



Sustainable PA Conference 2023
Councilman Joel Hicks
November 3, 2023



Carlisle Borough - Track and Report

Pennsylvania Local Climate Action

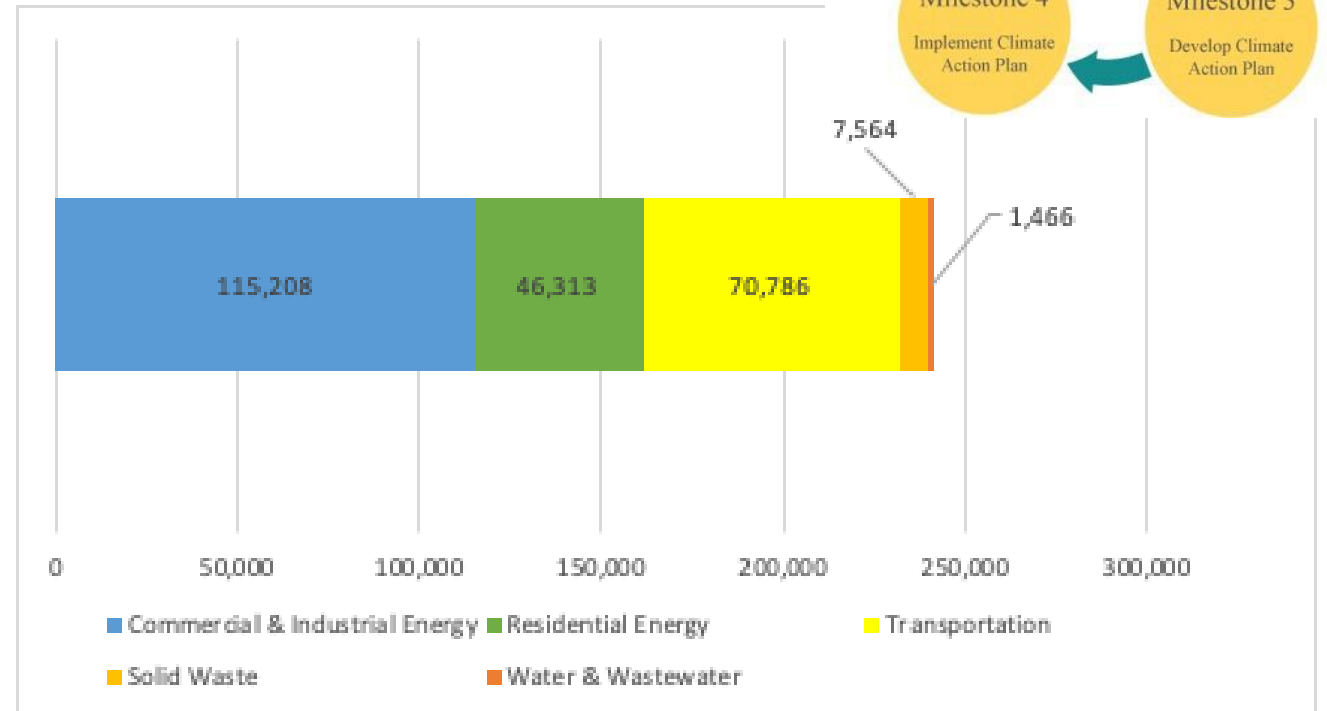
- ✓ Caln Township
- ✓ Narberth Borough
- ✓ Jermyn Borough
- ✓ **Carlisle Borough**
- ✓ Derry Township
- ✓ Armstrong Township
- ✓ Bellefonte Borough
- ✓ Indiana Borough
- ✓ Millvale Borough
- ✓ Etna Borough
- ✓ Sharpsburg Borough
- ✓ West Homestead Borough
- ✓ Borough of Munhall
- ✓ Elizabeth Township
- ✓ Borough of Forest Hills

- ✓ City of Reading
- ✓ City of York
- ✓ Chester County
- ✓ Erie County
- ✓ Centre Region
Council of
Governments

Carlisle's GHG Emissions (2017) – Completed MAY 2020



Sector	Emissions (MTCO ₂ e)	Percent of Total
Non-Residential Energy	115,208	47.7%
Residential Energy	46,313	19.2%
Transportation	70,786	29.3%
Solid Waste	7,564	3.1%
Water & Wastewater	1,466	0.6%
TOTAL	241,337	100.0%



Metric Tons Carbon Dioxide Equivalent (MTCO₂e)

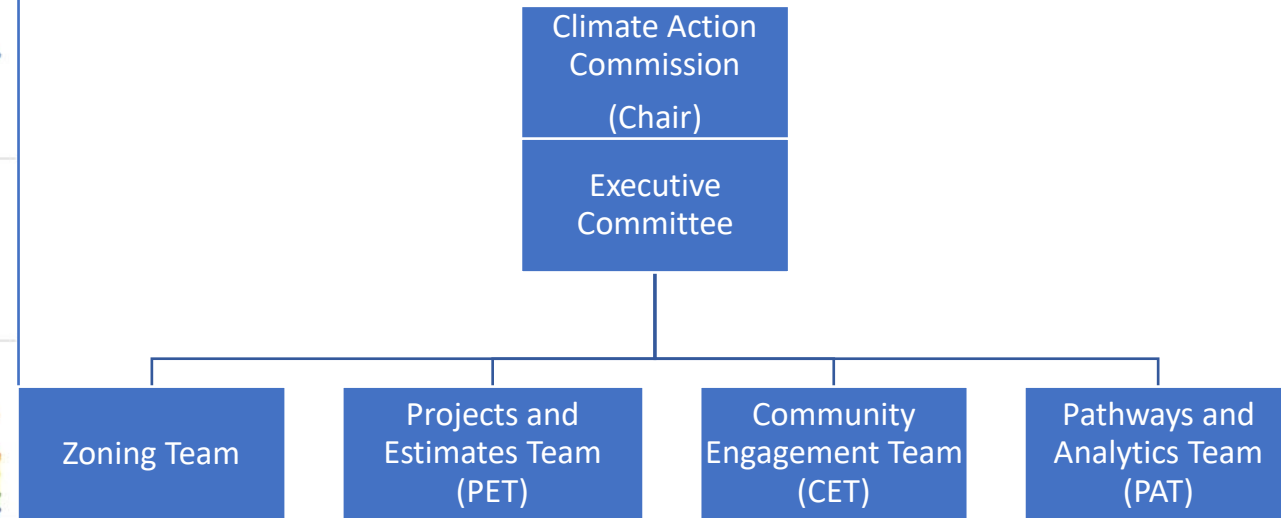
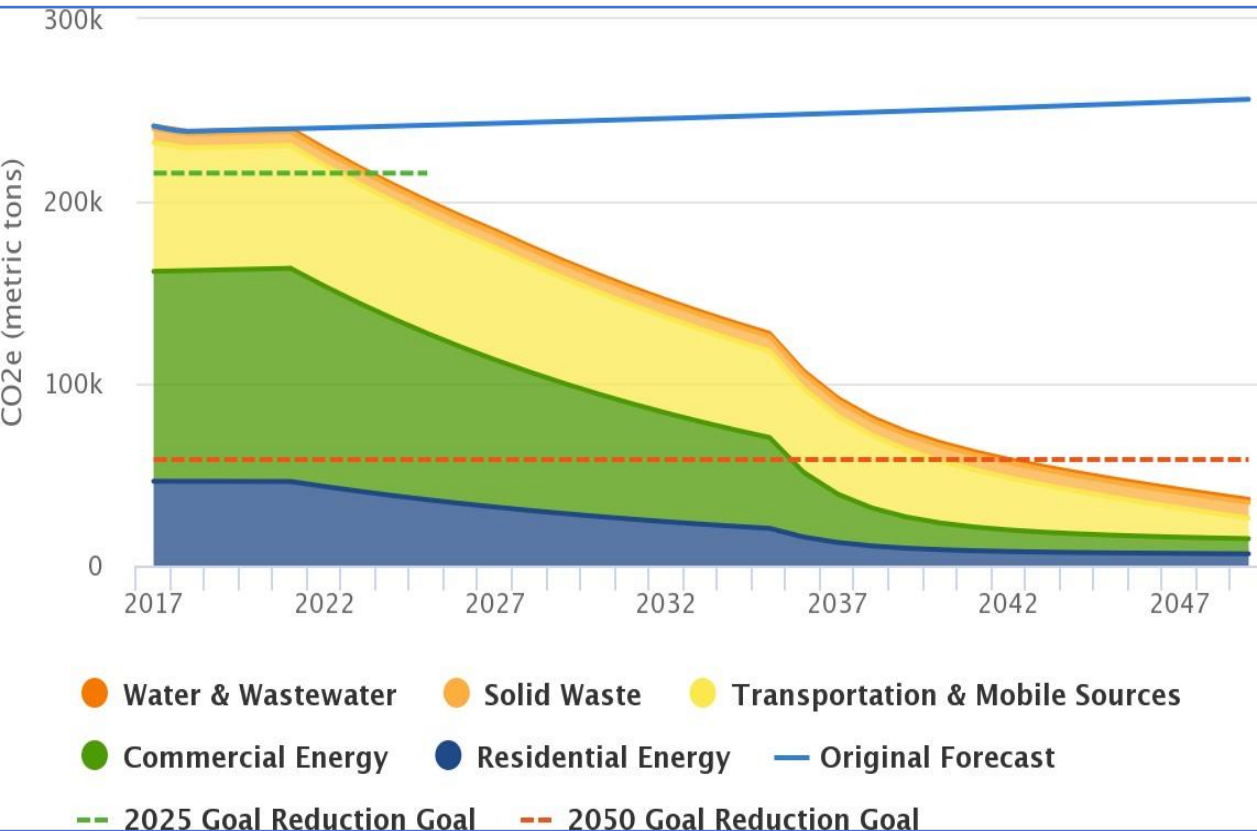
Carlisle Borough Resolution (JUL 2020)

NOW, THEREFORE, BE IT RESOLVED, That the Borough of Carlisle commit to reducing its GHG emissions 26 percent by 2025 and 80 percent by 2050, compared to 2005 levels.

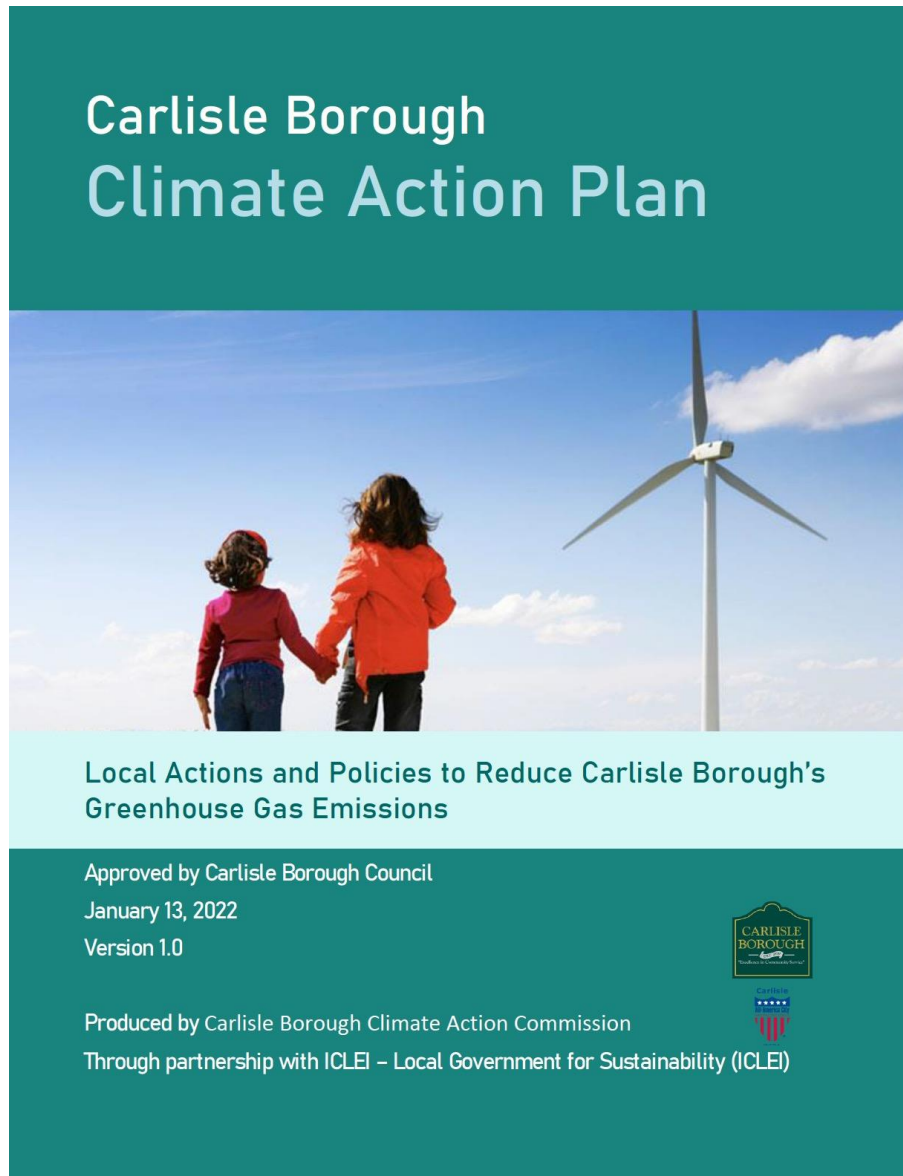
BE IT FURTHER RESOLVED, That the Borough of Carlisle commit to meeting or exceeding any future state, federal, or international governmental commitments on GHG emissions.



Climate Action Committee (JUL 2020 – DEC 2021)



Approved Climate Action Plan – JAN 2022



Implementation – Structural Changes

- Hired Director, **Sustainable Community and Economic Development**
- Codified a Standing Climate Action Committee
- Land Use Reform (LUR) subcommittee to look at increasing housing density and connecting walkable/bikeable areas
- Updating Community GHG Inventory every 5 years
- Conducted an Local Govt. Ops. GHG Inventory (2021) to inform Municipal Ops Plan



LAND USE REFORM (LUR)

LUR webpage

https://www.carlislepa.org/government/borough_departments/community_development/land_use_reform.php

6-month report

https://cms8.revize.com/revize/carlislepa/Community%20Development/Land%20Use%20Reform/GreenBook_Council%20Report%20July%202023.pdf

Top Recommendations

<https://cms8.revize.com/revize/carlislepa/Community%20Development/Land%20Use%20Reform/Land%20Use%20Reform%20Presentation.pdf>

Municipal Operations and Waste Management

Objective M1: Adapt local ordinances and regulations to encourage carbon reduction strategies.

- Formed a Land Use Reform (LUR) subcommittee to look at increasing housing density and connecting walkable/bikeable areas:
 - Reduced Minimum Parking Rqmts (draft ordinance)
 - Rezoned for better multimodal access – increase housing density
 - Looking at Maximum Parking Rqmts
 - Drafting Accessory Dwelling Unit (ADU) ordinance

Objective M2: Reduce energy use in municipal buildings by 50% in 2035 and achieve net-neutrality by 2050.

- pre-energy audit information for all Borough facilities provided to a qualified consultant to evaluate GESA program and/or energy reduction goals (site visits and report pending anticipated November-December '23)
- solar powered trash compactors for select park areas installed in 2023
- ongoing evaluation of a comprehensive biosolids management plan that identifies the most cost-effective, safe and beneficial re-use of biosolids; November 1ST presentation to Borough Council on proposed approach & estimated cost in draft FY24 budget)
- Evaluation of green roof installation at the water plant

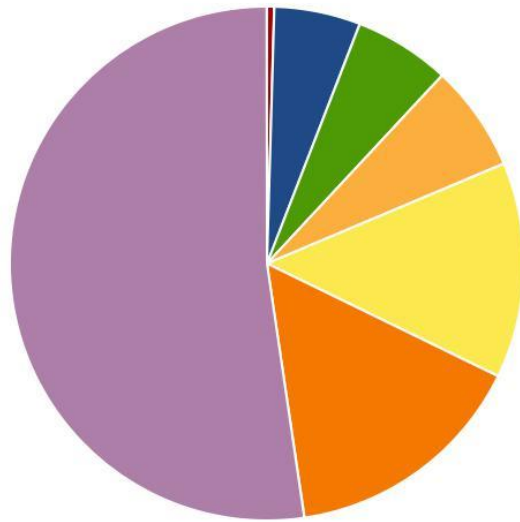
Objective WR1: Reduce amount of non-recyclable materials

Objective WR2: Improve community composting facilities to include food waste and divert 50% of compostable waste from landfills by 2035 and 100% by 2050

- Evaluating in-house solid waste management options that could involve efficient gas-to-energy and reduce transportation emissions from hauls to private landfills. Could include composting and/or processing of food waste.

Carlisle's Govt. Operations GHG Emissions (2021) – Completed JUN 2022

CO2e By Category



Sector	CO2e
Buildings & Facilities	560
Street Lights & Traffic Signals	277
Vehicle Fleet	638
Employee Commute	249
Solid Waste Facilities	223
Water & Wastewater Treatment Facilities	2,158
Process & Fugitive Emissions	19

- Process & Fugitive Emissions
- Solid Waste Facilities
- Employee Commute
- Street Lights & Traffic Signals
- Buildings & Facilities
- Vehicle Fleet
- Water & Wastewater Treatment Facilities

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gles #1299

Frog Switch &
Manufacturing

E High St



Dunkin' E High St

74

The Residences
at Seven Gables

Letort Park

Momma Spriggs

GIANT





FROG SWITCH: UM

REZONE SINGLE USE TO UM

Potential Uses for Old Factory Site Survey

381 responses

Do you live, work, or own a business in the Borough of Carlisle?

381 out of 381 answered

Yes

333 resp. 87.4%



Residential Buildings

Objective R1: Reduce energy use in residential buildings by and 40% in 2050.

- Energy assistance grant program funded by CDBG in the amount of \$20,000 (no cost share and only contingent on a low/mod income property owner staying for 5 years)

Objective R2: Residential Electrification. Reduce use of natural gas, fuel oil, or propane for space and/or water heating (60% of Carlisle households in 2017) by switching 50% to electricity by 2035 and 80% by 2050.

Objective R3: Increase residential and commercial awareness of renewable generation providers, including through PA PowerSwitch

Objective R4: Increase the percentage of households with rooftop PV solar installations -or- residents who are participants in commercial solar projects to 10% by 2025, 25% by 2035, and 40% by 2050.

Objective R5: Tree planting, natural landscapes and reduction of lawn maintenance.

- Lawn to meadow conversion and tree plantings installed at the yard waste compost site and wastewater treatment plant (FY22, FY23)

Updating GHG inventory Results

- Final 2022 Community GHG Inventory to be completed in DEC 2023
- Residential Electricity Usage (usage up 12%) Population Growth = 5.4%

Year	Population	kWhs	MT CO ₂ eq	Emissions per capita
2017	19,074	82,145,847	28,391	1.49
2022	20,118	92,045,628	28,225	1.40

- Residential Natural gas Usage (usage up 4%) Population Growth = 5.4%

Year	Population	therms	MT CO ₂ eq	Emissions per capita
2017	19,074	204,514	10,877	0.57
2022	20,118	212,662	11,311	0.56

Transportation

Objective T1: Increase the adoption of electric and alternative energy vehicles in the vehicle fleet.

- 2 EV chargers were installed in the parking garage to serve 4 existing compact parking stalls as a pilot to encourage EV use in the downtown



Objective T2: Convert the entire municipal light-duty vehicle fleet to electric by 2035 and convert remaining medium and heavy-duty municipal vehicle fleet to electric by 2050.

- ~50% of police vehicle fleet is converted to hybrid as part of the capital improvement program (CIP)
- Alternative Fuels Incentive Grants (AFIG) for \$35,000 will support the purchase of 5 EV vehicles
- FY23 purchase of 3 e-bikes and 500 total miles to date by staff in SCEP - offsetting code patrol miles that would have been truck IC VMT.



Objective T3: Reduce community vehicles miles travelled (VMT) 10% by 2035 and 25% by 2050.

- Vision Zero resolution adopted by Borough Council to plan an active transportation program for safety and reduce/replace IC VMT
- Applied for TASA and Multimodal grants for shared use paths planned on Noble Boulevard and Waggoners Gap Road
- Completed traffic calming projects on West Willow, Wilson, and North Bedford Streets to reduce pavement area and replacement costs

Commercial Buildings

Objective C1: Increase rooftop efficiency and solar potential on warehouses and other commercial businesses over a 25 year time span as roofs are replaced.

Objective C2: Reduce energy use in commercial buildings by 20% in 2035 and 40% in 2050.

Objective C3: Reduce fossil fuel use in existing commercial buildings by at least 25% by 2035, 50% by 2040, and 80% by 2050.

Objective C4: Improve stormwater management, incl. agricultural carbon sinks

Other

- Drafting ordinance to ban single-use plastic (SUP) bags
- Evaluating feasibility of Community Choice Aggregation for borough residents
 - Would include an “opt out” option
 - Insights into PAMeterSwitch data would help us assess our goals
→ currently no insights

Issues

- Buildings
 - Reaching goals w/o increased local ability to set building code standards is debilitating
 - Principal-Agent Problem – Need help getting landlords to make energy efficient improvements to buildings [owner-occupied housing = 48.5%]
- Community Solar? When will this ever get out of committee?
- Need to reduce the “soft costs” of rooftop solar
- Lack of Traffic Control in Borough
 - Two major interstates pass thru borough boundaries
 - Both major borough roads are state-owned
 - 2022 data from Tricounty Regional Planning Authority (TCRPA)
 - 48% of VMT from Passenger vehicles [< class 6] is completely pass-thru
 - 82% of VMT from Heavy Freight vehicles [class 6-13] is completely pass-thru