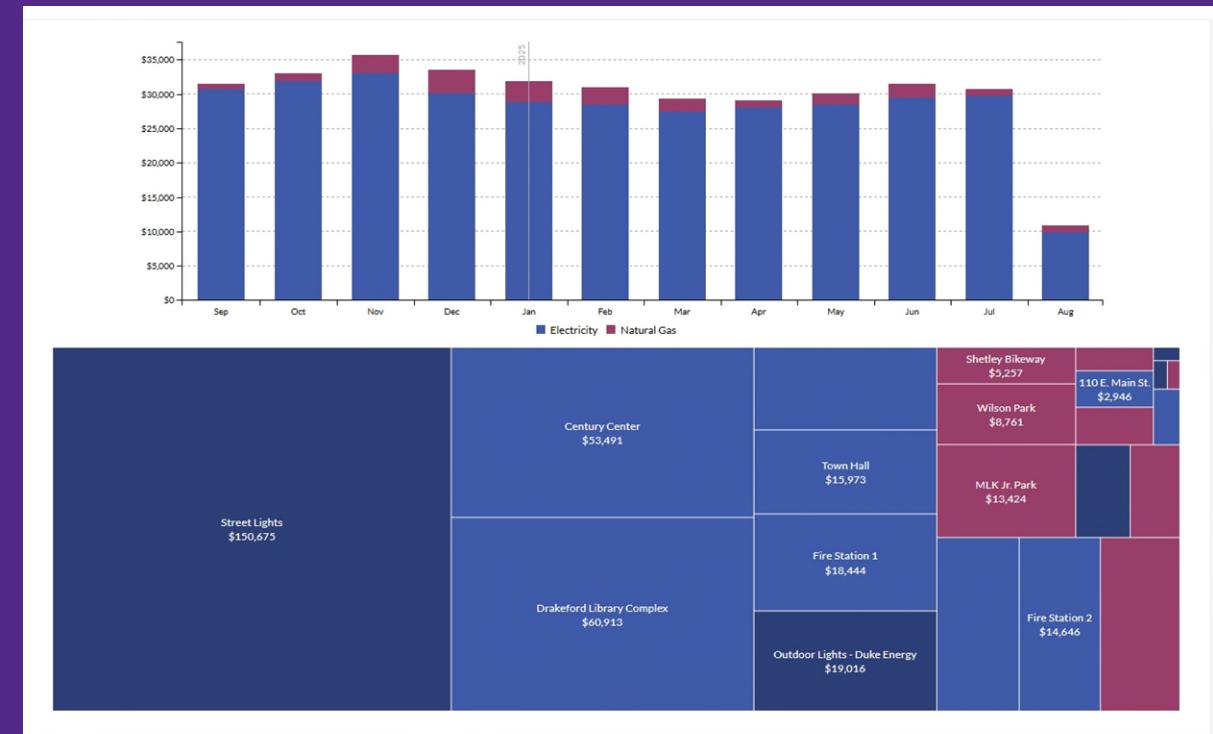
- A greenhouse gas (GHG) inventory estimates the total amount of emissions created by an organization
- The emissions are broken down by **source** and by **scope**
- The purpose of a GHG inventory is to better guide policy and investments.



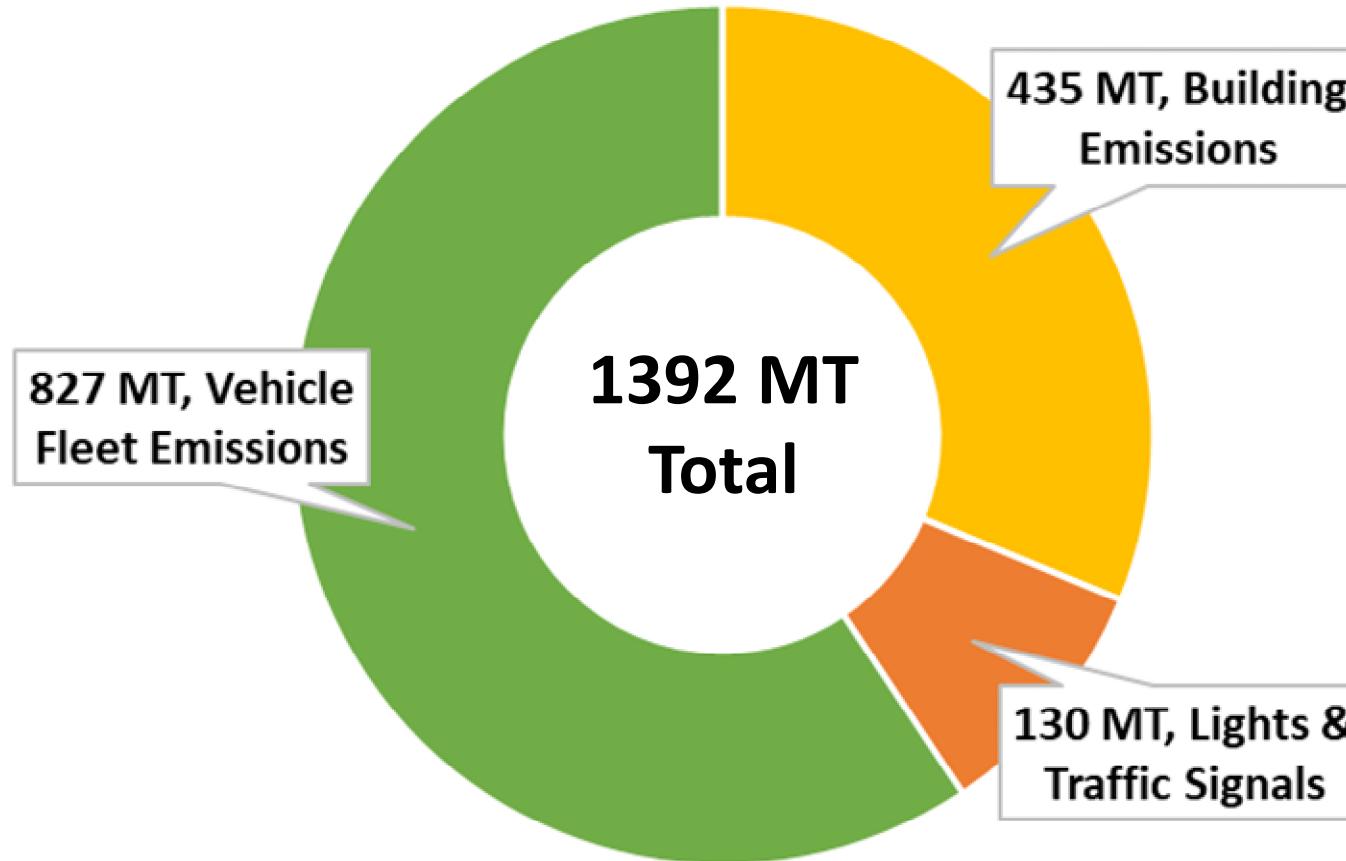
Introduction (cont.)

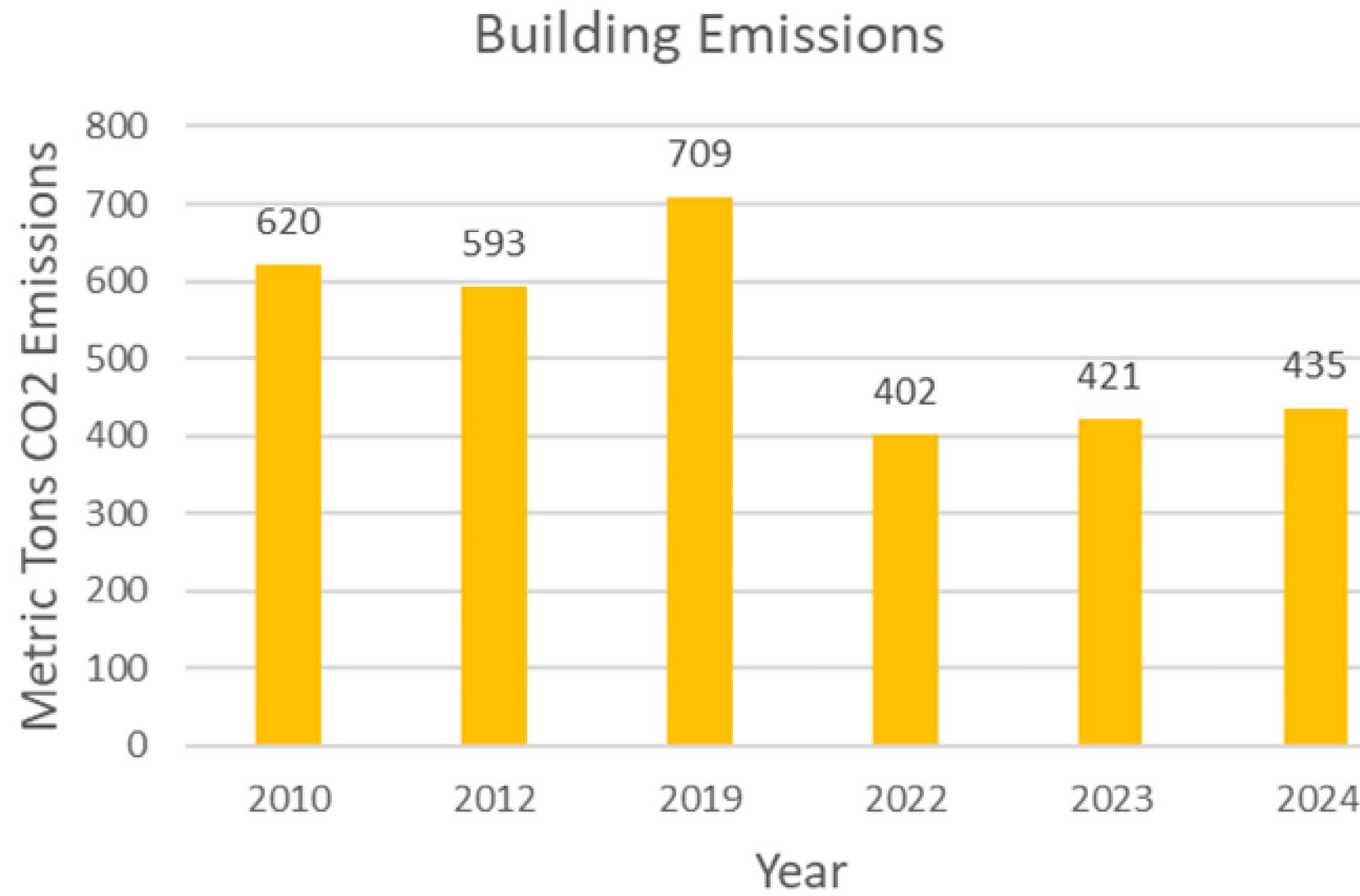
What is counted in a GHG inventory?

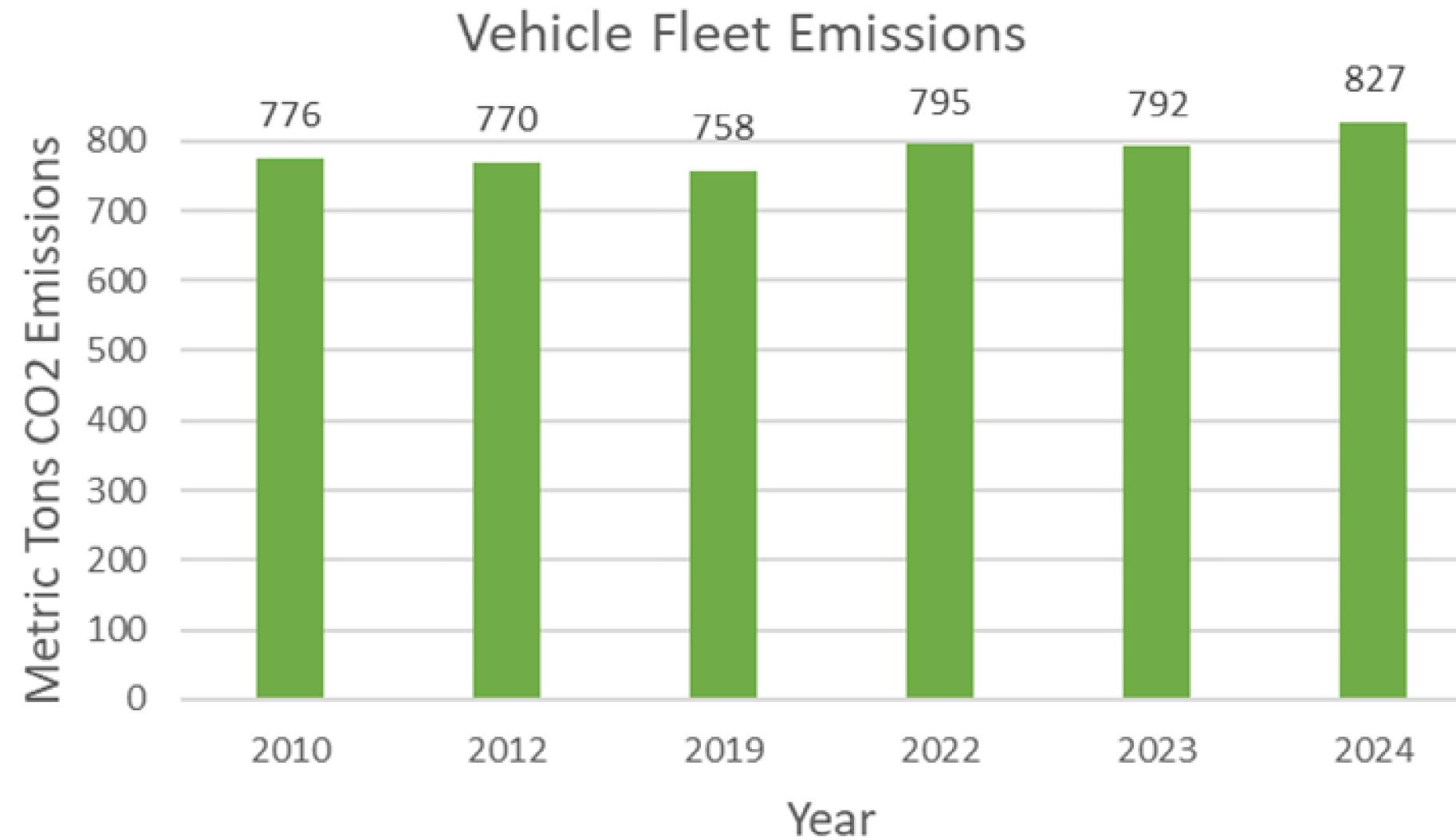
- The Town of Carrboro's emission sources are:
 - Electricity
 - Buildings
 - Signals / Street Lights
 - Natural Gas
 - Buildings
 - Generators
- The Town Vehicle Fleet
 - Gasoline
 - Diesel



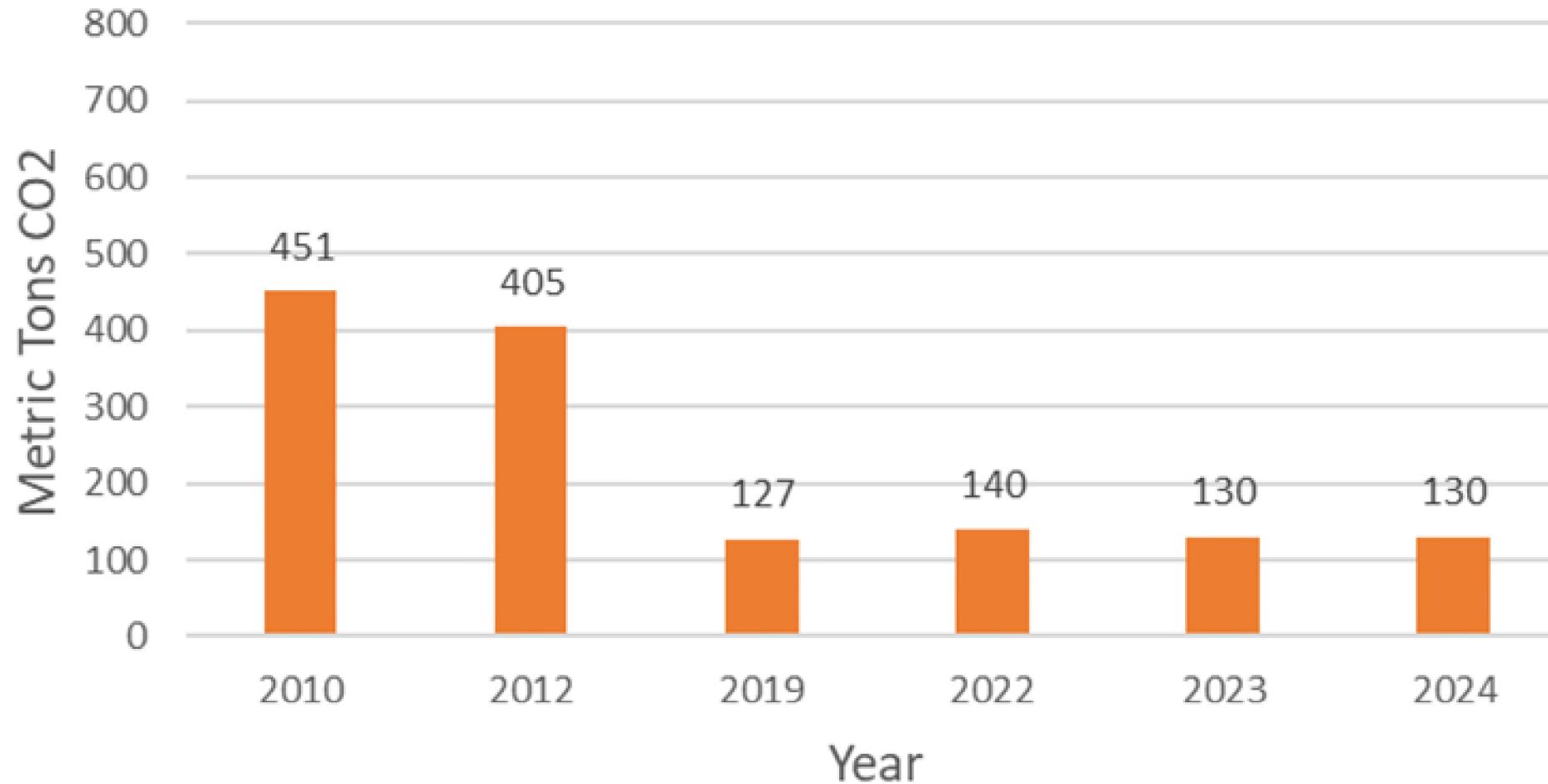
2024 GHG Inventory

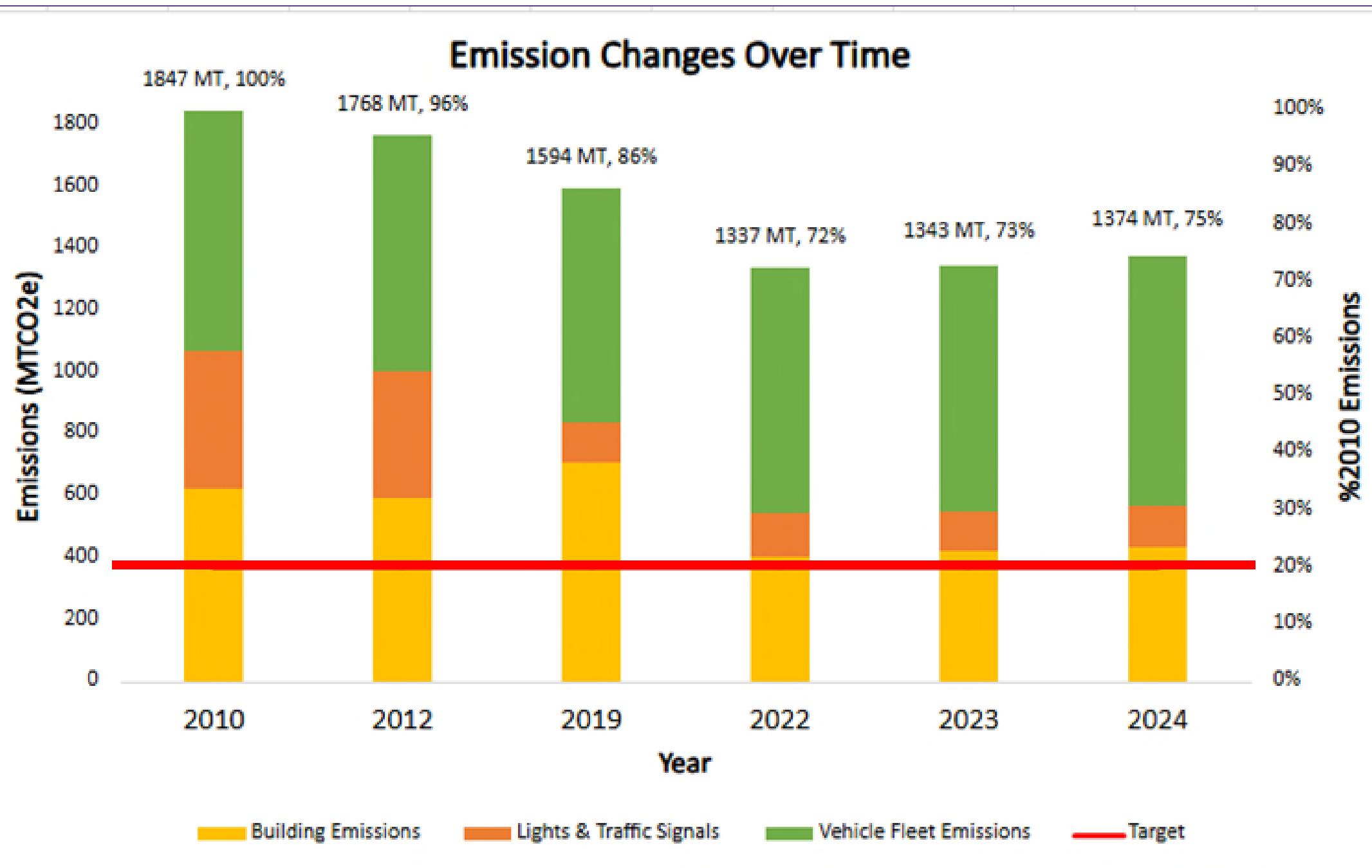




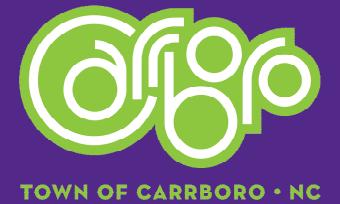


Lights & Traffic Signals





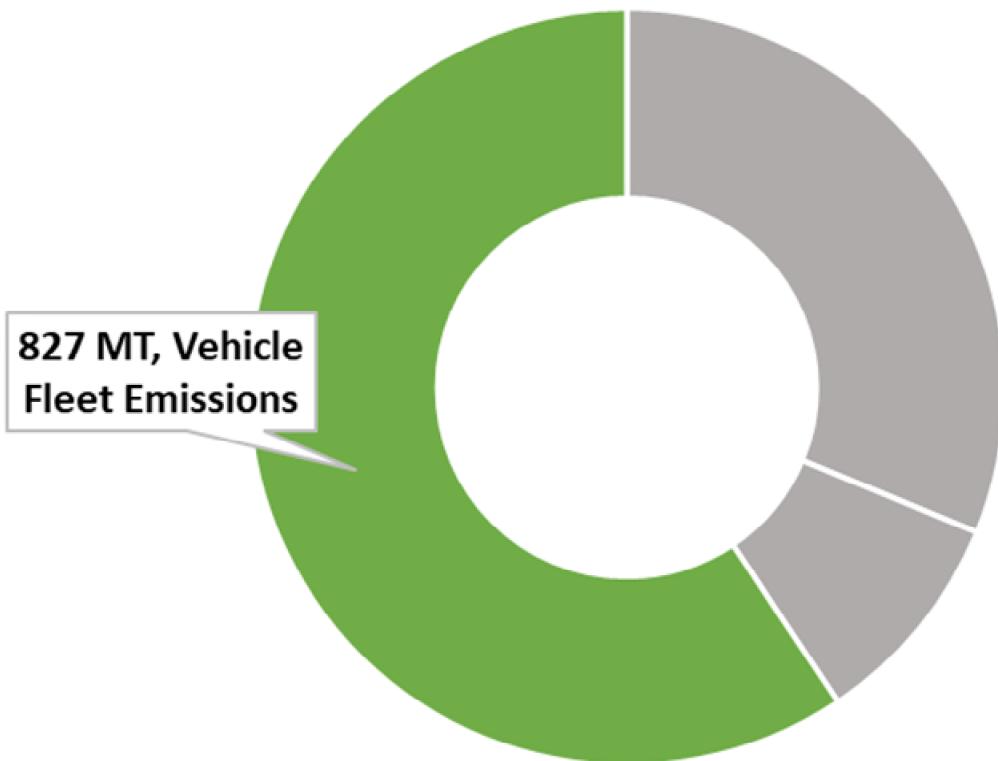
Where can we reduce emissions?



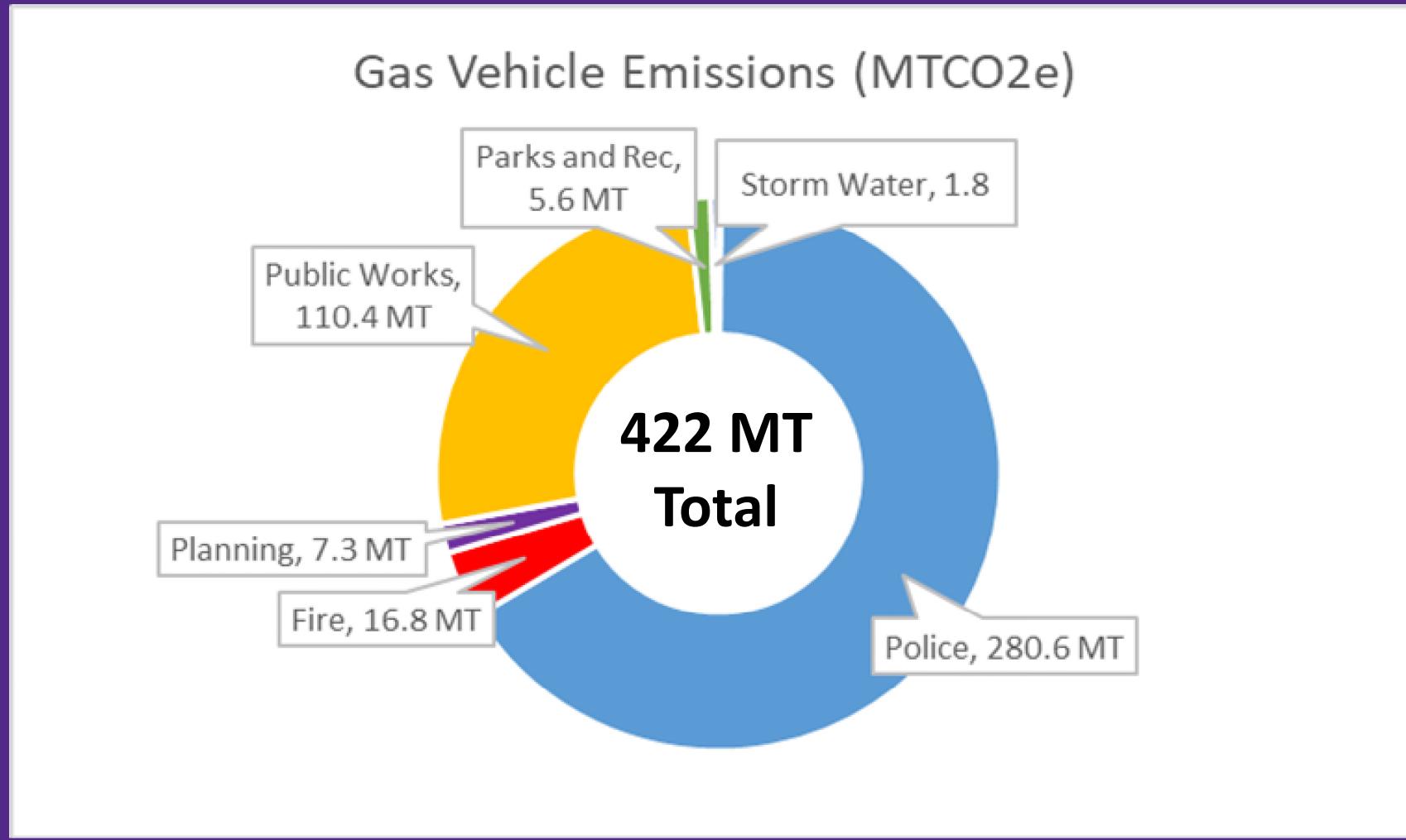
Vehicles



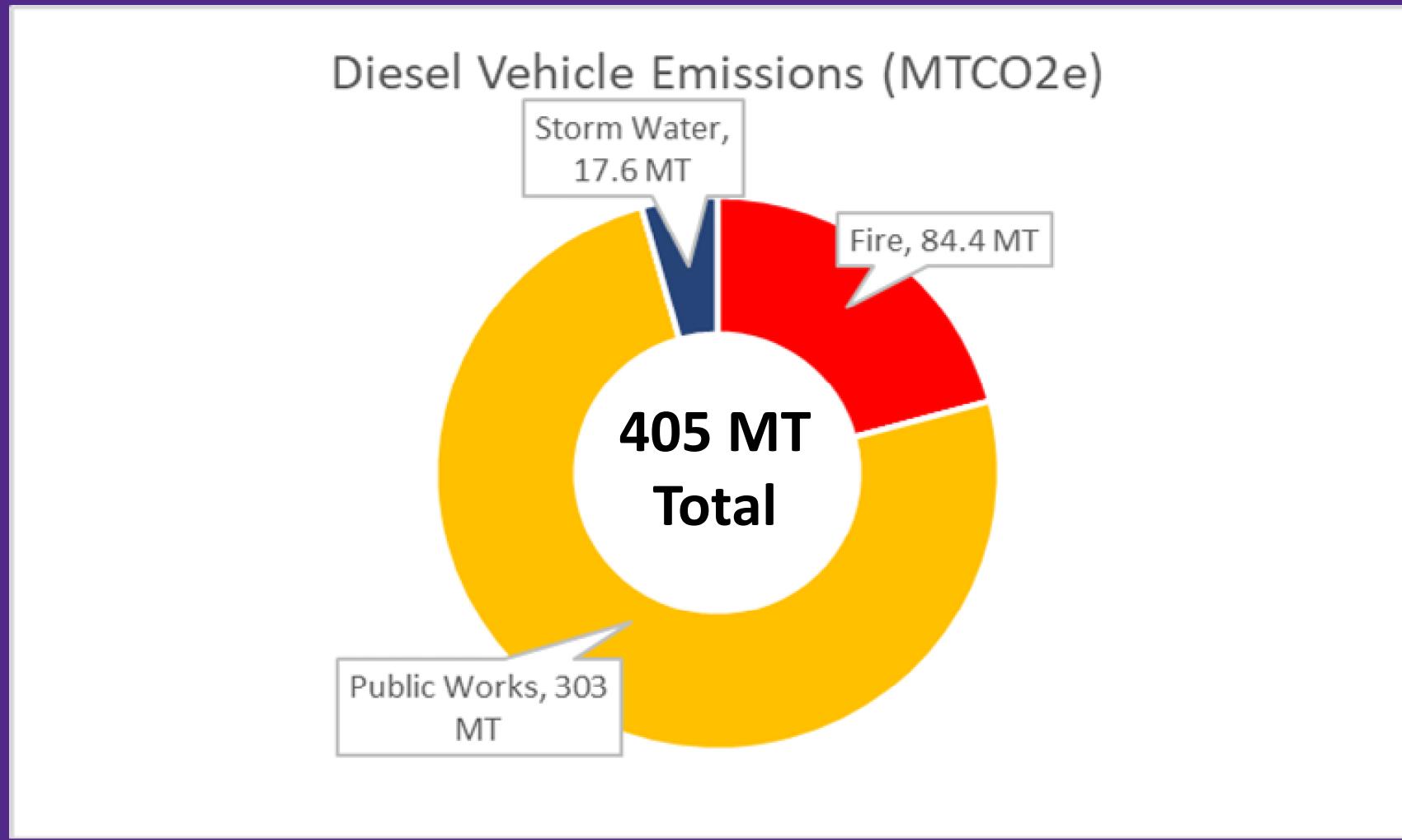
2024 GHG Inventory



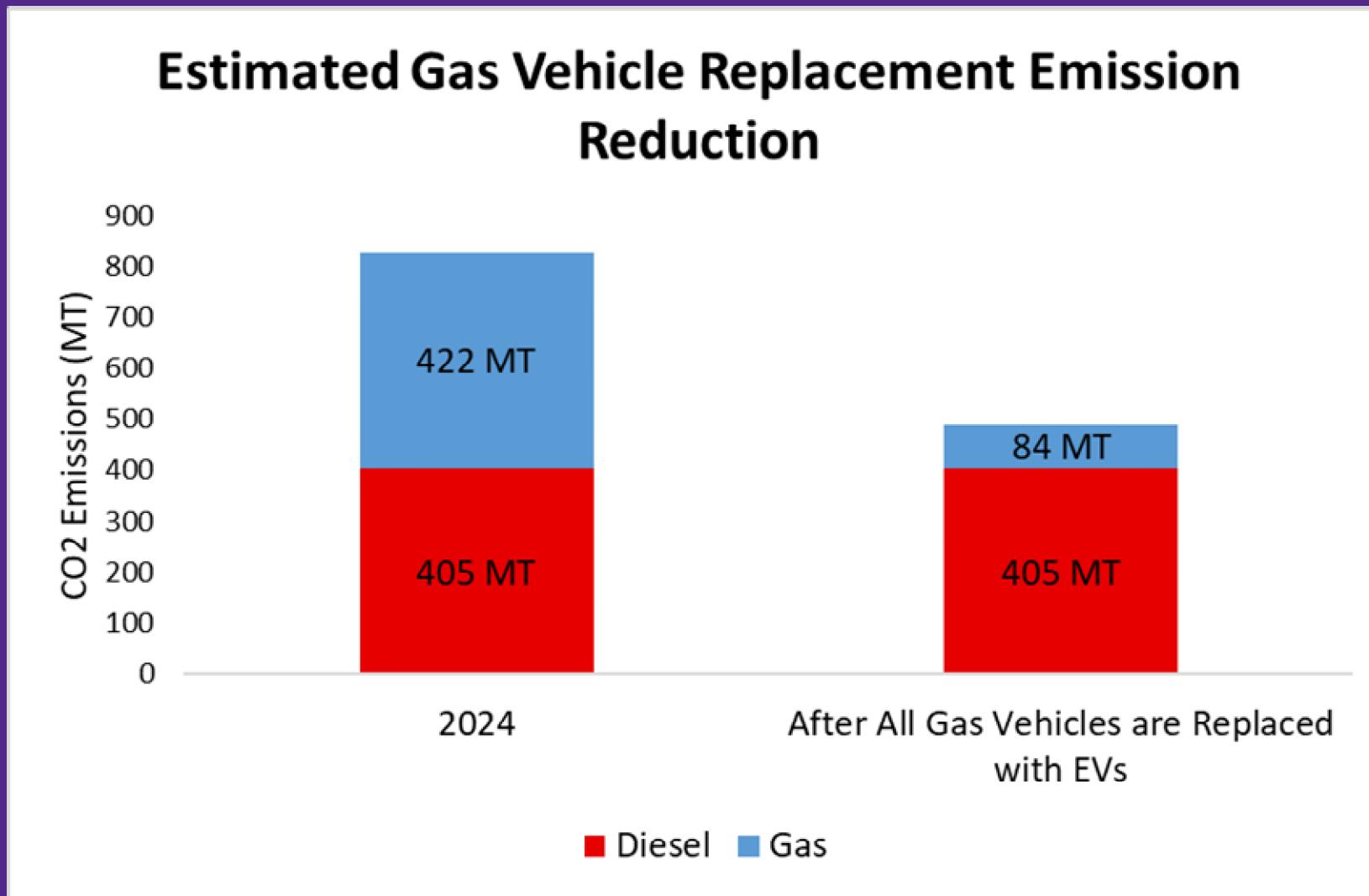
Vehicles (cont.)



Vehicles (cont.)



Vehicles (cont.)



EV Charger Projects

Town Commons – x8 ports, 80-amp chargers

19.2 kWh max charging speed

F150 Lightning Extended Range: 20% - 80% SOC = 4.5 hours

- 2 ports currently under construction
- Waiting for Duke Energy to start the next 6
 - Should have the plan by the end of the week 12/19

EV Charger Projects (cont.)

Civic Center - x2 – 4 ports, DCFC

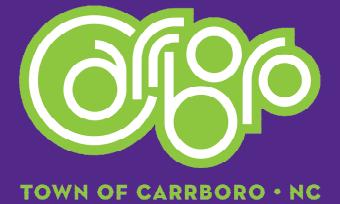
180 kWh max charging speed

F150 Lightning Extended Range (limited to 150kW charging speed):

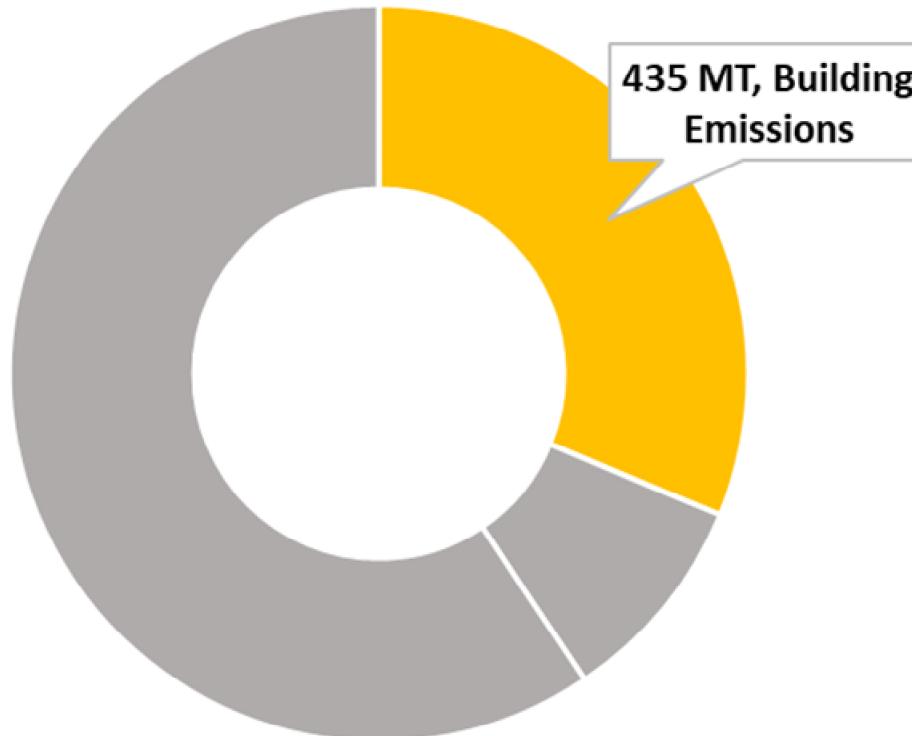
20% - 80% SOC = 39 minutes

- *Dependent on infrastructure costs*

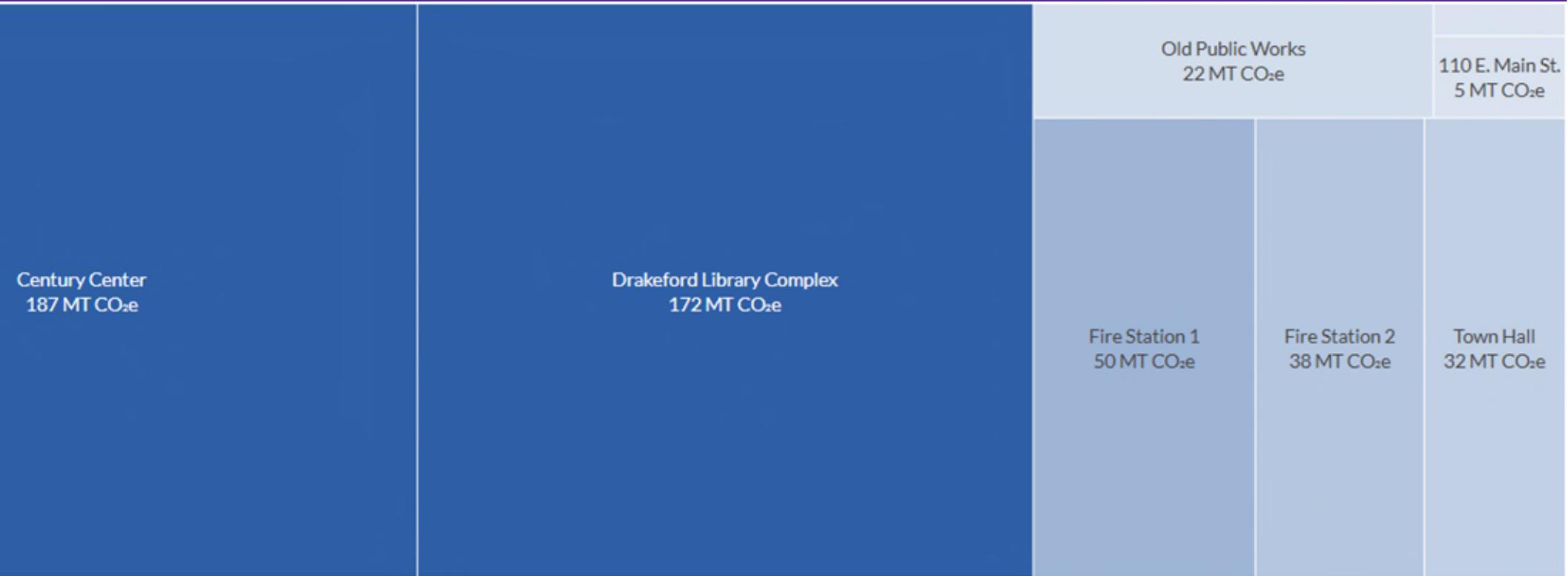
Buildings



2024 GHG Inventory



2025 Carbon Emissions So Far



January 2025 – November 2025 = 532 MTCO₂e

Buildings

Reduction in progress

- LED Retrofits
- Energy Efficiency Retrofits
- Increase HVAC energy efficiency
 - Building Controls
- Addition of Solar where possible
- Conservation!
 - Turn off lights
 - Turn down/up thermostats



Energy Audits

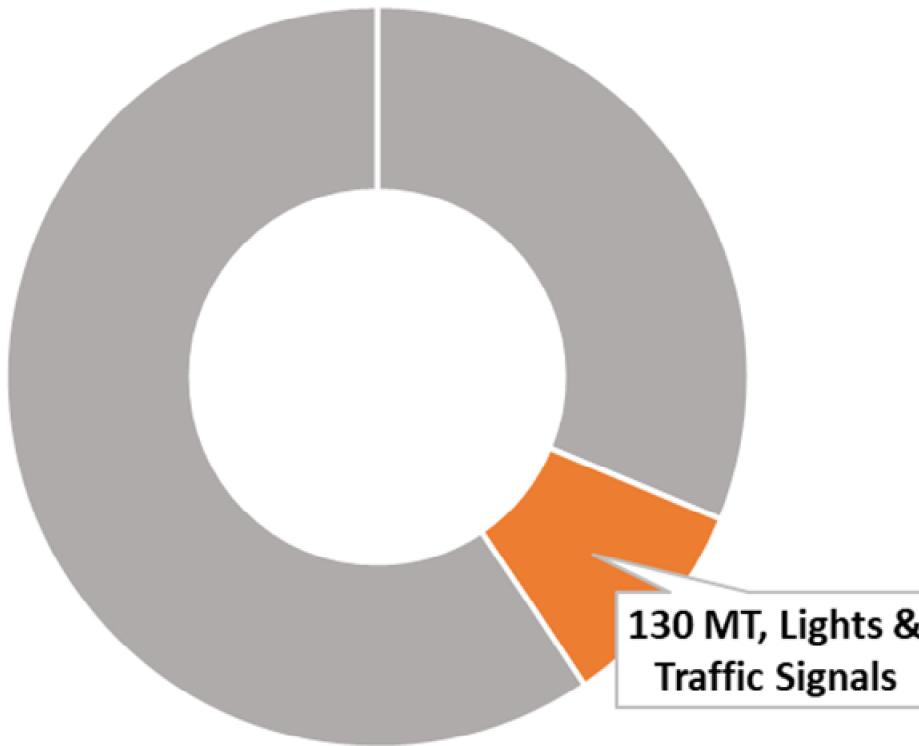
Performed by Alpha Facilities week of 11/3/2025

- Century Center (1920s) – New efficient chiller system
 - Leaky and inefficient building envelope
 - Still utilizes gas appliance including water heaters, stoves, & boiler
 - Diesel backup generator
 - No Solar
- Town Hall (1922) – A centralized HVAC system would improve energy efficiency
 - Leaky and inefficient building envelope
 - Dated and complex electrical system. 1 panel could be a possible fire hazard
 - No Solar
- Fire Station 1 (1960s)– Utilizes A roof top solar array, however shading from nearby tree is lowering energy output
 - Leaky and inefficient building envelope
 - Dated natural gas backup generator
 - 75 kW Solar Array
- Fire Station 2 (2010) – A centralized HVAC system would improve energy efficiency
 - Electrical panels are maxed out
 - Diesel backup generator
 - Solar thermal system needs repaired
 - No Solar

Lights



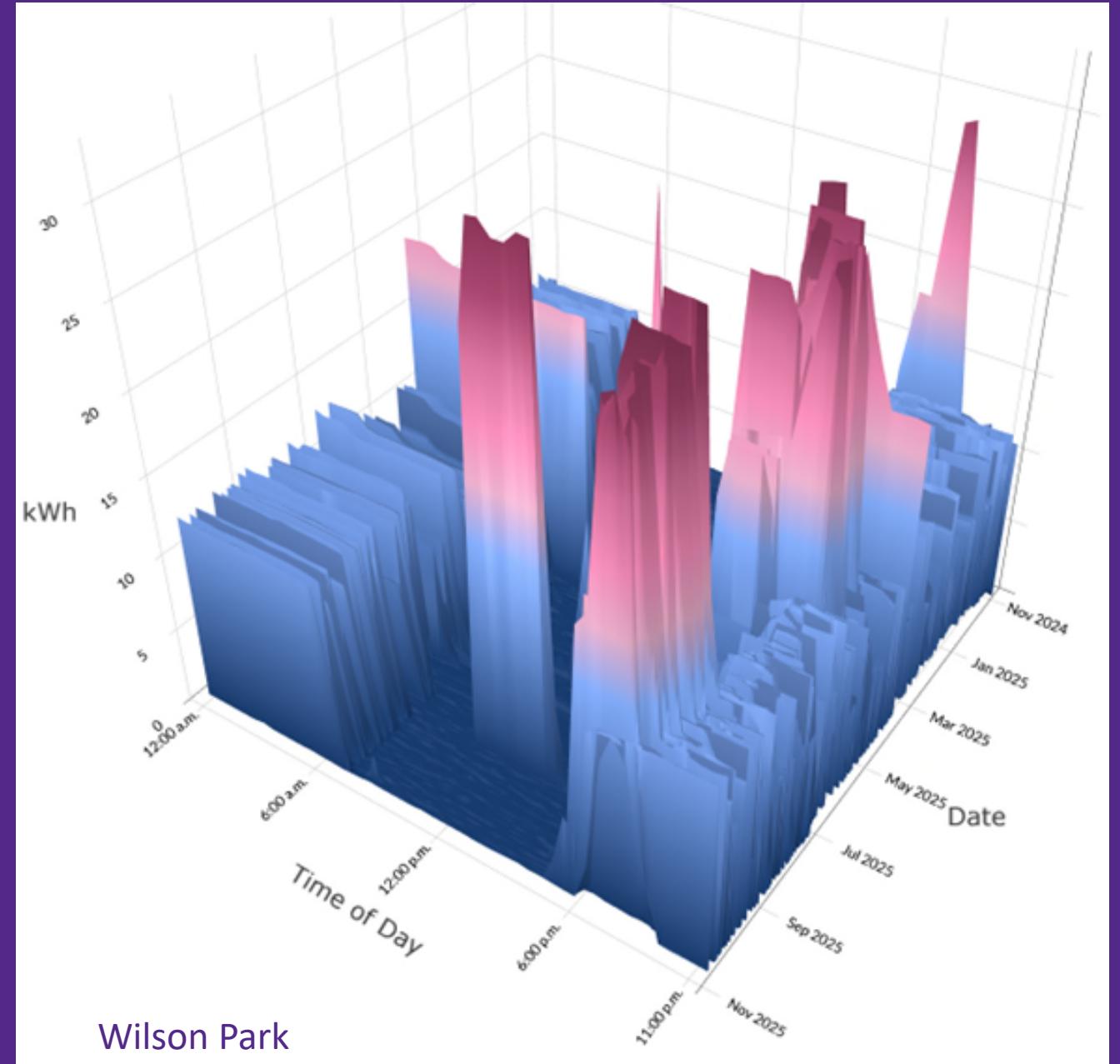
2024 GHG Inventory



Lights

What is in progress?

- Most Sports Field Lighting isn't LED
- Lighting at Wilson Park
 - 14 MTCO2e Annually
 - Estimated Cost - \$340,000
- Lighting Audit



Big Picture

Vehicle Emissions

- EV adoption and EV charging infrastructure
- Stay up-to-date with medium- and heavy-duty EV vehicle technology

Building Emissions

- Prioritize energy efficiency in new/renovation building projects
- Improve HVAC efficiency/ consolidate HVAC systems + LED retrofits
- Adding solar PV systems where possible

Lights Emissions

- Lighting Audits
- Last few LED installations

Thank you

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