CITY OF FORT LAUDERDALE, FL 2022 & 2023 GREENHOUSE GAS EMISSIONS INVENTORY REPORT

Community and Government Operations

CITY OF FORT LAUDERDALE

Original Report Release: August 2026

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Glossary

Agriculture, Forestry & Other Land Use (AFOLU): The category of emissions and removals associated with a variety of managed ecosystems, including livestock (enteric fermentation and manure management), land use and land use change (e.g., forested land being cleared for cropland or settlements), and aggregate sources and non-CO_2 emission sources on land (e.g., fertilizer application and rice cultivation). In the City's community inventories, this includes carbon dioxide sequestered from trees, which is classified as negative emissions and is included in the total emissions. (GHG Protocol for Cities | GHG Protocol)

Baseline Emissions: The emissions from a specified year that serve as the reference point against which an organization's greenhouse gas (GHG) emissions will be compared going forward and is used to set emissions reduction targets. (Baseline Emissions: What Are They & How To Calculate | Trace) For the purpose of the City of Fort Lauderdale, the baseline emissions are those from the year 2019.

Carbon Dioxide (CO_2): A naturally occurring gas, also a by-product of burning fossil fuels from fossil carbon deposits, such as oil, gas and coal, of burning biomass and of land use changes and other industrial processes. It is the principal anthropogenic greenhouse gas that affects the Earth's radiative balance. It is the reference gas against which other greenhouse gases are measured and therefore has a Global Warming Potential of 1. (IPCC Glossary , 2025)

Carbon Dioxide Equivalent (CO_2e): A metric measure used to compare and aggregate the emissions from various greenhouse gases on the basis of their global-warming potential (GWP), by converting amounts of other gases to the equivalent amount of carbon dioxide with the same global warming potential. The carbon dioxide equivalent for a gas is derived by multiplying the tons of the gas by the associated GWP. (Glossary: Carbon dioxide equivalent - Statistics Explained - Eurostat)

Carbon Sequestration: The capture and secure storage of carbon that would otherwise be emitted to or remain in the atmosphere. (Carbon sequestration | Integrated Crop Management, 2003)

Climate Resilience: The ability to anticipate, prepare for and respond to acute shocks, disruptions and hazardous events or longer-term, chronic stressors related to or exacerbated by climate change. (RCAP Glossary of Terms - Southeast Florida Regional Climate Compact, 2023)

Emissions: Releases of gases to the atmosphere (e.g. the release of carbon dioxide during fuel combustion). Emissions can be either intended or unintended releases in the case of *fugitive emissions.* (UNFCC Glossary)

Emissions Factor: A measure of how much carbon dioxide, methane, or greenhouse gases are emitted into the atmosphere due to a specific quantified activity. Emissions factors are commonly reported for electrical utilities, indicating the amount of CO_2 produced per unit of energy consumed. (What is an Emission Factor? - Greenly)

Emissions Inventory: A quantification of the greenhouse gases emitted to the atmosphere during a specific period, typically a calendar year. Inventories allow for the tracking of emissions by source and sector and can be used to plan actions to reduce emissions. (Emission Inventory Activities | California Air Resources Board, 2025)

Electric Vehicles (EV) – Vehicles, also known as battery electric vehicles (BEVs), that have an electric motor and are powered by electricity from an onboard source instead of an internal combustion engine. The vehicle uses a large traction battery pack to power the electric motor and must be plugged into an external electric source or charging equipment, also called electric vehicle supply equipment (EVSE). Because it runs on electricity, the vehicle emits no exhaust from a tailpipe and does not contain the typical liquid fuel components, such as a fuel pump, fuel line, or fuel tank. (Alternative Fuels Data Center: How Do All-Electric Cars Work?)

Hybrid-Electric Vehicles (HEV) – Vehicles that are powered by an internal combustion engine in combination with one or more electric motors that use energy stored in batteries. HEVs combine the benefits of high fuel economy and low tailpipe emissions with the power and range of conventional vehicles. (Alternative Fuels Data Center: Hybrid Electric Vehicles)

Plug-in Hybrid Electric Vehicles (PHEV) - Vehicles that are powered by an internal combustion engine (ICE) in combination with one or more electric motors that use energy stored in batteries and that allow charging of the electric batteries when plugged into an external electric source. PHEV batteries can be charged using a wall outlet or charging equipment, by the ICE, or through regenerative braking. The vehicle typically runs on electric power until the battery is nearly depleted, and then the car automatically switches over to use the ICE. (Alternative Fuels Data Center: How Do Plug-In Hybrid Electric Cars Work?)

Fossil Fuel: Energy sources that are combusted to generate energy and are derived from organic materials formed from decayed plants and animals that have been converted to crude oil, coal, natural gas, or heavy oils by exposure to heat and pressure in the earth's crust over hundreds of millions of years. (Glossary of Climate Change Terms | Climate Change | US EPA, 2017)

Fortify Lauderdale: A community initiative focused on improving resilience to the impacts of climate change within the City's most affected neighborhoods and communities. The program includes an expansion of the first phase of Stormwater Master Plan projects, as well as the acceleration of the second phase of the Master Plan's implementation. (Fortify Lauderdale | City of Fort Lauderdale, FL)

Fugitive Emissions: Emissions that are not emitted through an intentional release through stack or vent. This can include leaks from natural gas lines, industrial plants, and pipelines. (IPCC, 2006)

Global Warming Potential: A relative measure of the total energy that a gas absorbs over a particular period (usually 100 years), compared to carbon dioxide. (Glossary of Climate Change Terms | Climate Change | US EPA, 2017)

Greenhouse Gases (GHG): Any gas that absorbs infrared radiation in the atmosphere and thus contributes to global warming and climate change. Greenhouse gases include carbon dioxide, methane, nitrous oxide, ozone, chlorofluorocarbons, hydrochlorofluorocarbons, hydrofluorocarbons, perfluorocarbons, sulfur hexafluoride. (Greenhouse gas | Definition, Emissions, & Greenhouse Effect | Britannica, 2024)

Heat Island: Urbanized areas that experience higher temperatures than outlying areas due to structures such as buildings, roads, and other infrastructure that absorb and re-emit the sun's heat more than natural landscapes such as forests and water bodies. (What Are Heat Islands? | US EPA, 2025)

Hydrofluorocarbons (HFCs): Compounds containing only hydrogen, fluorine, and carbon atoms. They were introduced as alternatives to ozone depleting substances in serving many industrial, commercial, and personal needs. Often used as a refrigerant and appear in various chemical structures such as HFC-23 (CHF_3) and HFC-134a (CF_3CH_2F). (Hydrofluorocarbon (HFC) | Definition, Characteristics, & Facts | Britannica, 2023)

Metric ton (MT): A unit of weight equal to 1,000 kilograms. It is commonly used to quantify CO_2e emissions. (METRIC TON Definition & Meaning - Merriam-Webster)

Methane (CH4): A hydrocarbon that is a greenhouse gas with a global warming potential most recently estimated at 25 times that of carbon dioxide (CO_2). Methane is produced through anaerobic (without oxygen) decomposition of waste in landfills, animal digestion, decomposition of animal wastes, production and distribution of natural gas and petroleum, coal production, and incomplete fossil fuel combustion. (Overview of Greenhouse Gases | Greenhouse Gas (GHG) Emissions | US EPA, 2017)

Million Metric British Thermal Units (MMBtu): A common unit of measure for energy, including energy from both electricity and natural gas. *British thermal unit* (Btu) is a measure of the heat content of fuels or energy sources. One Btu is the quantity of heat required to raise the temperature of one pound of liquid water by 1° Fahrenheit (F) at the temperature that water has its greatest density (approximately 39° F). (British thermal units (Btu) - U.S. Energy Information Administration (EIA), 2024)

Nitrous Oxide (N_2O): A powerful greenhouse gas with a global warming potential of 298 times that of carbon dioxide (CO_2). Major sources of nitrous oxide include soil cultivation practices, especially the use of commercial and organic fertilizers, fossil fuel combustion, nitric acid production, and biomass burning. (Overview of Greenhouse Gases | Greenhouse Gas (GHG) Emissions | US EPA, 2017)

Non-Energy Emissions: Emissions associated with sectors using or producing halogenated gases, the electric transmission and distribution system (using sulfur hexafluoride as an insulator); the natural gas transmission and distribution system; agriculture (enteric fermentation, manure and soil management), waste management, industrial processes other than fuel consumption, and natural land clearing. (New Jersey Greenhouse Gas Emissions Inventory Report, 2024)

"Renewable" Natural Gas (RNG): A pipeline-quality biogas derived from sources that may include municipal solid waste landfills and anaerobic digester plants at water resource recovery facilities (wastewater treatment plants), livestock farms, food production facilities and organic waste management operations and that is fully interchangeable with conventional natural gas and thus can be used in natural gas vehicles. RNG is essentially biogas (the gaseous product of the decomposition of organic matter) that has been processed to purity standards. Like conventional natural gas, RNG can be used as a transportation fuel in the form of compressed natural gas (CNG) or liquefied natural gas (LNG). (Alternative Fuels Data Center: Renewable Natural Gas Production, 2023)

Scope 1: Direct greenhouse gas (GHG) emissions that occur from sources that are controlled or owned by an organization (e.g., emissions associated with fuel combustion in boilers, furnaces, vehicles). (Scope 1 and Scope 2 Inventory Guidance | US EPA, 2025)

Scope 2: Indirect greenhouse gas GHG emissions associated with the purchase of electricity, steam, heat, or cooling. (Scope 1 and Scope 2 Inventory Guidance | US EPA, 2025)

Scope 3: Indirect greenhouse gas (GHG) emissions that are the result of activities from assets not owned or controlled by the reporting organization, but that the organization indirectly affects in its value chain. An organization's value chain consists of both its upstream and downstream activities. Scope 3 emissions include all sources not within an organization's scope 1 and 2 boundary. Examples include emissions from out-of-boundary portions of transboundary vehicle trip and emissions associated with disposal of solid waste outside the city boundary. (Scope 3 Inventory Guidance | EPA Center for Corporate Climate Leadership | US EPA, 2021)

Sulfur Hexafluoride (SF6): Long lived greenhouse gas used as an electrical insulator in high-voltage equipment that transmits and distributes electricity. (Sulfur Hexafluoride (SF6) Basics | US EPA, 2025)

Tree Canopy: Refers to the upper portion of a tree consisting of limbs, branches, and leaves. (What Are Tree Canopies? - Definition and Importance, 2024)

Vehicle Miles Travelled (VMT): A measure of the amount of travel for all vehicles in a geographic region over a given period of time, typically a one-year period. VMT is calculated by adding up all the miles driven by all the cars and trucks on all the roadways in a region. (Methodologies used to estimate and forecast vehicle miles traveled (VMT): final report., 2016)

Executive Summary

Fort Lauderdale, Florida is known as “The Venice of America” with its coastal location and over 165 miles of canals. This oceanside location and ready access to navigable waterways draws millions of tourists to the region each year and establishes the City’s reputation as the yachting capital of the world. However, its coastal geography also makes the City highly vulnerable to climate impacts such as sea level rise, increased rainfall, flooding, more intense storms and hurricanes, and hotter and longer seasons. In April 2023, the City experienced an unprecedented 26 inches of rainfall within 12 hours, resulting in life-threatening flash flooding that rendered roadways impassable, impacted homes and businesses, shut down the Fort Lauderdale-Hollywood International Airport, and flooded City Hall. Additionally, record-breaking high tides in recent years have resulted in chronic flooding in low-lying areas[1]. In response to these climate impacts, the City is making substantial investment in increasing resiliency by expanding its Fortify Lauderdale[2] program to address flooding issues in the 25 neighborhoods most vulnerable to flooding. Meanwhile, rising temperatures are increasing energy demand and energy costs, especially among low-income populations. “In the Southeast Florida region, nearly a quarter of households are highly or severely energy burdened, defined as 6 to 10% of gross monthly income spent on energy bills, while severely burdened households spend greater than 10% of their gross income.”[3]. Without targeted investments in energy efficiency and renewable energy, this rising demand could further drive emissions, disproportionately impacting low-income communities who are least equipped to adapt.

Emission Reduction Goals

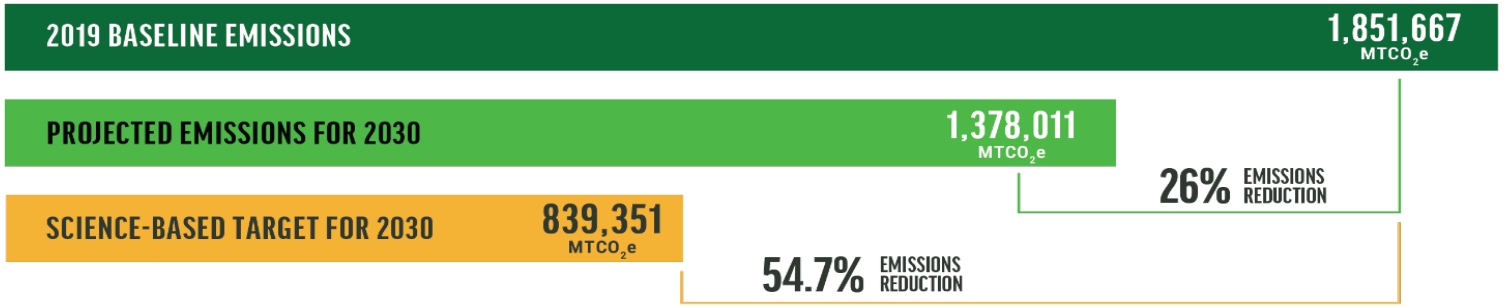
The City recognizes the importance of reducing greenhouse gas (GHG) emissions to mitigate climate impacts under increasingly challenging conditions. Over the past several years, Fort Lauderdale has taken a series of actions to formalize and refine its commitments starting with a 20% reduction by 2020 in the 2011 Sustainability Action Plan and “to reduce greenhouse gas emissions generated by government operations with the goal of achieving 80% reduction below 2010 levels by 2050” in the Advance Fort Lauderdale Comprehensive Plan. The City established a science-based target of reducing communitywide emissions by 54.7% by 2030 relative to the 2019 baseline. However, further evaluation indicates that achieving this level of reduction within the remaining timeframe is unlikely. Accordingly, the City has set a more achievable interim target of a 26% communitywide emissions reduction by 2030 (as shown in Figure 1).

[1] King Tides and High Tides | City of Fort Lauderdale, FL

[2] Fortify Lauderdale | City of Fort Lauderdale, FL

[3] Regional Energy Efficiency Action Plan: Addressing Energy (In)equity in Southeast Florida - Southeast Florida Regional Climate Compact

Figure 1. 2030 Community Projected Greenhouse Gas Emissions ($MTCO_2e$) and 2030 SBT for Fort Lauderdale Compared to the 2019 Baseline



* Importantly, the 2019 communitywide baseline emissions have been revised to reflect improved accounting methodologies. This involved incorporating emissions sequestration from the City's urban forest. The 2019 community baseline was updated from **1,851,667** metric tons of CO_2e to **1,809,332** metric tons of CO_2e. In addition, the 2019 government baseline emissions were updated from **50,567** $MTCO_2e$ to **51,866** $MTCO_2e$ due to a revision in the calculation methodology for employee commute emissions to more accurately calculate total annual vehicle miles travelled (VMT) and due to a change in emissions from solid waste facilities. See appendix – detailed methodology for more information on this.

The City included these emissions reduction targets, communitywide emissions data as of 2021, and information on climate adaptation and resilience initiatives in its Carbon Disclosure Project (CDP) submission. This disclosure supports transparency and accountability by clearly documenting progress over time. Ongoing tracking of greenhouse gas emissions from both community and government operations enables the City to assess progress, identify sectors with the highest emissions, and prioritize future emissions reduction strategies.

Summary of community and government emissions in 2022 and 2023

2022: the City of Fort Lauderdale emitted a total of 1,816,661 metric tons of CO_2e communitywide and 54,655 metric tons of CO_2e in its government operations, marking a 0.41% increase in communitywide emissions since 2019 and a 5.4% increase in government emissions compared to 51,866 metric tons emitted in 2019.

2023: the City of Fort Lauderdale emitted a total of 1,779,702 metric tons of CO_2e communitywide and 53,519 metric tons of CO_2e in its government operations, marking a 1.64% decrease in communitywide emissions since 2019 and a 3.2% increase in government emissions.

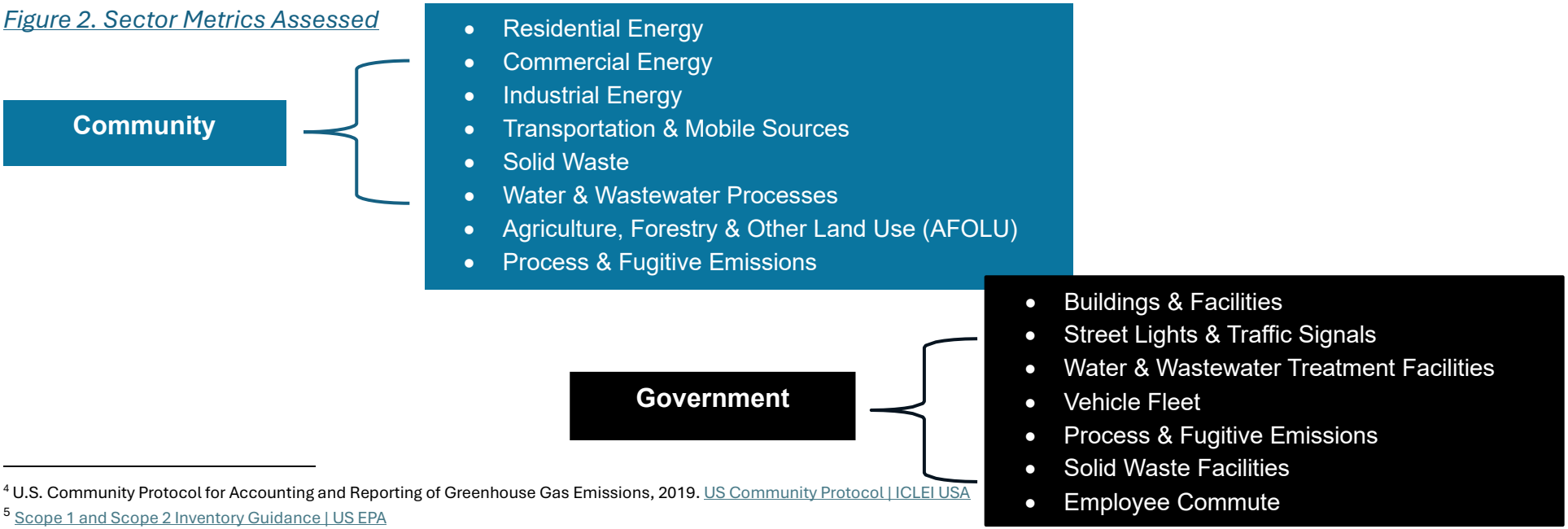
For the community inventory, the top three emitting sectors in both years were **Transportation and Mobile Sources** (38% of total emissions), **Commercial Energy** (31%), and **Residential Energy** (22%).

For the government inventory, the top three emitting sectors in both years were **Water & Wastewater Treatment** (38% in 2022 and 39% in 2023), **Vehicle Fleet** (22%), **Employee Commute** (15% in 2022 and 14% in 2023).

Methodology Overview

The City utilized the *Clearpath 1.0* reporting platform developed by International Council for Local Environmental Initiatives (ICLEI), to complete both community and government GHG inventories. Under the U.S Community Protocol for Accounting and Reporting of Greenhouse Gas Emissions, "*The majority of greenhouse gas estimates come from a simple formula: how much activity happens, how polluting that activity is, and their global warming potentials (GWP). Cities collect activity data either through observation, user reporting, or modeling of various activities in the community, such as vehicle miles travelled and electricity consumed, and is available from a variety of public and private sector entities. Activity data is then multiplied by emissions factors that reflect the quantity of various greenhouse gases emitted with each unit of activity. Finally, emissions are multiplied by global warming potentials, which are metrics used to convert the quantity of emissions from various greenhouse gases into a standard unit (metric tons CO_2e) based on the strength of their effect on global warming."*[4] Based on activity data users input, *Clearpath 1.0* automatically calculates emissions from each activity based on a pre-determined set of updated emission factors. Emissions are categorized by scopes: **Scope 1** emissions represent direct emissions from sources occurring within the organizational boundary and under the City's operational control. **Scope 2** emissions represent indirect emissions from the use of grid-supplied electricity, heat, steam, and/or cooling within the City boundary[5]. **Scope 3** includes all other indirect emissions occurring outside the City boundary as a result of activities taking place within[6]. Refer to the Appendix Methodology section of the 2020-ftl-community-and-city-operations-emissions-final-report.pdf for more details.

Figure 2. Sector Metrics Assessed



[4] U.S. Community Protocol for Accounting and Reporting of Greenhouse Gas Emissions, 2019. US Community Protocol | ICLEI USA

[5] Scope 1 and Scope 2 Inventory Guidance | US EPA

[6] Scope 3 Inventory Guidance | EPA Center for Corporate Climate Leadership | US EPA

Community GHG Emissions

Figure 3 shows community emissions from 2019 through 2023, including actual emissions represented by the bar graph and target emissions based on a linear reduction pathway aligned with the City's interim goal of a 26% reduction by 2030 (equivalent to an average annual reduction of 2.36% as noted by the red line). Emissions declined sharply—by approximately 24%—between 2019 and 2020 as a result of COVID-19–related economic slowdowns and mobility restrictions. Emissions increased in subsequent years as economic activity rebounded, with 2020 and 2021 remaining the only years since 2019 in which actual emissions fell below the target trajectory.

Community emissions have decreased from 2019 to 2023. This trend is in part due to the fact no industrial energy natural gas usage data was collected since 2021. *Table 1* provides a detailed breakdown of all emissions by sector, source, and scope.

Figure 3. Community Greenhouse Gas (GHG) Emissions since 2019 ($MTCO_2e$)

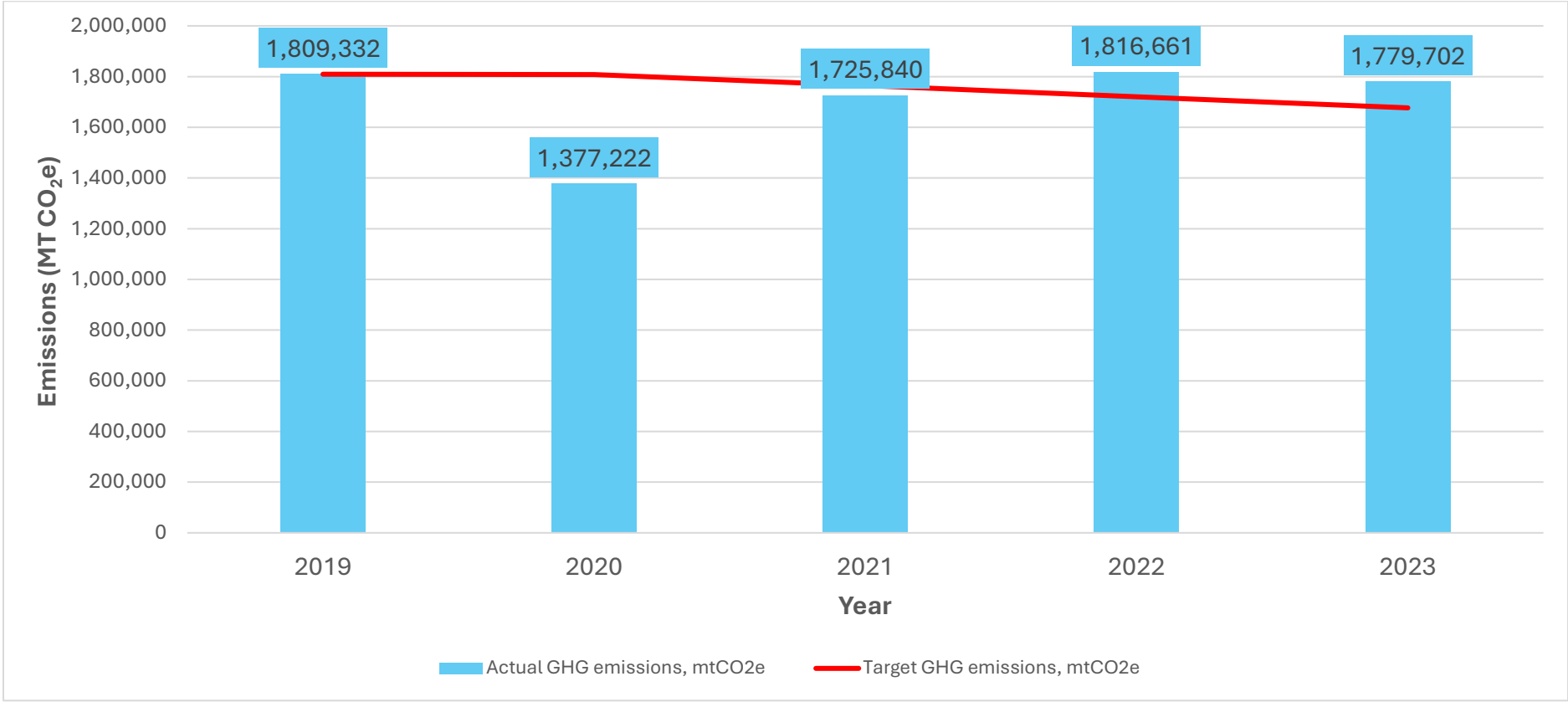


Table 1. Community Greenhouse Gas Emissions by Source, Sector, Scope, and Year ($MTCO_2e$)

Sector	Source	Scope	2019 Emissions ($MTCO_2e$)	2022 Emissions ($MTCO_2e$)	2023 Emissions ($MTCO_2e$)
Residential Energy	Electricity - FPL	2	377,573	403,637	397,163
	Natural Gas- TECO and Non-Utility Fuel	1	11,137	12,376	12,471
	Residential Energy Total:		**388,710**	**416,014**	**409,634**
Commercial Energy	Electricity - FPL	2	502,077	512,598	500,171
	Natural Gas - TECO	1	81,844	81,206	77,711
	Commercial Energy Total:		**583,921**	**593,803**	**577,882**
Industrial Energy	Electricity - FPL	2	14,261	14,712	15,489
	Natural Gas - TECO	1	24,042	-	-
	Industrial Energy Total:		**38,303**	**14,712**	**15,489**
Transportation & Mobile Sources	Aviation Fuels (Gasoline & Kerosene)	1	94,591	128,943	119,780
	Public Transit (Diesel)	1	28,322	16,397	18,157
	On Road (Diesel)	1	113,314	129,098	129,163
	On Road (Gasoline)	1	496,457	441,497	441,722
	Transportation Total:		**732,684**	**715,935**	**708,822**
Solid Waste	Composting (Yard Waste)	3	2,097	2,004	2,282
	Waste to Energy	3	82,853	93,862	87,489
	Solid Waste Total:		**84,950**	**95,865**	**89,771**
Water & Wastewater Processes	Water/Wastewater Process Electricity - FPL	2	19,075	20,307	20,558
	Wastewater Process - N_2O Emissions	1	272	283	286
	Water & Wastewater Total:		**19,347**	**20,590**	**20,843**
*Agriculture, Forestry & Other Land Use (AFOLU)	Sequestration by Urban Trees	1	(42,335)	(43,220)	(45,580)
Fugitive Emissions	Natural Gas - TECO	1	3,752	2,961	2,841
	Fugitive Emissions Total:		**3,752**	**2,961**	**2,841**
	Total GHG Emissions $MTCO_2e$		**1,809,332^**	**1,816,661**	**1,779,702**

*The City's urban trees sequestered 43,220 $MTCO_2e$ in 2022 and 45,580 $MTCO_2e$ in 2023, effectively reducing total community emissions by counting this amount as net carbon sinks.

^2019, 2020 and 2021 total community emissions have been updated to include sequestrations to be consistent with 2022 and 2023 emissions.

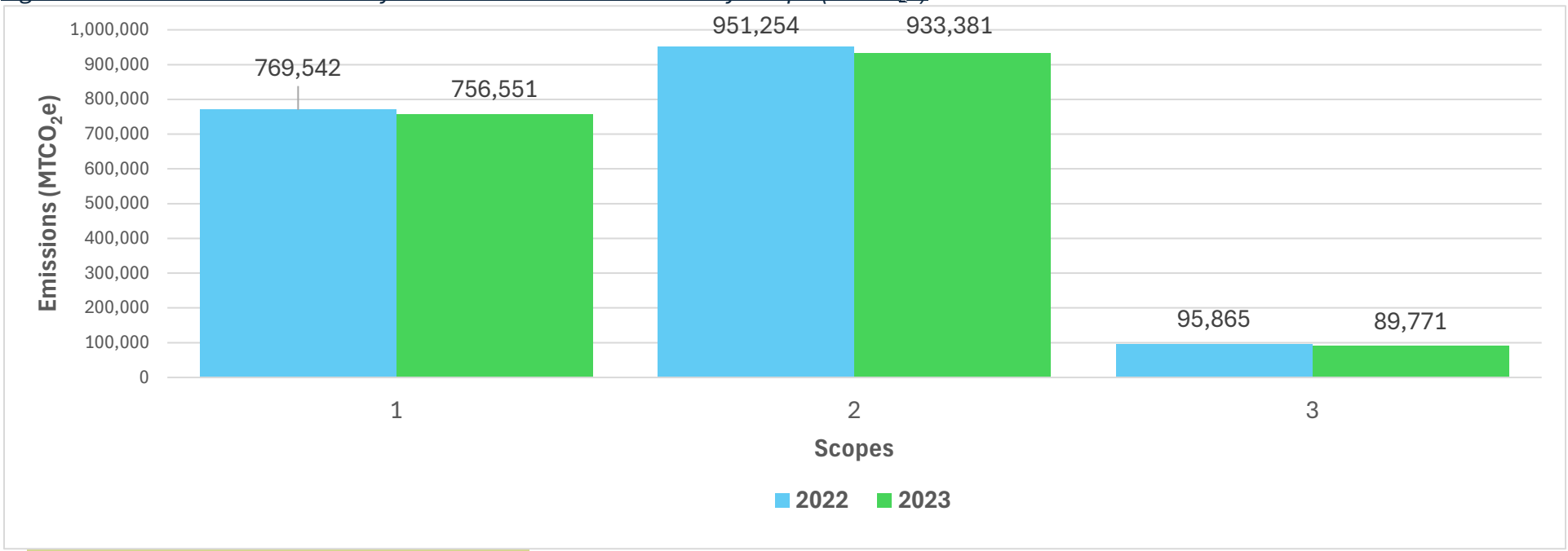
Inventory Summary

Community emissions have shifted across sectors since 2019.

- **Residential energy emissions** increased by 7% from 2019 to 2022 and by 5% from 2019 to 2023. “Over the past decade, the city has seen a 43% increase in residents ages 25-to-44, contributing to rising energy demand”[7]. This is driven by growth in jobs related to finance and technology, a lower cost of living compared to California and New York, and a walkable environment close to the beach and downtown.
- **Commercial energy emissions** have remained relatively stable, while **industrial energy emissions** have decreased since 2019 as natural gas usage data is no longer reported after 2021.
- **Transportation emissions** have declined due to reduced on-road gasoline consumption and lower diesel use in public transit fleet.
- **Solid Waste emissions** have increased in 2022 as a result of increased waste combusted in the Waste to Energy facility.
- **Water/Wastewater Treatment Facilities’ emissions** have increased slightly in 2022 and 2023 due to a slight increase in kWh of energy usage from 2019.
- Although the City had **carbon sequestration** numbers since 2019, those weren’t entered in ClearPath 1.0, ICLEI’s GHG inventory tool, until 2021. These sequestration figures were incorporated as negative emissions in the total annual community inventory, and there has been an increase in metric tons of CO_2e sequestered from 2019 – 2023.
- **Fugitive emissions** reported from natural gas distribution system leaks have also decreased since 2019.

[7] Fort Lauderdale Poised For Unprecedented Growth This Decade

Figure 4. 2022 vs. 2023 Community Greenhouse Gas Emissions by Scope ($MTCO_2e$)



Scope 1 emissions encompass emissions from natural gas usage supplied by TECO, residential non-utility fuel such as propane, gasoline and diesel fuel usage, and nitrous oxide (N_2O) emissions from wastewater process. A portion of these emissions is offset by carbon sequestration from the City's urban forests, resulting in negative emissions.

Scope 2 emissions come from grid-supplied electricity from FPL used in residential, commercial, and industrial buildings, as well as to power the water and wastewater treatment facilities.

Scope 3 are indirect emissions from solid waste management activities that occur outside the City's jurisdiction.

*In 2022 and 2023, Scope 2 emissions were **the largest contributor** of the City's overall greenhouse gas emissions.

Figure 5. 2022 vs. 2023 Community Greenhouse Gas Emissions by Sector ($MTCO_2e$)

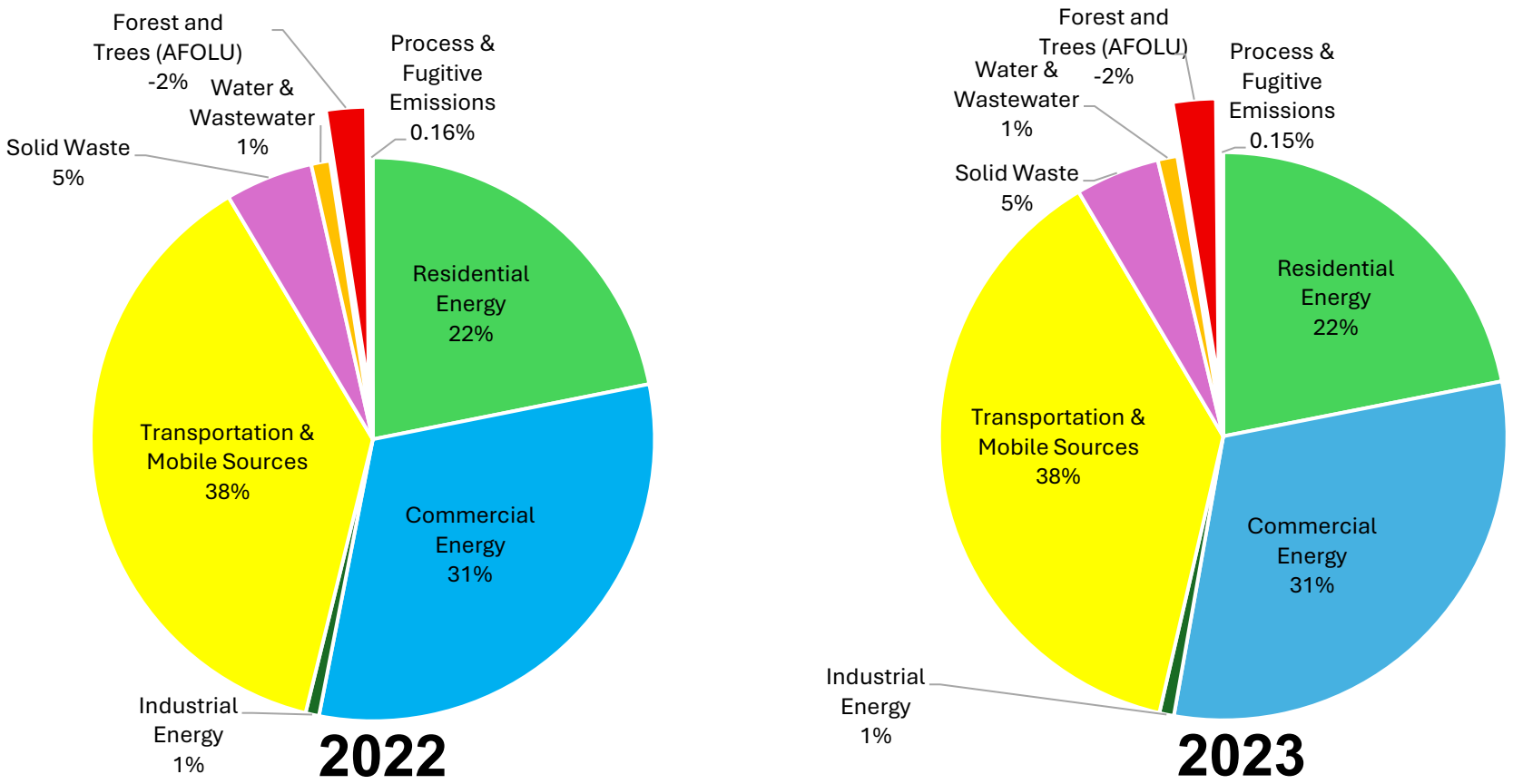
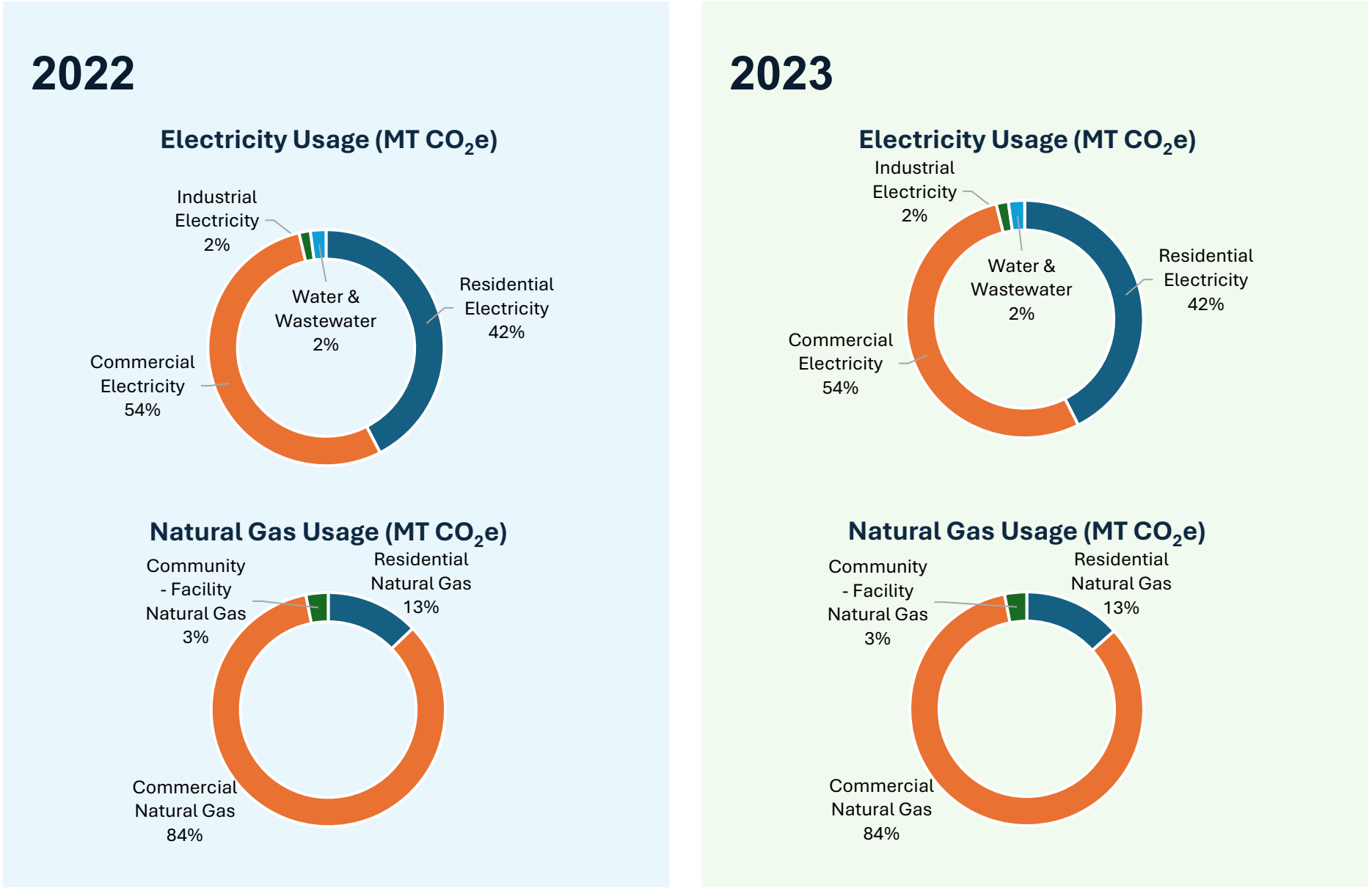


Figure 5 shows that the residential, commercial, and industrial energy sectors together contributed the largest share of emissions, accounting for **54% of total community emissions**, followed by **transportation at 38%**, which includes emissions from on-road passenger vehicles, public transit, and aviation at Fort Lauderdale Executive Airport. **Five percent of emissions** came from solid waste, including **composting of yard waste**—such as leaves, grass, plant clippings, branches, twigs, flowers, weeds, roots, and palm fronds trimmed to fit in green carts—and the combustion of municipal solid waste through waste-to-energy processes. Both 2022 and 2023 community inventories account for a 2% decrease in emissions resulting from carbon sequestration from the City's urban forest.

Figure 6. 2022 and 2023 Community Greenhouse Gas Emissions from Electricity and Natural Gas Usage ($MTCO_2e$)



As shown in *Figure 6*, commercial energy was the largest contributor of GHG emissions from electricity and natural gas use in both 2022 and 2023, followed by residential energy.

Changes in Electricity Emission Factors and Utility Fuel Mix

Electricity-related greenhouse gas emissions are influenced not only by how much electricity is used, but also by how that electricity is generated. Electricity emission factors change over time due to changes in fuel sources and improvements in operating processes. Understanding these changes is important because they directly affect the emissions attributed to electricity consumption in the City's greenhouse gas inventory. Florida Power and Light (FPL) increased its proportion of electricity generated from renewable sources as shown in *Figure 7*. This has resulted in a decrease in the CO_2, methane, and nitrous oxide emission factors from 2019 to 2022 shown in *Table 2*. However, there has also been a slight increase in all electricity emission factors from 2022 to 2023 as explained later.

Table 2. Electricity emission factors for 2019, 2022, and 2023

	Year		
Emission Factor	2019*[8]	2022	2023
CO_2 lbs./MWh	665	662*	669^
CH_4 lbs./GWh**	64	49	53
N_2O lbs./GWh**	9	6	7

**CO_2 lbs./MWh emission factor (utility specific residual mix emission rate) retrieved from Edison Electric Institute*
***CH_4 lbs./GWh & N_2O lbs./GWh - were retrieved from EPA eGrid factors. EPA GHG Emission Factors Hub[8]*

^2023 CO_2 lbs./MWh emission factor was updated. However, emissions were calculated based on the 2022 emission factor as this was listed in Clearpath 1.0 at the time.

Figure 7. FPL 2019 vs. 2023 Sources of Generation (MWh) [9, 10]

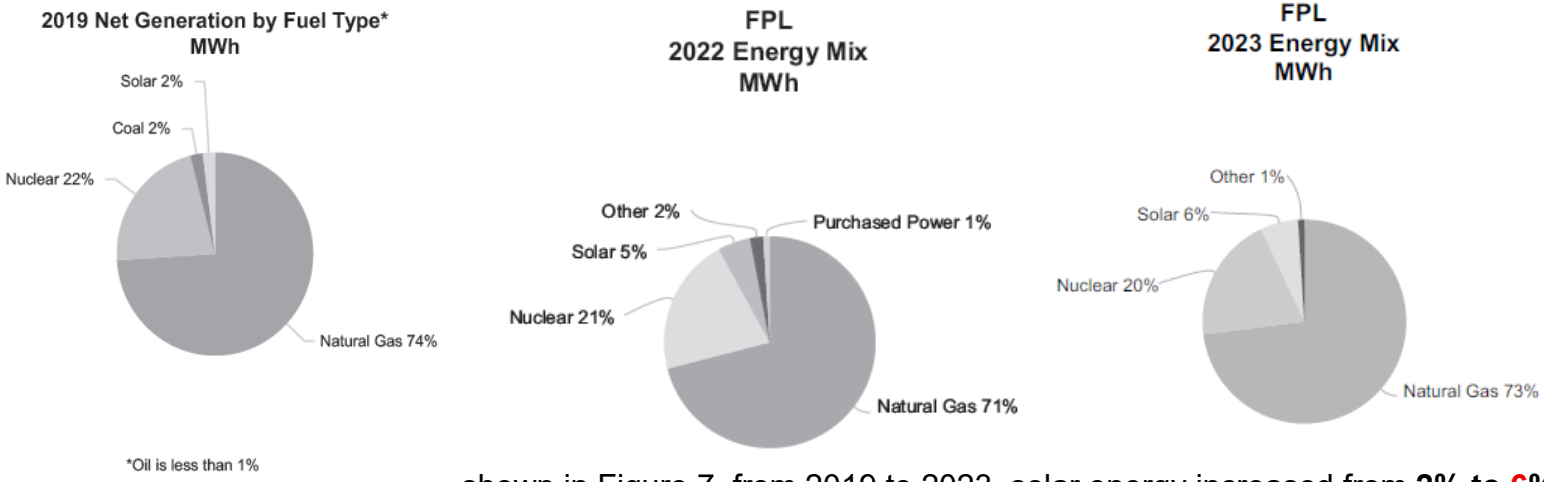
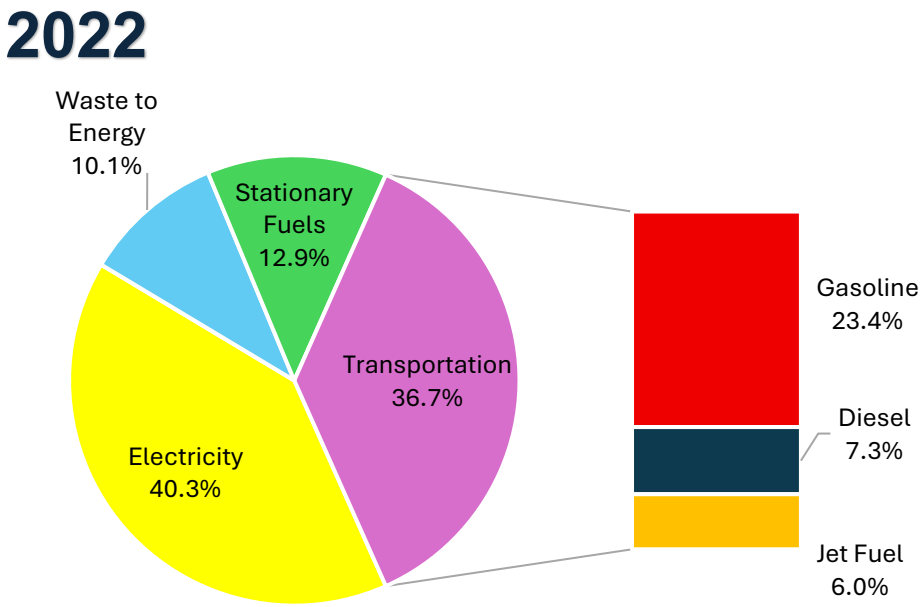


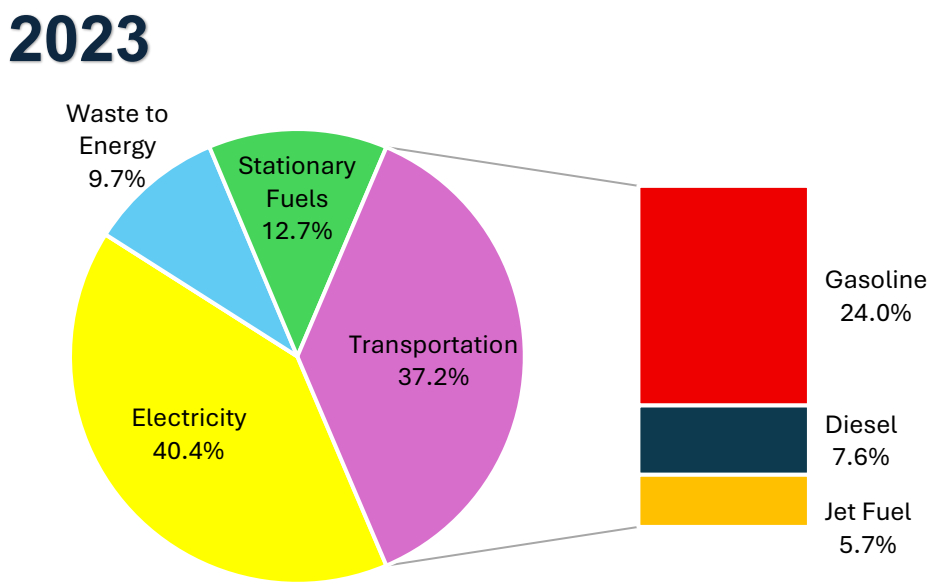
Figure 7 shows the fuel sources used to power FPL's grid. Florida Power & Light (FPL) defines its **energy mix** as the diverse portfolio of fuel sources and generation technologies used to produce the electricity it delivers to customers[11]. Energy Mix is the same as Net Generation as they are all in units of MWh. As shown in Figure 7, from 2019 to 2023, solar energy increased from **2% to 6% of FPL's fuel mix**. Natural gas energy mix decreased from 74% to 71% and increased to 73%. Coal energy mix decreased from 2% in 2019 to 0% in 2022

[8] 2020 GHG Emission Factors Hub (March 2020)
[9] 2023_Annual Report_NEE.pdf
[10] NEE-FPL 2019 Form 10-K - For Annual Report
[11] https://www.fpl.com/content/dam/fplgp/us/en/news/2022/energy-notes-q2-2022.pdf

contributing to the decrease in emission factors during that time. Electricity demand has increased from 111,851 GWh in total energy retail sales in 2019 to 127,835 GWh in 2023.[12] The decrease in all electricity emission factors from 2019 to 2022 is due to the increased percentage of renewable energy portfolio. The subsequent increase in all electricity emission factors from 2022 to 2023 is due to increased demand on the grid from a rising population that has outpaced renewable energy generation. Even though FPL has increased its renewable energy source, not all of it is used to power the grid. Thus, fossil fuels are still the main source of electricity to meet increasing demands.

Natural gas usage is still prevalent in commercial and residential sectors. In 2023, TECO Peoples Gas announced the completion of a renewable natural gas facility that "will reduce methane emissions and generate enough clean, reliable energy to serve 4,400 homes a year" by converting waste from 6,500 cows to pipeline-quality natural gas[13].





[12] Florida Power & Light's energy retail sales 2024| Statista

[13] Peoples Gas Announces Completion of Renewable Natural Gas Facility

In both 2022 and 2023, **electricity use was the largest source of community energy consumption**, driven by demand in the residential, commercial, and industrial sectors.

- **Residential electricity emissions** come from air conditioning, water heating, lighting, refrigeration, cooking, appliances, and other daily household activities.
- The **commercial sector**—which includes restaurants, hotels, offices, government buildings, community living facilities, colleges, and religious institutions—produces emissions from similar types of energy use but at a larger scale.[14]
- The **industrial sector** includes facilities involved in producing, processing, or assembling goods, as well as construction and fossil-fuel production.

Transportation was the second-largest energy consumer, accounting for emissions from on-road vehicles, public transit, and aviation at the City-owned Fort Lauderdale Executive Airport (FXE).[15] Within this sector, **gasoline use represented the largest share of energy consumption**. Vehicle miles traveled (VMT) for driving, walking, biking, and bus travel were obtained from Google's Environmental Insights Explorer, while aviation fuel use came from FXE's Fuel Flow Report.

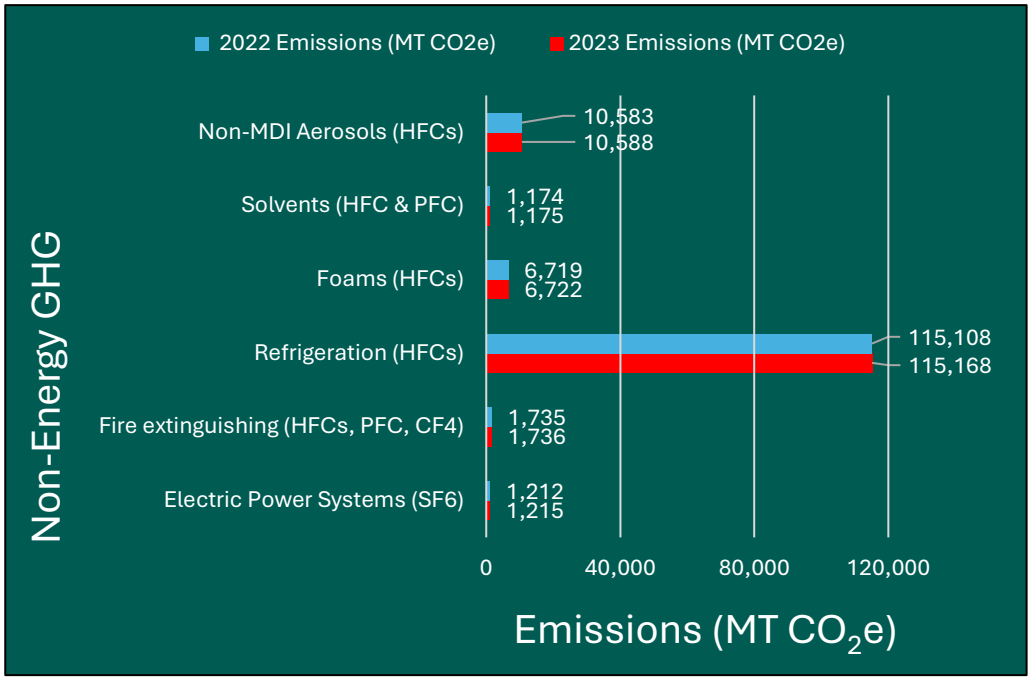
Stationary fuels—including natural gas and propane—were the **third-largest energy consumer**. Natural gas supplied by TECO People Gas is used in homes, businesses, and community facilities for space heating, water heating, cooking, and clothes drying.

Lastly, the combustion of **solid waste consumed the least amount of energy**. This category includes residential yard waste (composting), bulk items, and trash, as well as commercial and multifamily building waste and tires. All solid waste—except yard waste—is combusted and converted to energy at the Wheelabrator Waste-to-Energy Facility located outside City limits and is therefore reported as **Scope 3 emissions**.

[14] Glossary - U.S. Energy Information Administration (EIA)

[15] 2021 FTL Inventory Report

Figure 9. 2022 and 2023 Community Non-Energy Greenhouse Gas GHG Emissions ($MTCO_2e$)



Hydrofluorocarbons (HFCs) | Climate & Clean Air Coalition

Sulfur Hexafluoride (SF6) Basics | US EPA

High-GWP Gases in the Community Inventory

To maintain consistency with the 2021 community inventory report, the 2022 and 2023 inventories include, as information only, fugitive emissions from community natural gas leakage. While non-energy emissions include several types of greenhouse gases, **hydrofluorocarbons (HFCs)**— "a group of synthetic gases primarily used for cooling and refrigeration" are among the most concerning due to their extremely high global warming potentials (GWP). For example, **HFC-23 has a GWP 14,800 times higher than carbon dioxide over 100 years**, and many other HFCs are powerful, short-lived climate pollutants with average atmospheric lifetimes of about 15 years." Because HFCs are widely used in air conditioning, refrigeration systems, and aerosol spray products, they are closely monitored. **Sulfur Hexafluoride (SF6),** used by electric utilities "in electric power systems for voltage electrical insulation … is also the most potent greenhouse gas known to date" with a **GWP that is 23,500 times higher than carbon dioxide over 100 years**. Emissions from these non-energy sources in both 2022 and 2023 are shown in the *Figure 9*.

Fort Lauderdale's Urban Tree Canopy

Historically, the City has faced significant challenges with maintaining, enhancing and expanding its urban forest in the face of accelerated development pressure, climate impacts, storm events, and pest/disease outbreaks, among other pressures. Tree canopies intercept rainfall and help reduce pressure on stormwater systems. With rising temperatures, trees are increasingly important to mitigate the urban heat island effect, improve air quality and increase carbon sequestration. Recognizing the increasing importance of trees, the City's Press Play Strategic Plan 2029 and the City's Advance 2040 Comprehensive Plan has a stated objective to "Grow and Enhance the Urban Forest," with a goal of reaching 33% tree canopy coverage by 2040. As of fiscal year 2024, the City has 26.6% tree canopy coverage as tracked in ClearPoint, the City's internal performance tracking system. This means the City must increase canopy coverage by roughly 6.4 percentage points over the next 16 years.

Starting in 2021, the City began counting these net carbon sinks in the communitywide emissions inventory as negative emissions.[16] Trees absorb carbon dioxide from the atmosphere as they grow, storing carbon in their trunks, branches, leaves, and roots—effectively reducing the amount of CO_2e released. In 2022, Fort Lauderdale's urban forests sequestered an estimated 43,220 metric tons of CO_2e, increasing to 45,580 metric tons of CO_2e in 2023 according to the most recent iTree reports. Continued expansion, strategic planting, and long-term canopy stewardship will be essential to meeting the City's 2040 canopy goal and enhancing community resilience.

[16] 2021 FTL Inventory Report

Socioeconomic and Climatic Drivers of Energy Consumption

Table 3. Communitywide Analysis of Greenhouse Gas (GHG) Emissions

City of Fort Lauderdale Community Indicators	2019	2022	2023
Total Emissions ($MTCO_2e$)	1,809,332	1,816,661	1,779,702
Population[17]	186,220	189,019	189,118
Emissions per capita ($MTCO_2e$)	9.90	9.61	9.41
Gross Domestic Product (GDP)[18]	$29.7 billion	$35.7 billion	$39.4 billion[19]
# of extreme heat days >90° F[20]	96	91	113

As population and GDP continue to rise—driven by increased tourism, real estate activity, and a growing retiree population in a city experiencing more extreme heat days—the need for energy-efficient homes and buildings becomes increasingly urgent. “In Florida, where nearly all homes rely on air conditioning, the residential sector consumes nearly three-tenths of the state’s total energy use”[21].

“Although states and utilities are working diligently to scale energy efficiency programs and distribute more funding, most programs lack the funding and the capacity to provide no-cost services to all income-eligible households. As a result, the upfront cost of home energy upgrades – often around $1,000 or more- remains out of reach for most low- and- moderate- income (LMI) households.”[22] For these households, even a $1,000 investment is unreasonable because nearly half of Americans report that monthly expenses are too high to save for emergencies, and 37% cannot cover unexpected costs greater than $400[23].

These households are disproportionately affected, as they often live in older, less energy-efficient buildings, experience higher energy bills , where they are spending more than 10% of their income on energy and lack the financial resources to invest in energy-saving improvements.[24]

[17] Florida Estimates of Population, Population Data Archive | B.E.B.R. - Bureau of Economic and Business Research, University of Florida (UF)

[18] Downtown Fort Lauderdale is a 'real powerhouse' of economic growth, says new report | WLRN

[19] No real 2023 GDP data. Took the average of 2022 and 2024 GDP listed in the above footnote.

[20] Number of Days of 90 °F in Fort Lauderdale by Year

[21] U.S. Energy Information Administration - EIA - Independent Statistics and Analysis

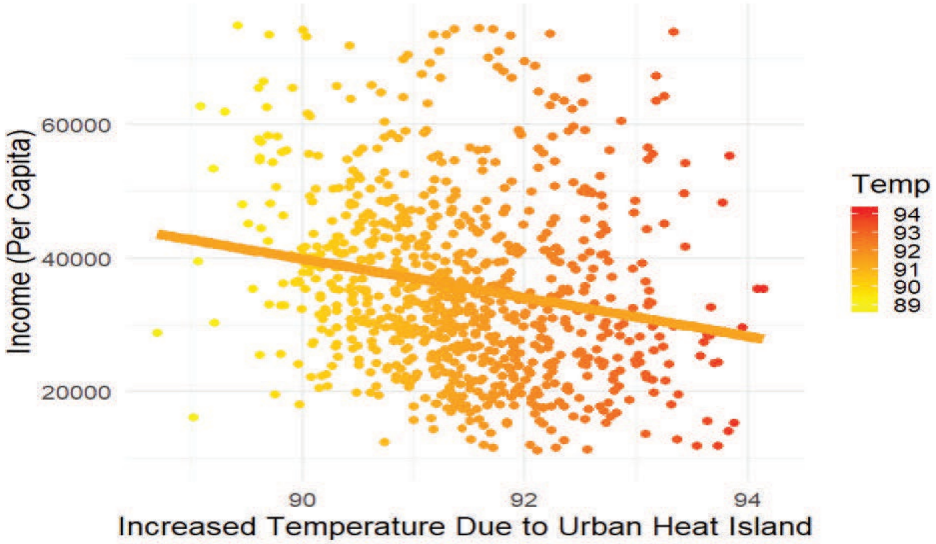
[22] How to Pay for Low- and Moderate-Income Home Energy Retrofits | ACEEE

[23] Over 1 in 5 Americans have no emergency savings

[24] Regional Energy Efficiency Action Plan: Addressing Energy (In)equity in Southeast Florida - Southeast Florida Regional Climate Compact

Why Hotter Days Mean Higher Bills for Many Residents

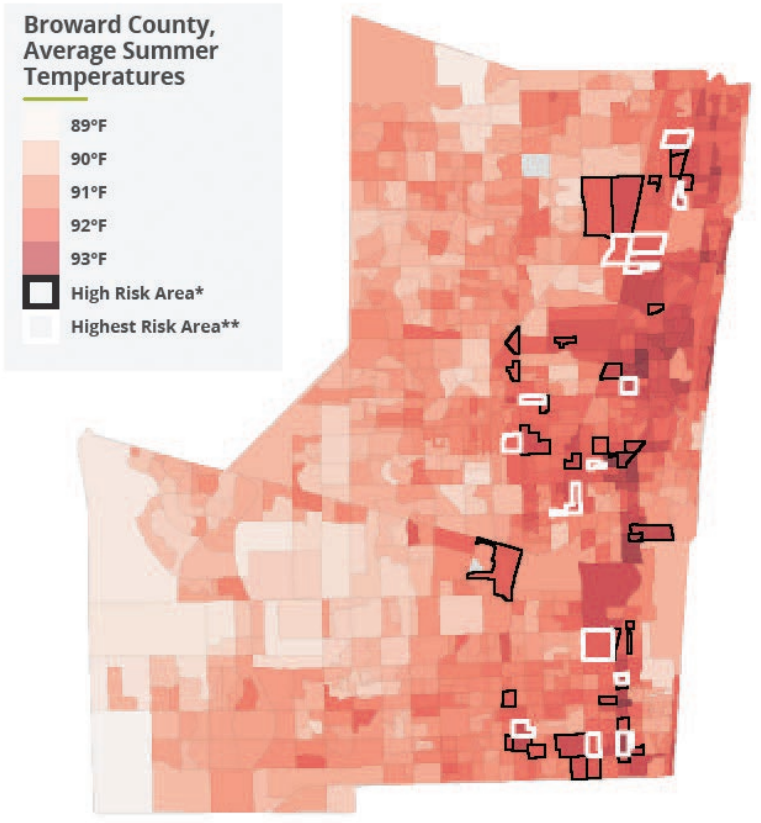
Figure 10. Income vs. Temperature [25]



The urban heat island map on *Figure 11* shows that areas in Broward County with the highest average summer temperatures above 90 degrees Fahrenheit are located in high-risk areas "defined as neighborhoods where the urban heat islands increase temperatures by 2°F or more and where average per capita incomes are less than 200% the federal poverty level"[22]. The highest-risk areas also include communities with a larger share of young children and older adults who face greater health risks during extreme heat events. These conditions heighten the likelihood of heat-related illnesses, increased energy burdens, and reduced access to cooling resources during prolonged warm periods. The spatial overlap of elevated temperatures, socioeconomic disadvantages, and age-related vulnerability highlights the need for targeted mitigation strategies, such as tree planting, cool roofs, and expanded access to cooling centers. Addressing these heat disparities is essential to improving public health outcomes and strengthening climate resilience in Fort Lauderdale's most impacted neighborhoods.

According to *Figure 10*, lower income individuals and families are often adversely affected by increased temperatures due to the urban heat island effect, where temperatures are higher than the surrounding ambient temperature due to less vegetation that would otherwise absorb heat and provide shading.

Figure 11. County Summer Average Temperatures



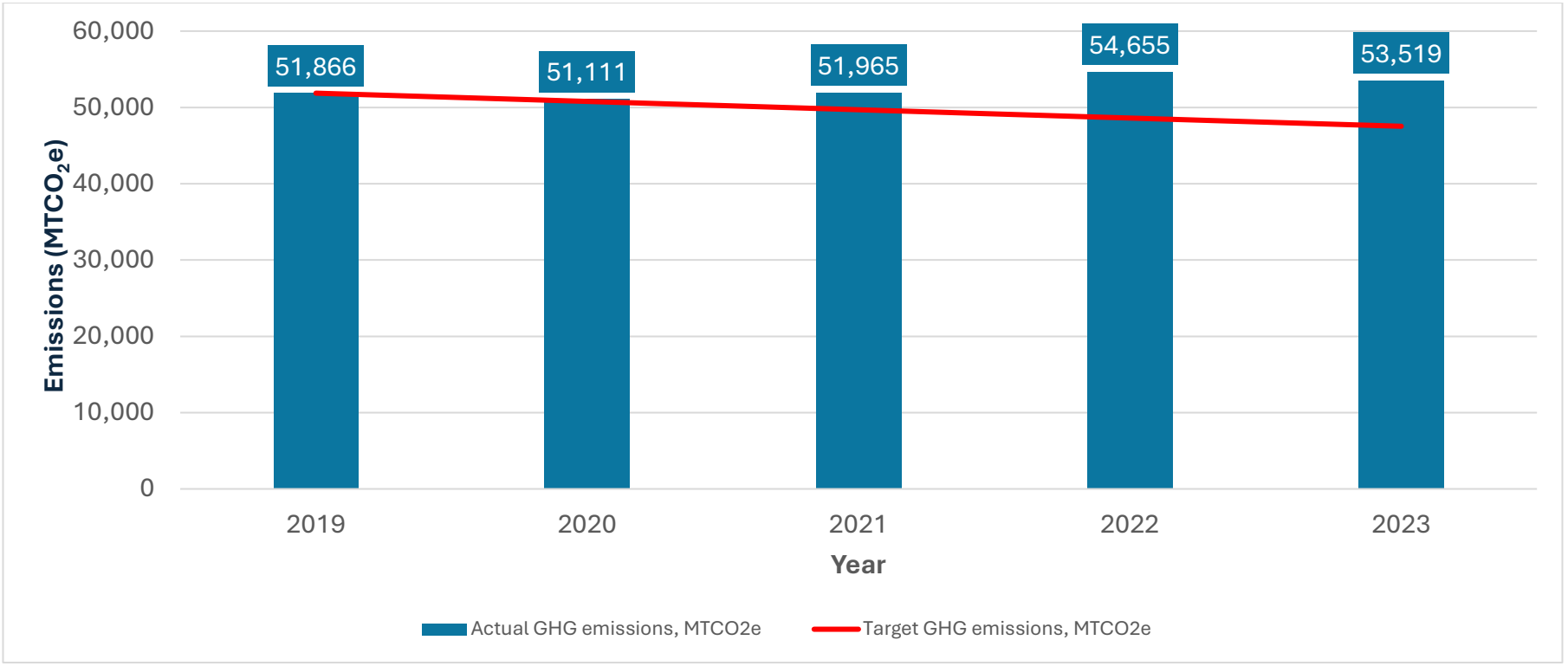
[25] Maps Broward County Urban Heat Islands

Government GHG Emissions (2022 vs. 2023)

As shown in *Figure 12*, actual emissions from government operations have increased since 2019 and include sectors like buildings & facilities, street lights, water & wastewater treatment plants, vehicle fleet, fugitive emissions, solid waste, and employee commute.

Actual emissions increased from 51,866 $MTCO_2e$ in 2019 to 53,519 $MTCO_2e$ in 2023, driven by energy use in water treatment and increased employee commuting. Actual emissions have exceeded target emissions each year based on an average emission reduction of 2.09% per year to achieve a 23% reduction by 2030 as shown by the red line in *Figure 12*. EV fleet emissions tracking began in 2022, contributing to Scope 2 changes. *Table 4* provides a detailed breakdown of all emissions by sector, source, and scope.

Figure 12. Government Greenhouse Gas (GHG) Emissions since 2019 ($MTCO_2e$)



*Government emissions from 2019 to 2021 have been updated due to changes in emissions from employee commute and solid waste. This has increased emissions for all years. A detailed methodology is included in the appendix section of this report.

Table 4. Government Greenhouse Gas (GHG) Emissions by Source, Sector, Scope and Year ($MTCO_2e$)

Sector	Source	Scope	2019 Emissions ($MTCO_2e$)	2022 Emissions ($MTCO_2e$)	2023 Emissions ($MTCO_2e$)
Buildings & Facilities	Electricity- FPL	2	7,491	7,031	6,721
	Facility Natural Gas- TECO	1	224	123	112
	Buildings & Facilities Total:		**7,715**	**7,154**	**6,833**
Street Lights	Electricity - FPL	2	3,134	3,108	2,646
	Street Lighting Total:		**3,134**	**3,108**	**2,646**
Water & Wastewater Treatment	Electricity - FPL	2	19,075	20,307	20,558
	N_2O Emissions	1	272	283	286
	Water/Wastewater Total:		**19,347**	**20,590**	**20,844**
Fleet	Diesel - Off Road	1	594	318	189
	Gasoline - Off Road	1	1,379	861	595
	Diesel - On Road	1	2,876	2,880	2,691
	Gasoline - On Road	1	6,716	7,704	8,343
	Electric – On Road*	2	-	1	1
	Fleet Total:		**11,565**	**11,765**	**11,818**
Fugitive Emissions	Natural Gas - TECO	3	8	4	4
	R134a Usage - Fleet	1	350	170	236
	Fugitive Emissions Total:		**358**	**174**	**240**
Solid Waste	Waste to Energy Process	3	2,130**	2,115	2,054
	Yard Waste	3	69**	927	1,080
	Waste Generation	3	417**	474	503
	Solid Waste Total:		**2,615****	**3,516**	**3,638**
Employee Commute	Gasoline - On Road	3	7,135	8,348	7,501
	Employee Commute Total:		**7,135*****	**8,348**	**7,501**
	Total GHG Emissions $MTCO_2e$		**51,866^**	**54,655**	**53,519**

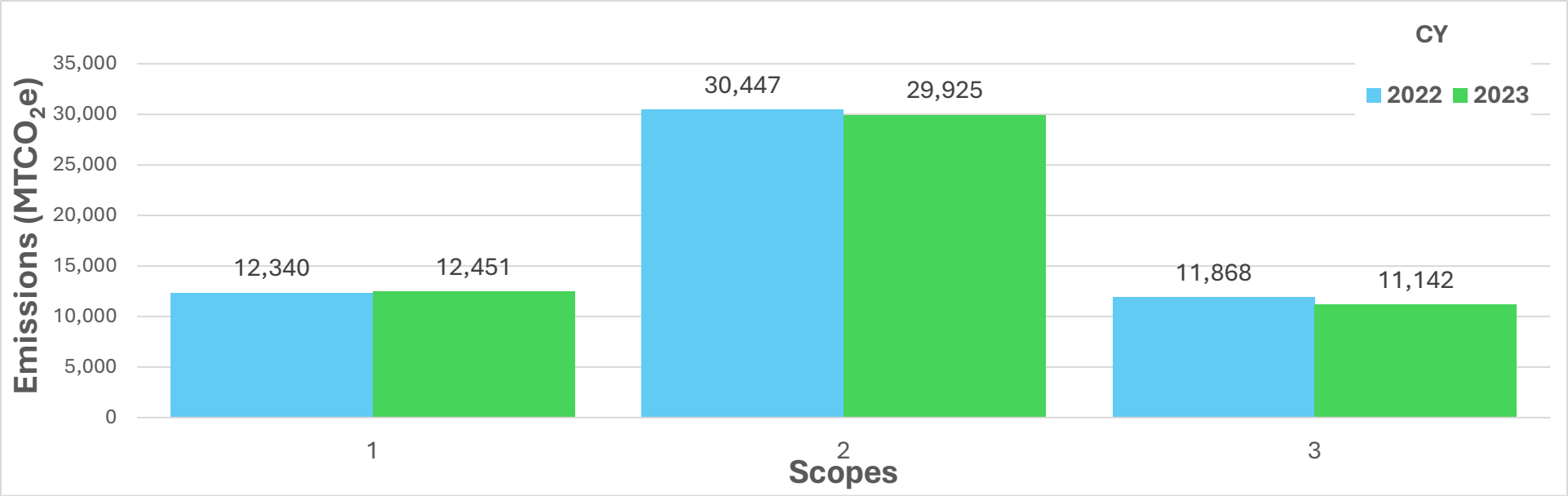
* Emissions from electric vehicle fleet weren't previously accounted for until 2022. 2022 Green Fleet Application began listing electricity as a fuel source.

^2019 total emissions revised from 50,567 $MTCO_2e$ to 51,866 $MTCO_2e$ to reflect the following changes;

** Solid Waste total emissions revised from 1,633 to 2,615 $MTCO_2e$ to match Clearpath 1.0 records.

***Employee Commute emissions revised, based on new methodology resulting in 18,507,744 VMT and 7,135.2 $MTCO_2e$. Old methodology assumed an average round trip of 32.7 miles/employee * # of employees * 240 working days/year. New methodology took total annual round trips * 240 working days/year rather than averaging the same distance across all employees. See appendix detailed methodology for more information.

Figure 13. 2022 vs. 2023 Government Greenhouse Gas (GHG) Emissions by Scope ($MTCO_2e$)



In both 2022 and 2023, **Scope 2 emissions remained the largest contributor** of the City of Fort Lauderdale's government operations greenhouse gas (GHG) inventory. This is primarily due to the **significant electricity consumption** by various government sectors.

- **Scope 1** emissions were primarily attributed to direct combustion sources, including gasoline and diesel used by the vehicle fleet, natural gas consumption in government buildings and facilities, nitrous oxide (N_2O) emissions from the water and wastewater treatment plant, and fugitive emissions such as refrigerant leaks.
- **Scope 2** emissions— which account for indirect emissions from purchased electricity — were the most substantial. These were driven by electricity use in the City's **water and wastewater treatment facilities**, **government buildings**, and **street lighting infrastructure**. Notably, 2022 and 2023 inventories also included **newly captured Scope 2 emissions** from a small number of electric vehicles (EVs) in the City fleet, which were previously untracked.
- **Scope 3** emissions included indirect sources such as **employee commuting**, **fugitive emissions from natural gas distribution**, and **solid waste disposal** activities occurring outside the city boundary.

Figure 14. 2022 & 2023 Government Greenhouse Gas (GHG) Emissions by Sector ($MTCO_2e$)

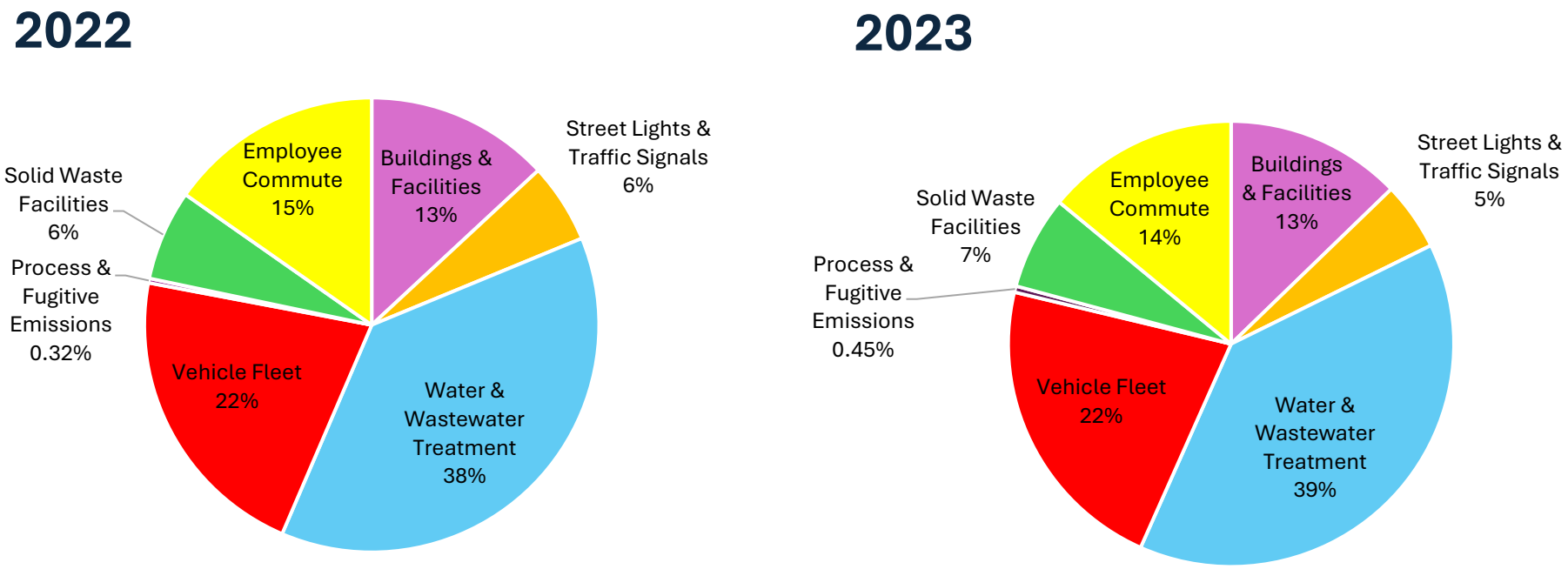


Figure 14 shows that in 2022 and 2023, **water and wastewater treatment plants** contributed most to government emissions followed by **vehicle fleet**. The City's 2024 Strategic Plan set a target to reduce fleet fuel use by 20% by 2024. Although this goal was not fully achieved, meaningful progress has been made through efforts to transition vehicles away from diesel and gasoline, and fuel efficiency of City light duty vehicles has increased to more than 30 miles per gallon—a notable improvement. Additional initiatives include offering loaner electric vehicles, installing EV chargers at City facilities, and adopting an anti-idling policy that limits idling of non-emergency City vehicles to no more than 30 seconds. This policy helps reduce emissions, lowers operational costs, and supports public health.

Figure 15. 2022 and 2023 Government Buildings Greenhouse Gas (GHG) Emissions ($MTCO_2e$)

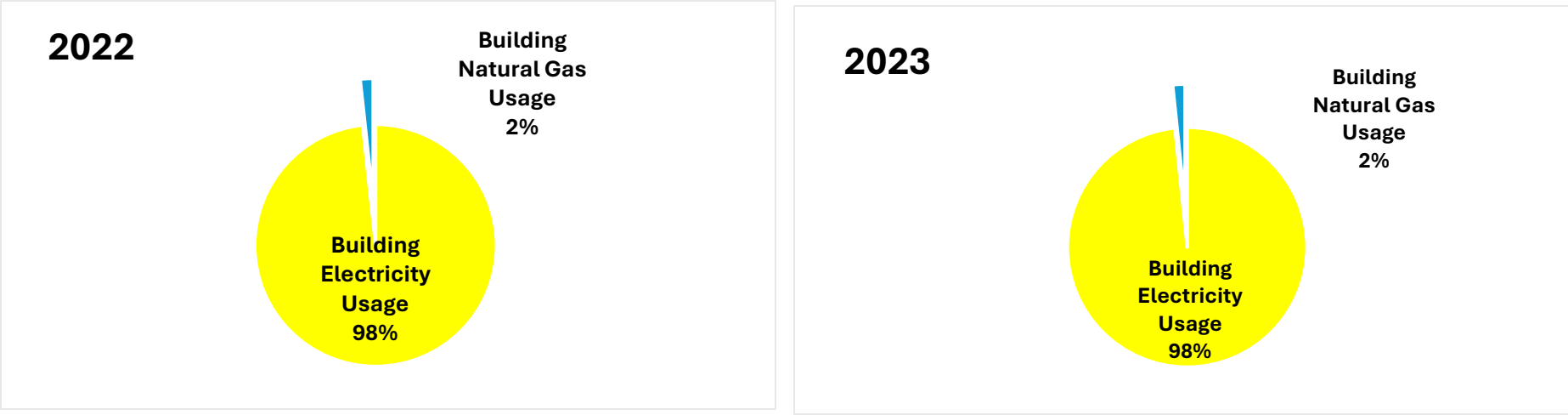


Figure 15 shows that government building emissions are primarily driven by electricity use across City facilities. A smaller portion of building emissions comes from natural gas use, supplied by TECO, which is associated with direct combustion and, therefore, counted as Scope 1 emissions. Together, these energy sources highlight the importance of reducing electricity demand in buildings, improving efficiency, and pursuing cleaner energy options to lower government emissions over time. As FPL's grid mix evolves and the City continues efficiency and electrification efforts, building-related emissions are expected to decline.

Figure 16. 2022 and 2023 Government Energy Use by Sector as a Fraction of Total Energy Usage (MMBtu)

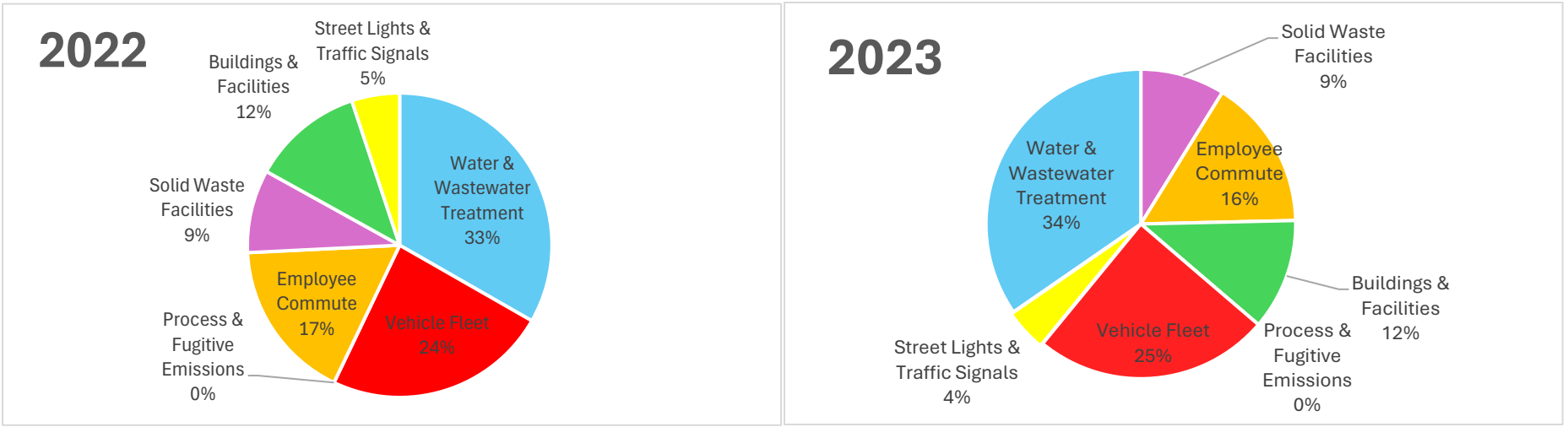


Table 5. 2022 and 2023 Government Energy Usage by Sector (MMBTU)

Sector	2022 Energy Equivalent (MMBtu)	2023 Energy Equivalent (MMBTU)
Water & Wastewater Treatment	229,779	232,484
Vehicle Fleet	164,586	165,577
Employee Commute	118,244	106,247
Buildings & Facilities	81,869	78,112
Solid Waste Facilities	61,010	59,272
Street Lights & Traffic Signals	35,166	29,922
Process & Fugitive Emissions	NA	NA

Figure 15, 16 & Table 5 illustrate how government energy use was distributed across major sectors in 2022 and 2023.

Water and wastewater treatment facilities accounted for the largest share of total energy consumption, highlighting the energy intensity of pumping and treatment processes.

The **vehicle fleet** represented the second-largest portion, indicating that transportation-related fuel use remains a significant driver of government energy demand.

Employee commute contributed the third largest share, reflecting the impact of staff travel to and from work.

Buildings and facilities represented the fourth largest energy usage. The City has approximately 120 buildings and facilities, excluding those used for water and wastewater treatment. For those buildings, 98% of the energy consumption is associated with electricity with the remainder due to natural gas.

Solid Waste Facilities represented the fifth largest share of energy usage accounting for about 9%.

Streetlights represented the smallest share of total energy use (contributing 5% of total energy usage). There are over 15,000 streetlights within the City of Fort Lauderdale. Of those, 11,000 streetlights are owned and maintained by FPL, and the City maintains 4,000 with nearly 1,000 owned by the City and approximately 3,000 owned by the Florida Department of Transportation (FDOT) and maintained under an agreement. Broward County owns and operates all remaining streetlights. The City is currently converting all its streetlights from high pressure sodium to light emitting diode (LED) lights, which are more energy efficient.

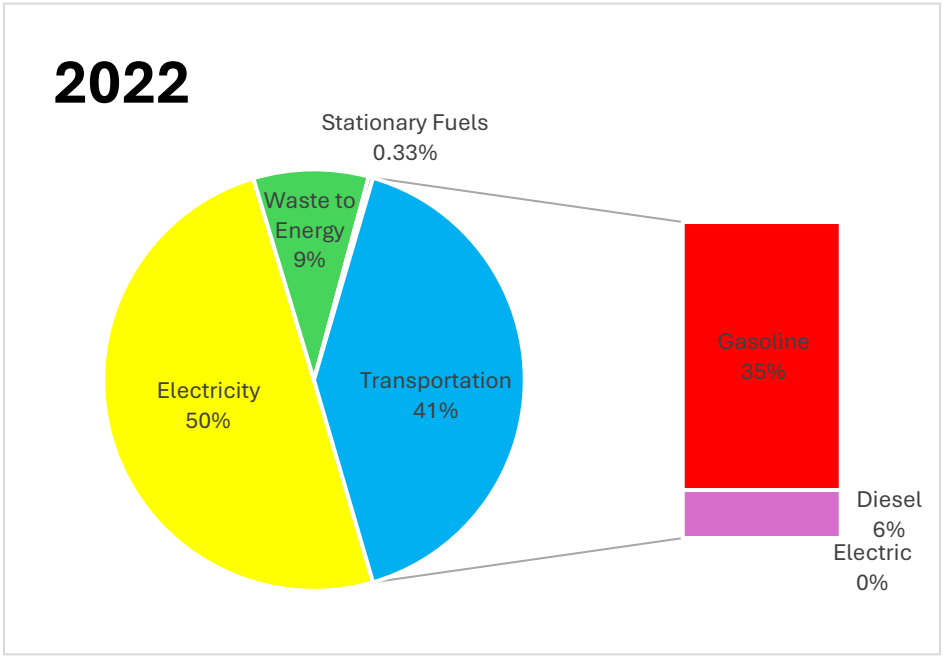
Process & Fugitive Emissions had no energy usage as they have all been consumed by buildings.

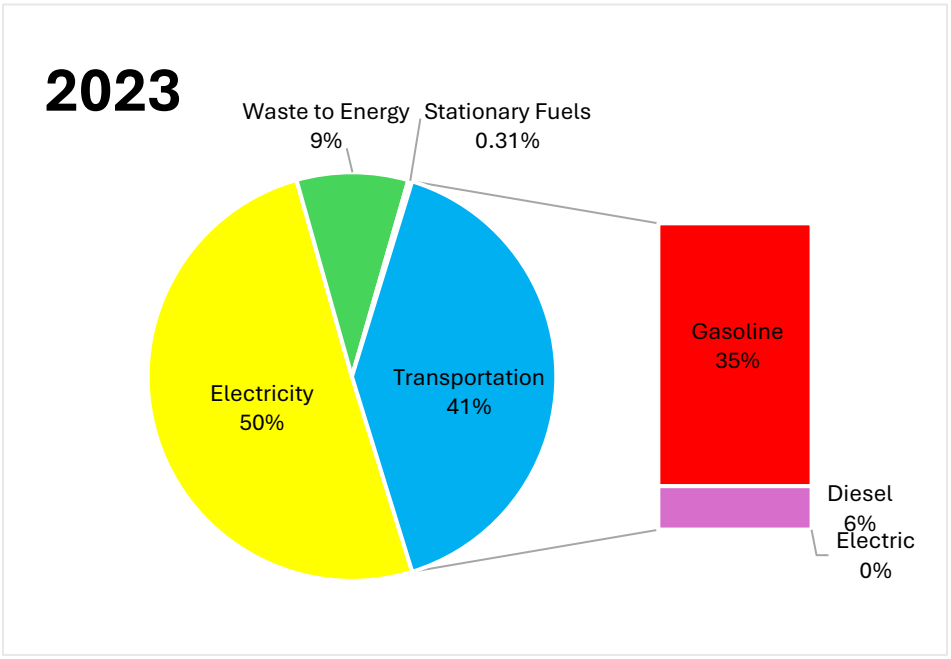
Taken together, the chart emphasizes that meaningful reductions in government energy use will depend heavily on strategies targeting water and wastewater systems, fleet efficiency, and commuter-related emissions.

Table 6. Energy Usage by Energy Source 2022 vs. 2023 (MMBTU)

Energy Source	2022 Energy Equivalent (MMBtu)	2023 Energy Equivalent (MMBtu)
Electricity	344,504	338,411
Transportation	282,830	271,824
Waste to Energy	61,010	59,272
Stationary Fuels	2,310	2,107

Figure 17. 2022 and 2023 Government Energy Source Contribution to GHG Emissions as a Fraction of Total Energy Usage (MMBTU)





Electricity remains the primary energy source for government operations, driven largely by the City's water treatment facilities (Charles W. Fiveash and Walter E. Peele Dixie) and the wastewater treatment plant (George T. Lohmeyer Regional). In 2026, the City plans on opening a new water treatment plant (Prospect Lake Clean Water Center) that will replace the aging Fiveash water treatment plant, deliver clear safe drinking water, and be able to withstand a category 5 hurricane.[26] This new water treatment plant will require more energy consumption due to its more energy intensive water treatment technologies, leading to increased emissions in the future.

Transportation-related energy use is influenced by both employee commute and the vehicle fleet. To help reduce emissions associated with commuting, the City promotes alternative transportation options, including commuter rail passes and the Circuit micro-transit program. The City has also committed to converting all its light duty non-emergency fleet to electric vehicles by 2035.

The remaining energy is associated with waste-to-energy processed, in which all **municipal solid waste** (MSW) is combusted and disposed of at the Wheelabrator Waste-to-Energy Facility. Yard waste (compost) and waste generation do not contribute to energy usage.

Stationary fuels comprised the smallest portion of total energy use, suggesting that stationary operations, while still important, consume less energy compared to utility operations and fleet activity.

Table 7. Analysis of Greenhouse Gas (GHG) Emissions - Government Operations

Government Operations Indicators	2019 (Baseline)	2022	% change since 2019	2023	% change since 2019
# of Active Full-Time Employees	2,653	2,732	+2.98%	2,548	-3.96%
Fleet Vehicle Miles Travelled (VMT)	11,527,978	7,928,835	-31.22%	7,928,835[27]	-31.22%
Employee Commute VMT[28]	18,507,744	22,720,896	+22.76%	20,415,518	+10.31%
Tons of Municipal Solid Waste (MSW)[29]	42,242	43,719	+3.50%	44,090	+4.37%

[26] Water Treatment Plant | Spotlight FTL

[27] Based off 2022 VMT from the 2022 Green Fleet Application since there was no known 2023 VMT and no 2023 Green Fleet Application

[28] Employee Commute VMT was recalculated. See appendix for detailed methodology.

[29] Tons of MSW data from Master Disposal Spreadsheet provided by the Solid Waste & Recycling team.

Sustainability Achievements

The City of Fort Lauderdale has made significant progress in its efforts to reduce GHG emissions and in advancing sustainability initiatives. Below are highlights of third-party recognition of the City's accomplishments in these areas. The accomplishments below demonstrate leadership in planning, operations, and cross-departmental coordination.

Florida Green Building Coalition (FGBC) Green Local Government Award

In 2024, the City of Fort Lauderdale earned a gold level designation as a Green Local Government from the Florida Green Building Coalition, the leading certifying agency for green building within the state of Florida. The green certification program scores local governments in categories including: Energy Efficiency, Water, Economic Development, Tourism, Emergency Management, Planning and Zoning and many more.[30] Notable achievements contributing to the City's score include:

- Establishing a cross-departmental Green Team and maintaining a green fleet
- Implementing sustainable landscaping and irrigation practices
- Expanding recycling services to multi-family properties
- Conducting a greenhouse gas inventory to establish an emissions baseline

Additionally, the City of Fort Lauderdale is the second city to certify under Version 5 of the Green Local Government standard and the highest scoring. Version 5 of the Local Government Standard was recently launched and is designed to challenge local governments to do more than previous versions.

LEED for Cities and Communities

In March 2023, Fort Lauderdale became the first city in Broward County to earn a Gold LEED for Cities and Communities designation. The rating recognizes efforts to reduce emissions, enhance resilience, and improve quality of life. Key areas of progress include: integrating resilience to climate impacts into City policies, plans, ordinances, and operations, including;

- Integrating climate resilience into City plans, policies, and infrastructure investments.
- Preserving the natural environment, including growing and enhancing the City's urban tree canopy, expanding Florida-friendly landscaping, supporting wildlife protection, and improving the City's Parks system.
- Reducing greenhouse gas emissions from the built environment by promoting energy efficiency and solar installations through the Broward Solar Co-op and the Property Assessed Clean Energy program.
- Reducing greenhouse gas emissions in the transportation sector by promoting public transportation and increasing bicycle and pedestrian infrastructure and safety.

[30] Team FTL Recognized as Highest-Scoring Local Government in FGBC's 2024 Green Achievement Awards

- Collaboration across regional jurisdictions to address resiliency, water scarcity, climate action, transportation, and conservation issues.

For more information refer to US Green Building Council Case Study.

CDP (Carbon Disclosure Project)

CDP is the world's largest non-profit environmental disclosure system. On December 10, 2025, Fort Lauderdale scored an A and has officially been named to the 2025 CDP Cities A List in its recent submission of its CDP application, making the City a leader in driving environmental transparency to action. This is a major accomplishment as City staff worked hard to gather all possible points and disclose as much data on emissions, sustainability, and climate and adaptation projects to meet the essential criteria for scoring an A. Among those were including our climate risk and vulnerability assessment, additional fluorinated and halogenated gases in our greenhouse gas emissions inventory, and monitoring and evaluating our climate action plans more frequently. By publicly disclosing data, the City not only showcases its commitment to sustainability but also attracts potential investment and funding for future climate adaptation and resilience projects.

Appendix

Detailed Methodology

*Updates to government inventory

Employee commute vehicle miles travelled (VMT) calculation methodology

Employee commute VMT has been recalculated in preparing the 2022 and 2023 government inventories to more accurately capture the distances our employees commute to and from work. Thus, this updated methodology has been retroactively applied to previous years up until 2019, which is our baseline year, and those emissions have been updated as well.

Number of full time employees was taken from our budget book, and a full list of zip codes was provided by HR. The old methodology took the average one way trip from various full time employee zip codes to work (16 miles), excluding zip codes with distances greater than 90 miles, doubled that to get an average daily round trip distance, and multiplied that average across all full time employees and 240 working days out of the year to get a total annual VMT. This methodology underestimates VMT because it assumes that every employee roughly makes the same commute to work and lives 16 miles from work.

The new methodology sums the total one way distance to work (excluding zip codes with distances greater than 90 miles), doubles that to get a total round trip distance, and multiplies that by 240 working days to get a revised total annual VMT. This is more accurate as it accounts for differences in each employee's commute rather than averaging them.

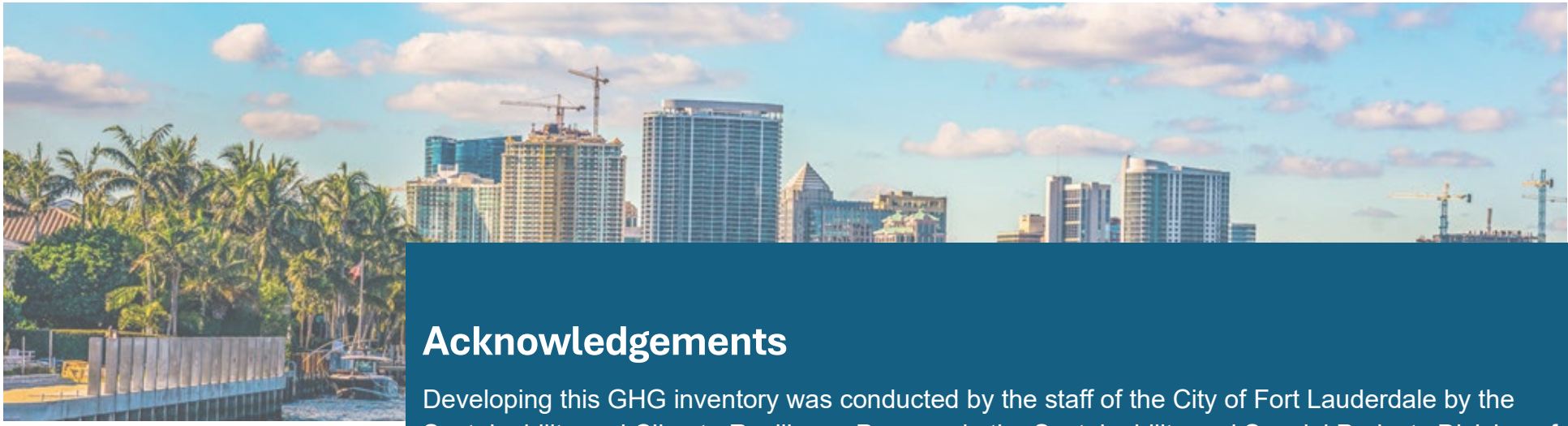
Solid Waste Facilities

Emissions from solid waste disposal in inventory reports for years prior to 2022 have been updated to reflect those in Clearpath 1.0. Thus, this also revised government emissions for previous years.

*Updates to community inventory

Since 2021, the City no longer received industrial energy natural gas usage data from TECO Peoples Gas. Thus, these emissions weren't included in the 2022 and 2023 community inventories.

2019, 2020 and 2021 baseline community emissions have been updated to account for carbon sequestration from urban forests.



Acknowledgements

Developing this GHG inventory was conducted by the staff of the City of Fort Lauderdale by the Sustainability and Climate Resilience Program in the Sustainability and Special Projects Division of the Parks and Recreation Department. The City extends special acknowledgement to the individuals whose technical expertise and coordination were instrumental in this effort, including;

- Nancy J. Gassman, Ph.D., Deputy Director / Chief Resilience Officer
- Glen Hadwen, Sustainability Manager
- Luz Ramirez, Sustainability Administrator
- Laura Tooley, Urban Forestry Supervisor
- Nali Liu, Sustainability Analyst

Data Sources

- WLRN Public Media
- University of Florida Bureau of Economic and Business Research (BEBR)
- City of Fort Lauderdale Development Services Department, Human Resources Department, Public Works Department, and Strategic Communications
- Florida Department of Transportation (FDOT)
- Florida Power & Light
- Google Environmental Insights Explorer
- ICLEI USA
- Samsara
- TECO Energy