STRATEGIC ENERGY PLAN 2025

Empowering Tomorrow, Sustaining Today

Discussion Topics

BACKGROUND

KEY STRATEGIES

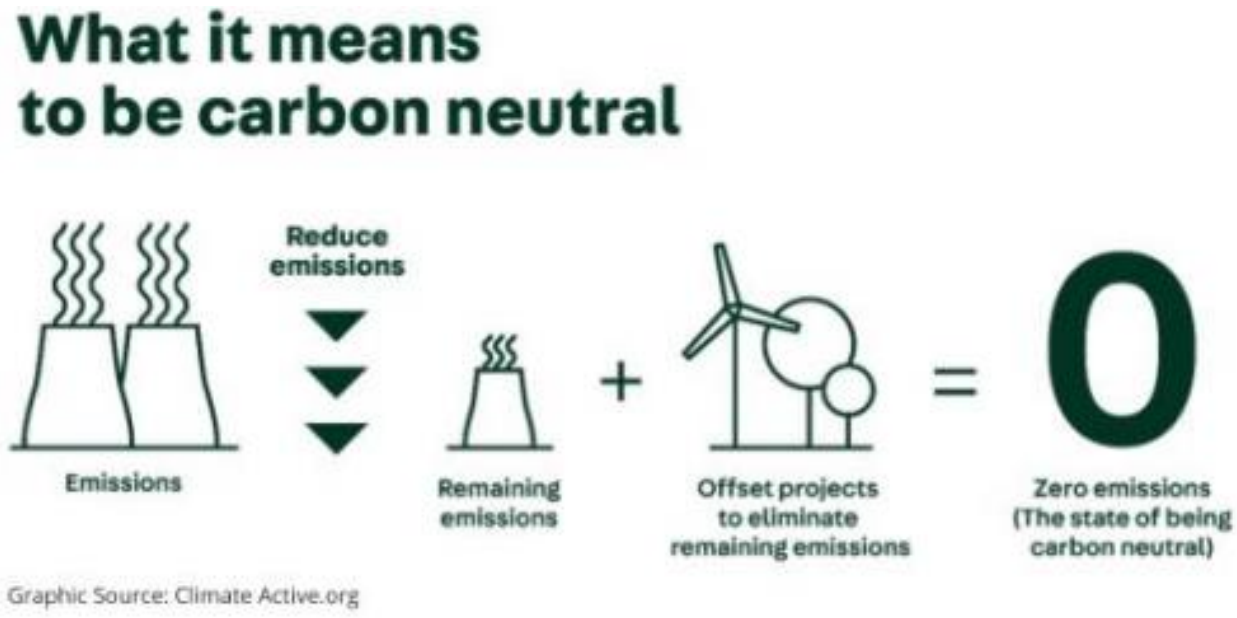
CONCLUSIONS

BACKGROUND

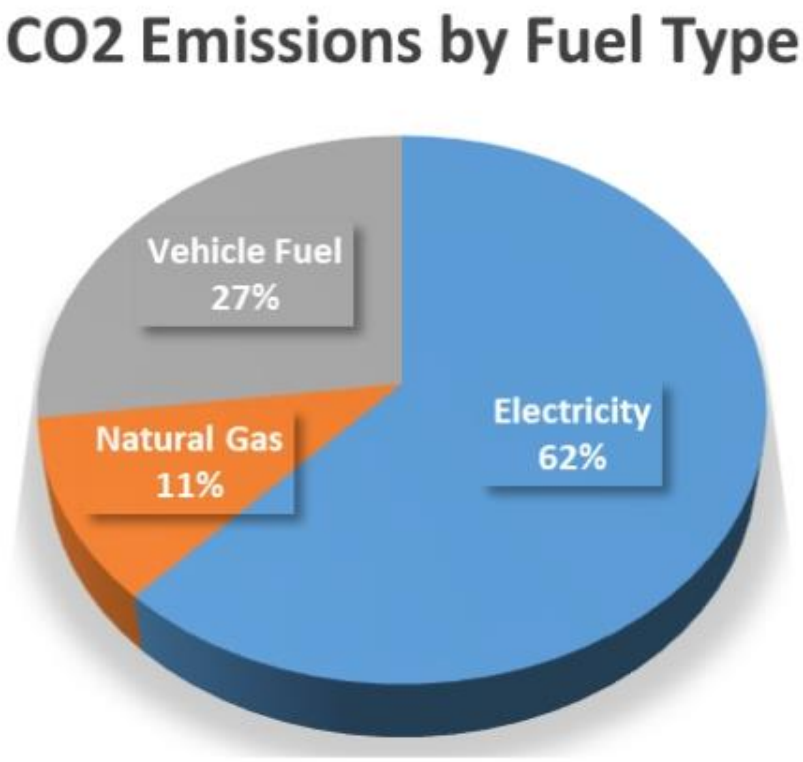
Background

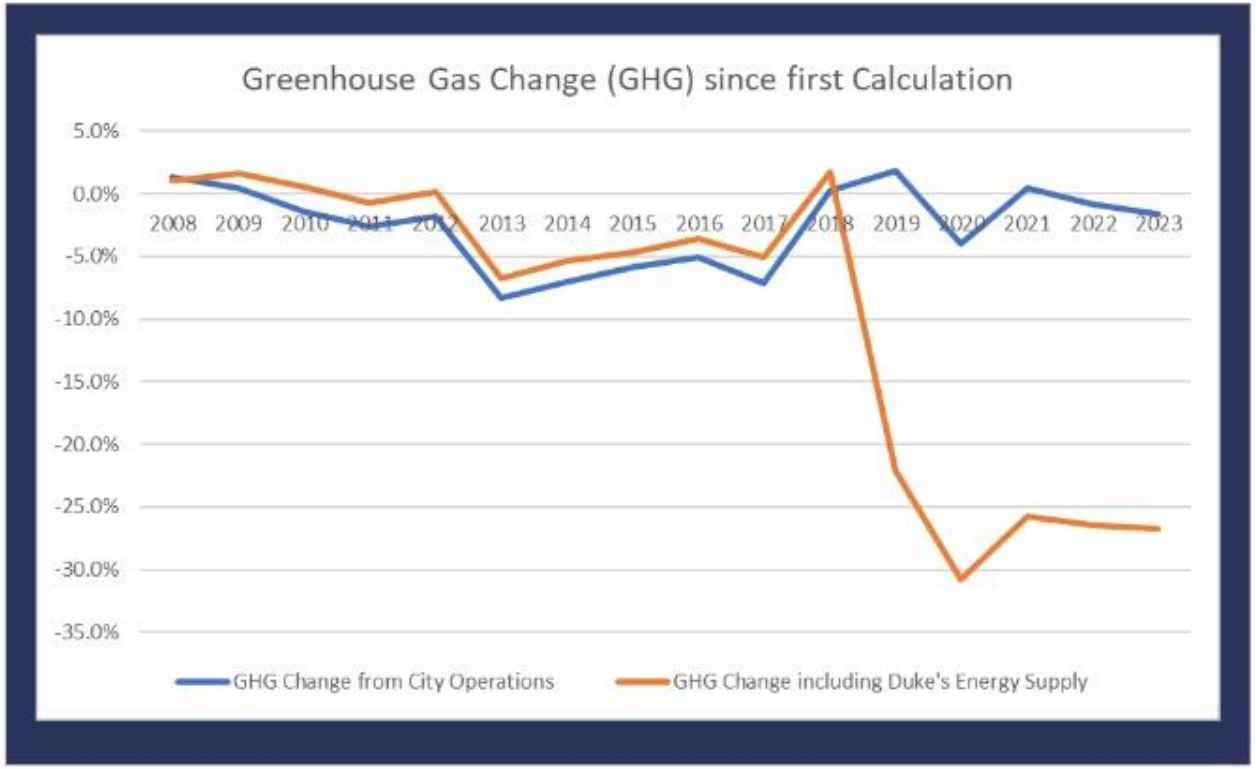
- Resolution No. 20-0499 – established goal of achieving 100% clean renewable energy by 2050

- Carbon neutrality

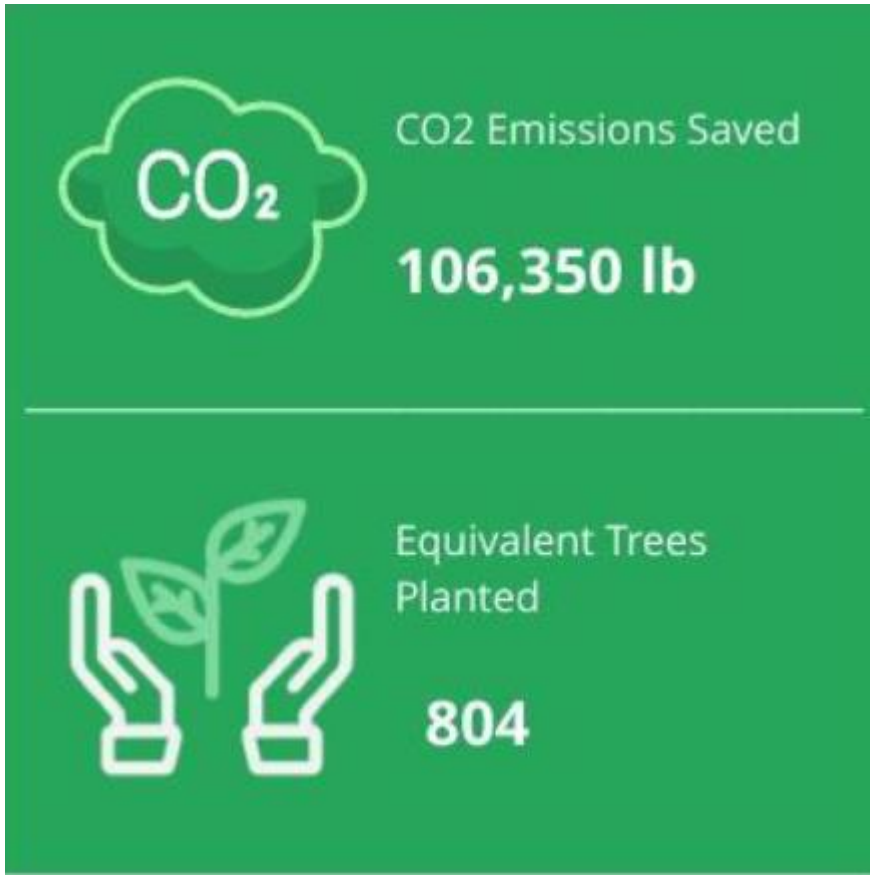


The Starting Point: City's Carbon Footprint





Renewable Energy



70 KW Solar PV system on Bryce A. Stuart Building

- Since May 2024
- Supplies ~6% of building energy

Muddy Creek Wastewater Treatment Plant biogas generator

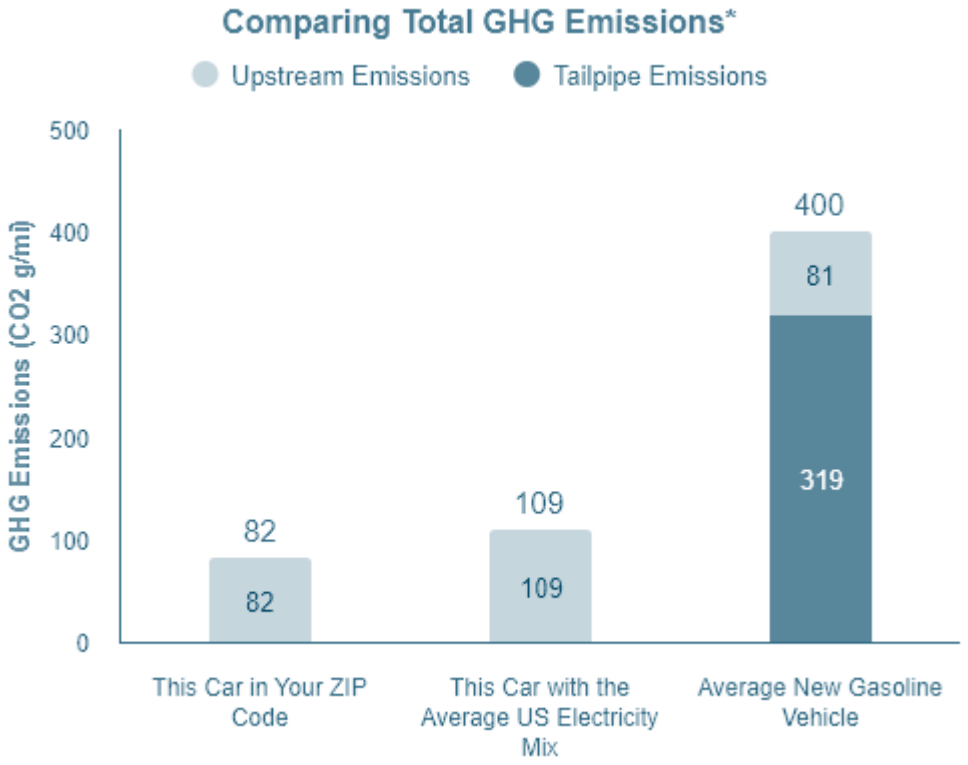
VEHICLE FUEL USAGE BY FISCAL YEAR (Gallons)		
Dept	FY 2009-10	FY 2023-24
Police	484,081	389,580
Fire	86,399	112,449
Vegetation Mgt	56,367	54,878
Recycling[1]		55,429
Sanitation	272,595	322,207
Streets & Dept of Transportation	83,143	66,177
Inspections	19,319	22,748
Utilities	277,143	180,673
Utilities Outside Fuel[2]		119,640
Recreation	29,206	29,174
Transit Authority (WSTA)	663,700	639,500
All Other	81,264	74,510
TOTAL	2,053,217	2,066,965
CO2 Emissions	20,532	20,670

1. Recycling was contracted by a 3rd party until 2023. City did not buy the fuel.

2. Utilities Outside fuel use (separate vendor provided fuel) does not have data from previous years available. This is primarily diesel fuel used for equipment at the Hanes Mill Road landfill.

3. 2009 is the first year of data on fuel that we have available to track by department.

Fleet Changes



- Electric Vehicles (EV)
  - 2024: Purchased 8 EV Vehicles
  - 2025: 6 EV vehicles on order
- Hybrids: 66 in fleet

KEY STRATEGIES

Key Strategies

1

Maximize Energy Efficiency in Fleet, Buildings, and Utilities operations

2

Expand Renewable Energy Generation

3

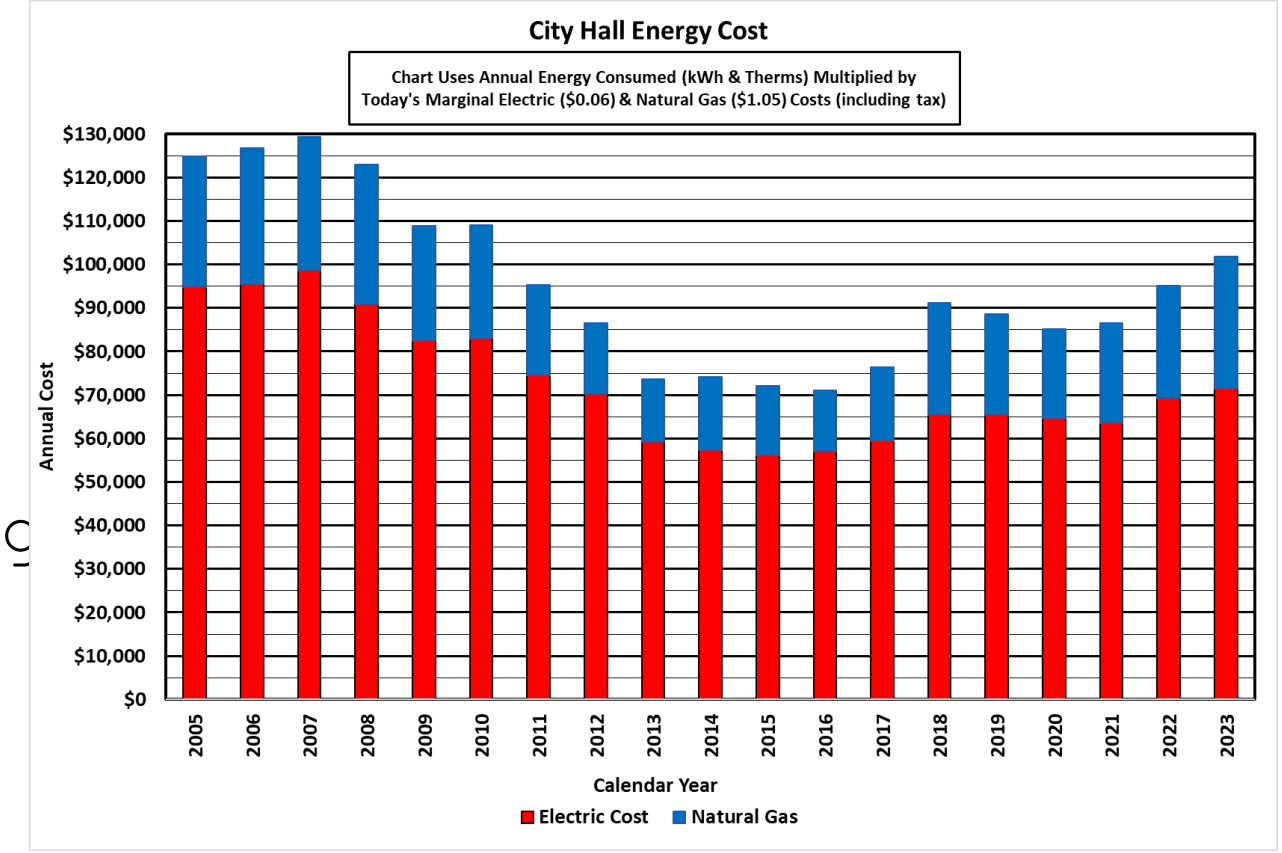
Increase Vehicle Conversion to Electrification , Hybrid, and Alternative, Clean Fuels

4

Seek Funding Opportunities and Partnerships to Support Strategic Energy Goals

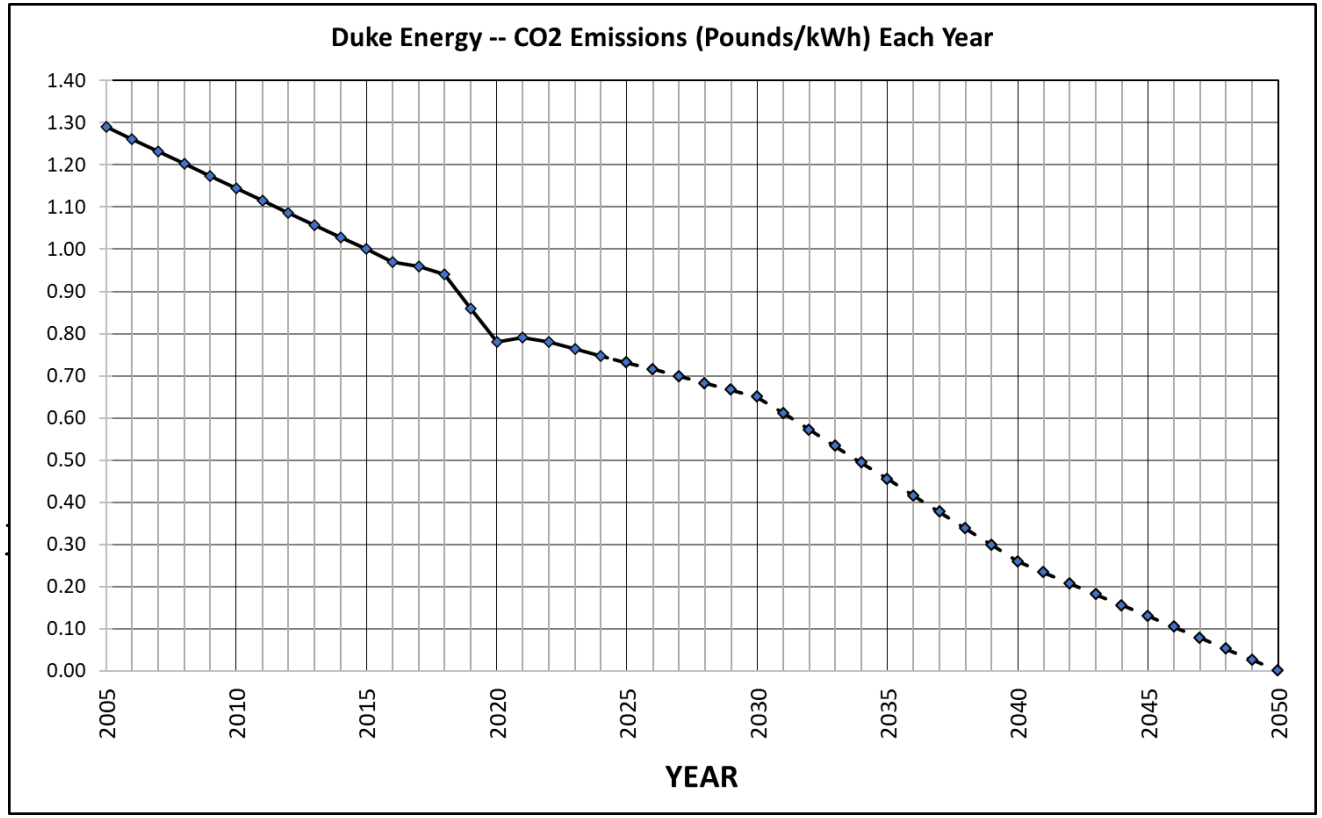
Strategy #1 Maximize Energy Efficiency in Fleet, Buildings, and Utilities Operations

- LED Lighting
- Retrocomissioning
- Building Automation Systems (BAS) and Smart Data Tools
- High Performance Building Standards
- Energy Efficient Appliance and Equipment



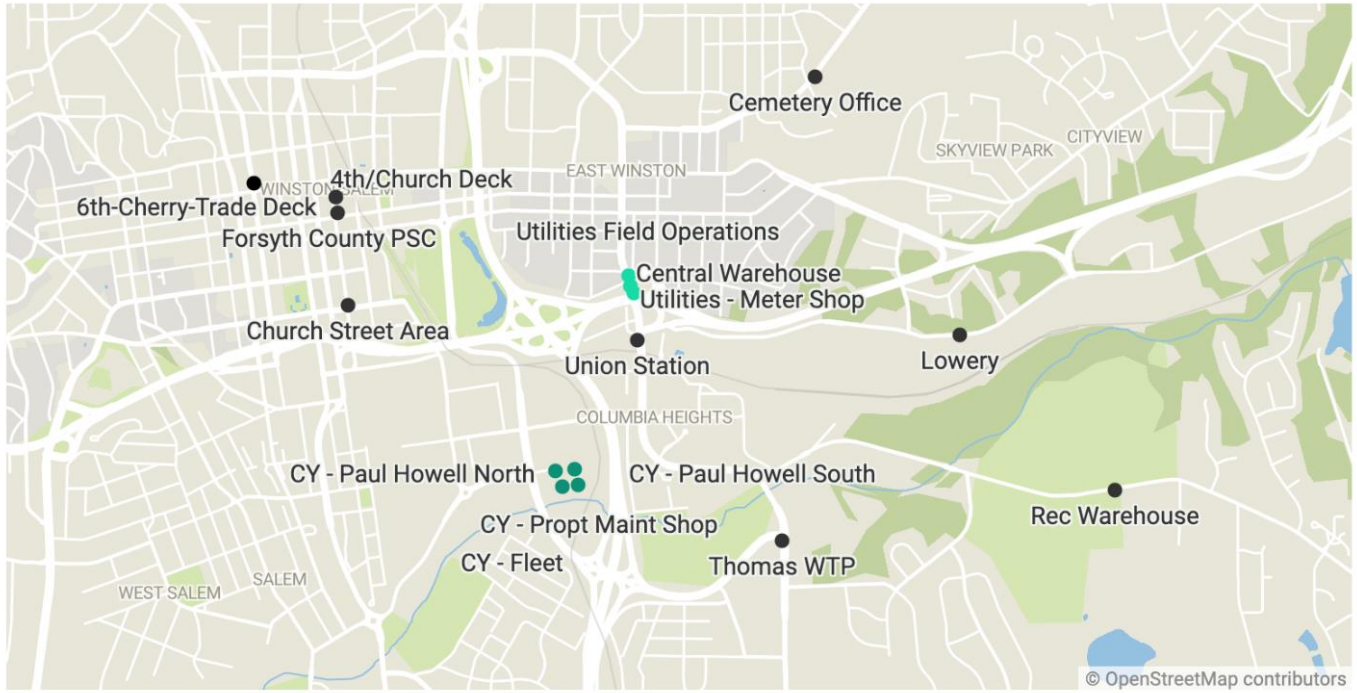
Strategy #2: Expand Renewable Energy Generation

- Expand Solar Energy
- Consider additional Biogas Generator
- Investigate Hydropower
- Advocate for continued Duke Emissions Reductio
- NOT Renewable Energy Credits (RECS)



Strategy #3: Increase Vehicle Conversion to Electrification, Hybrid and Alternative, Clean Fuels

- Transition Municipal Fleet to EV
  - Priority = Light-Duty Vehicles
  - Heavy Duty vehicles transition as adequate, cost-effective replacements are found
- Use Hybrid vehicles where EVs not available or not financially viable
- Continue to use other technologies as available (i.e. Biopropane)



Strategy #4: Seek Funding Opportunities and Partnerships to Support Strategic Energy Goals

- Pursue grants and other funding
- Continue intergovernmental collaborations
- Form alliances with educational institutions
- Recognize need in city budget, including matching funds
- Energy Performance Contracting

Public Charging on City Property

Duke Energy Partner Installed	City Owned/Operated
Carl Russell Community Center, 3521 Carver School Rd Jamison Park, 285 Meadowlark Rd Hanes Hosiery Community Center, 501 Reynolds Blvd	Central Park Tennis Courts, 803 E. Salem Ave (near the Old Salem Traffic Circle) Bailey Park, 420 N. Patterson Ave Inside the 4th/Church Parking Deck, Enter at 171 E. 4th Street

CONCLUSIONS

Conclusions

City Leadership	• Collaboration across public, private, and community sectors
Structural & Cultural Change	• Embed sustainability into organizational culture
Community Engagement	• Communicate updates and successes
Resilient Future	• Reaffirm commitment to climate action and sustainability