

# ERIE COUNTY

## GHG INVENTORY



This document presents an overview of the greenhouse gas (GHG) emissions in the Erie County, along with related data on the County's economics, transportation, energy, and land use. This information can help promote local and regional resilience in the Buffalo Niagara region (Erie and Niagara Counties).

The Erie County covers 1,044.19 square miles with a population of 951,232 and 482,200 jobs. **An estimated 10,578,229 Metric Tons of CO<sub>2</sub> equivalent (MTCO<sub>2</sub>e) are emitted in the County annually.** Most GHG emissions in the Erie County come from the transportation and residential sectors, which account for a combined 65% of all emissions in the County.

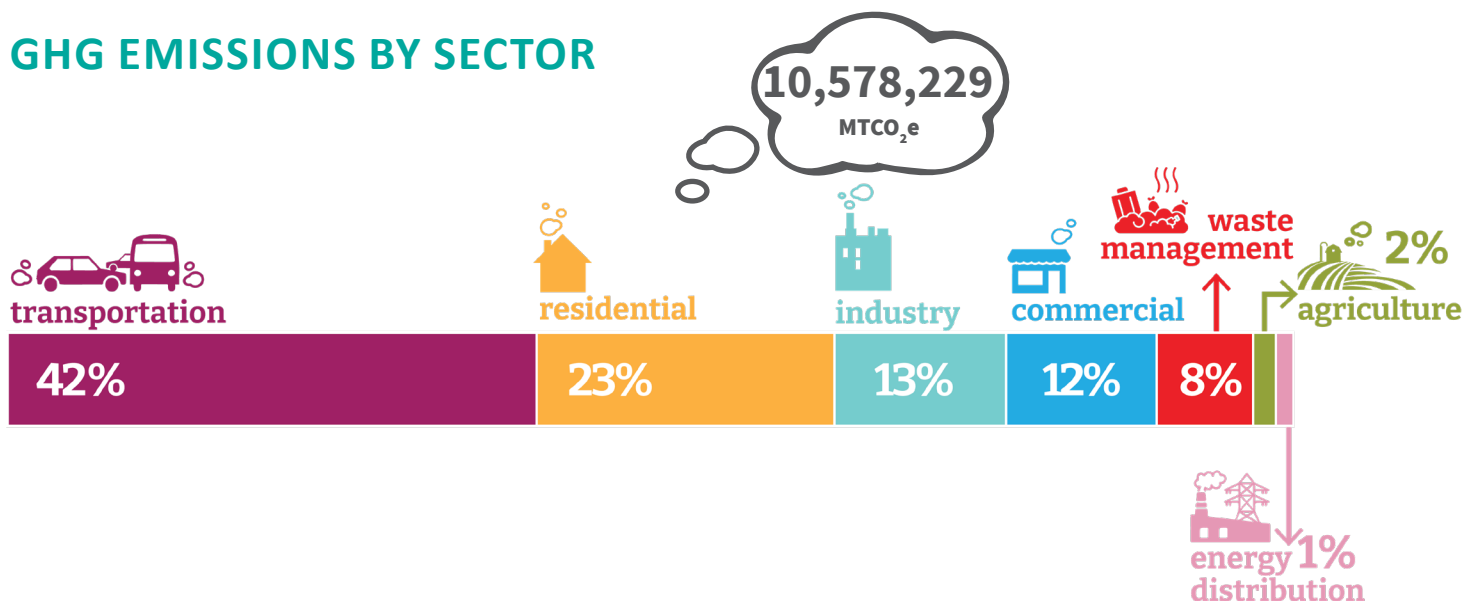
*This summary is part of a regional GHG inventory for Erie and Niagara Counties conducted by the UB Regional Institute as part of the One Region Forward initiative. Additional information about that effort, including methodology, can be found on this summary's back page.*

### COMMUNITY CONTEXT

	COUNTY	REGION
<b>Population</b>	<b>951,232</b>	1,163,462
<b>Jobs</b>	<b>482,200</b>	558,902
<b>GHG Emissions (MTCO<sub>2</sub>e)</b>	<b>10,578,229</b>	12.96M
<b>Median Household Income</b>	<b>\$68,014</b>	\$67,638
<b>Poverty Rate</b>	<b>13.70%</b>	13.60%

**Erie County is a NYSEDA Clean Energy Communities Participant and a Silver Certified NYS Climate Smart Community.**








### GHG EMISSIONS BY SECTOR



\*NOTE: Municipal GHG emissions are estimated using various data sources. See Data Sources and Notes for more. Numbers may not add to 100% due to rounding.

# GHG EMISSIONS AND ENERGY CONSUMPTION




## PER CAPITA EMISSIONS (MTCO<sub>2</sub>E PER PERSON)

	 Residential	 Commercial	 Industrial	 Transportation	 Waste	 Agriculture	 Energy Distribution	TOTAL
COUNTY	2.48	1.31	1.46	4.58	0.84	0.19	0.15	11.01
REGION	2.63	1.31	1.50	4.48	0.84	0.22	0.16	11.2

## PER CAPITA ENERGY CONSUMPTION

		TOWN	REGION
Electricity (kWh/person)	Residential	2,194.02	4,253
	Non-residential	4,151.57	5,643
Natural Gas (MMBtu/person)	Residential	39.86	38.56
	Non-residential	25.03	27.01

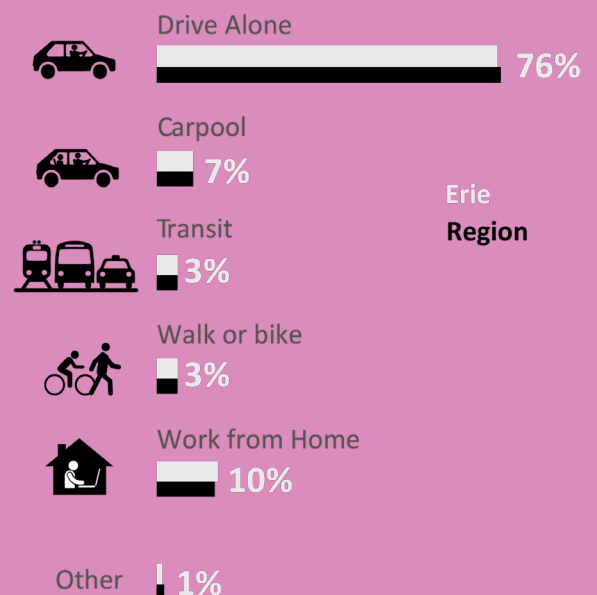
## RENEWABLE ENERGY PRODUCTION

	Solar (MWh)	357,703
	Wind (MWh)	102,190
	Other (MWh)	41,354
	<b>TOTAL (MWh)</b>	<b>501,246</b>
That's enough electricity to power 50978.7 homes with renewable energy		

## TRANSPORTATION

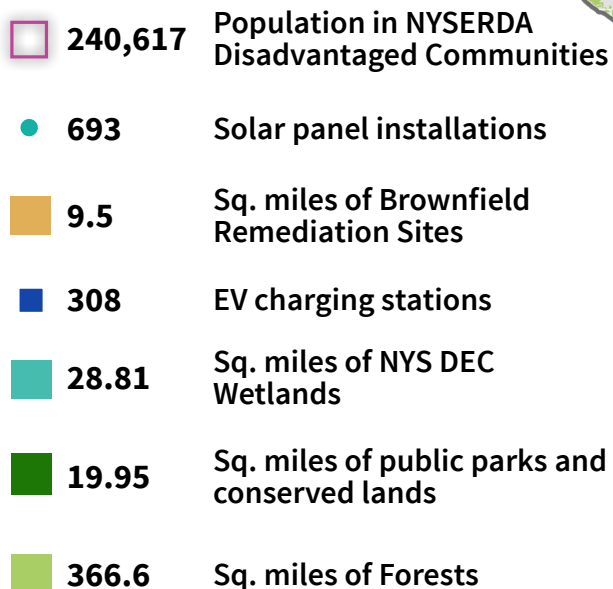
	COUNTY	REGION
Vehicles Per Capita	0.6	0.61
Electric Vehicles	1.50%	1.50%
Walkability (Walk Score)	44	40
Miles of Bike Lanes/Trails	283.03	440
Bike Score	42	41

## MODES OF TRAVEL TO WORK

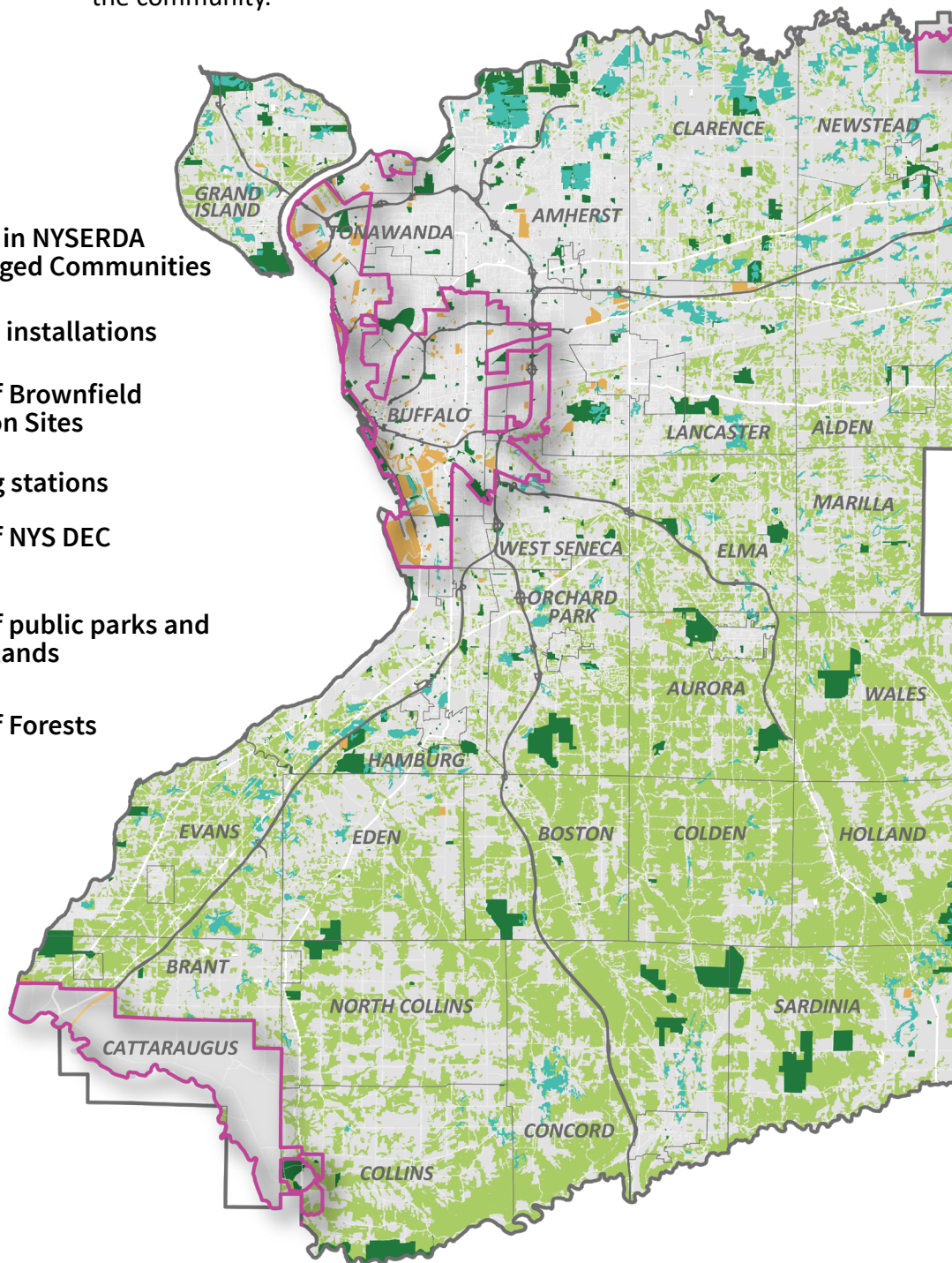


# CLIMATE ACTION CONTEXT MAP

This map sheds light on community momentum on building climate resilience--adopting renewable energy, preserving natural areas, and cleaning contaminated sites. This context can help inform how and where future actions may be prioritized in the community.



NOTES: Disadvantaged communities are census tracts designated by NYSERDA based on a set of environmental/ climate, socioeconomic, and demographic factors. This designation may correspond to NYSERDA funding opportunities. Solar panel installations include rooftop and small-scale solar projects. See Data Sources and Notes.



## LAND COVER, 2021

<b>% Developed Land</b>	<b>18%</b>
<b>Net change in developed land, 2001-2021</b>	<b>3.00%</b>
<b>% Impervious Surfaces</b>	<b>11.40%</b>
<b>Net change in impervious surface area, 2001-2021</b>	<b>1%</b>

*Developing natural areas can reduce resilience on the local and regional level. Development in forests and wetlands can limit carbon sequestration, increase energy demands, and exacerbate potential impacts of natural hazards, such as flooding and extreme heat.*

## DATA SOURCES AND NOTES

This GHG inventory focuses on emissions from activities and energy consumption within the Erie County using the latest available data as of 2024. Emissions were estimated using the 2015 New York Community and Regional GHG Inventory Guidance (NYS DEC) which complies with Federal and International protocol for GHG inventories. For more details, see our full Methodology document available on our [GHG Inventory Dashboard](#). GHGs are reported in Metric Tons of CO<sub>2</sub> equivalent (MTCO<sub>2</sub>e). 1 MTCO<sub>2</sub>e can power the average US home for 1.5 months.

**COMMUNITY CONTEXT:** US Census Bureau, American Community Survey, 5-year estimates, 2022. Note: US Census job estimates do not match official US BLS data.

**GHG EMISSIONS:** UBRI analysis, various sources, 2024.

**Transportation:** On-road: NYS DOT, Vehicle Miles Traveled, 2022 and Annual Avg. Daily Traffic, 2019; NYS DMV, vehicle registrations by ZIP and vehicle class fuel mix, 2024; ReplicaHQ, Network VMT Calculator, Trip Origin-Destination, 2024; Aviation: US Bureau of Transportation Statistics (BTS) total flight miles per airport, 2022; US EPA, National Emissions Inventory, 2022; US BLS, 2022; US Census, ACS, 2022; Off-road and Marine: US EPA National Emissions Inventory; Rail: US EIA, 2022 and US BTS, 2023.

**Residential, Commercial, and Industrial:** Utility data on electric and natural gas consumption from NYS Utility Energy Registry (UER), 2024; US EIA, State Energy Data System and Residential Energy Consumption Survey, 2022; Erie and Niagara County, Tax Parcel Data, 2024; State data on the use of other fossil fuels is allocated to communities based on the number of occupied housing units or commercial/industrial square footage (using 2024 tax parcel data); Industrial includes Ozone Depleting Substitutes (US EPA, National Emissions Inventory, 2022) and NYS DEC Title V Facilities (2024) on industrial pollution. NOTE: Monthly community-level energy consumption data is provided as-is by utility companies and may include inaccuracies.

**Agriculture:** USDA Agricultural Census, 2022; US EPA's State Inventory Tool, 2024. Emissions allocated to community based on parcel data.

**Waste:** NYS DEC Landfill and water treatment facility reports, 2023; NYS Solid Waste Management Plan, 2018; EPA Recycling Map, 2024; IPCC, 2019 IPCC Guidelines for GHG Inventories; US EPA, State Inventory Tool, 2024. Emissions allocated to municipalities using 2024 tax parcel data.

**Energy Distribution:** US Energy Information Administration. Statewide Capacity Factors, 2023; NYS UER, 2024.

**PER CAPITA EMISSIONS:** US EPA, 2024; NYS UER, 2024; US Census, ACS, 2022.

**PER CAPITA ENERGY CONSUMPTION:** NYS UER, 2024; US Census, ACS, 2022.

**RENEWABLE ENERGY PRODUCTION:** UBRI analysis of NYSEERDA-Supported Solar Projects, 2024; US Geological Survey, US Wind Turbines, 2024; US EIA Form-923 Data, 2024.

### TRANSPORTATION CONTEXT:

**Vehicles and Electric Vehicles:** NYS DMV registration by ZIP code, 2024. ZIP code data is allocated to municipalities based on the percentage of housing units in each ZIP code that fall within each intersecting municipality, found using block-level data on housing units from the 2020 US Census. **Walkability and Bike Score:** [WalkScore.com](#), 2024. **Bike Lanes:** GBNRTC, 2024. **Travel Mode:** US ACS, 5-year estimates, 2023.

### CONTEXT MAP:

**Population in LIDACs:** US Census, ACS, 5-year estimates, 2023; NYSEERDA, LIDACs, 2023. **Solar energy sites:** Solar Electric Programs Reported by NYSEERDA: Beginning 2000. Accessed June, 2024. **Remediated Brownfields:** NYS Department of Environmental Conservation (DEC), Remediated Sites Database, 2024. **EV Charging Stations:** NYSEERDA, 2024. **Wetlands:** NYS DEC, Regulated Wetlands, 2024. **Public Parks and Conserved Lands:** NYS DEC Protected Lands; County Tax Parcel Data; National Conservation Easement Database, 2024. **Forests:** USGS, National Land Cover Data (NLCD), 2021.

**CHANGE IN DEVELOPED LAND AND IMPERVIOUS SURFACES:** UBRI analysis of USGS, NLCD, 2001 and 2021.

## EXPLORE ONLINE

VISIT OUR WEBSITE TO SEE  
THE INTERACTIVE BUFFALO  
NIAGARA GHG INVENTORY  
DASHBOARD

Scan here to visit an  
interactive website with  
more details on the  
GHG emissions in your  
community.



ONE  
REGION  
FORWARD



This Greenhouse Gas Inventory is part of the **2025 Regional Greenhouse Gas Inventory** for the Buffalo Niagara Region (Erie & Niagara Counties) that was prepared as a part of the scope of the region's grant from the US Environmental Protection Agency (EPA) Climate Pollution Reduction Grant (CPRG) program. The inventory is part of **One Region Forward (1RF)**, a broad-based, regional planning initiative led by the Greater Buffalo Niagara Regional Transportation Council that seeks to promote sustainable forms of development in land use, transportation, housing, energy and climate, and food access. Analysis and production of the GHG Inventory was produced by the **University at Buffalo Regional Institute** through its role supporting One Region Forward with engagement, and technical analysis.

Visit our 1RF website for more information: [www.oneregionforward.org](http://www.oneregionforward.org)



**Recommended Citation:** University at Buffalo Regional Institute, State University of New York at Buffalo, School of Architecture and Planning. 2025. "Buffalo Niagara 2025 Regional Greenhouse Gas Inventory: Erie County Local Summary."



## Erie County Community Greenhouse Gas Inventory 2024

SECTOR	SOURCE	TOTAL (MTCO2e)	% of Sector/Total, Erie County	Scope
Residential Energy Consumption (MTCO2e)	<b>Total</b>	<b>2,357,608.3</b>	<b>23%</b>	<b>2</b>
	Electricity	314,606.1	13%	2
	Natural Gas	2,014,338.5	85%	2
	Other Fossil Fuel Combustion	28,663.7	1%	1
	Propane / LPG	1,802.4	0.1%	1
	Distillate Fuel Oil (#1, #2, Kerosene)	26,314.2	1.1%	1
	Coal	29.4	0.001%	1
	Wood	517.8	0.022%	1
Commercial Energy Consumption (MTCO2e)	<b>Total</b>	<b>1,243,228.5</b>	<b>12%</b>	<b>2</b>
	Electricity	303,974.7	24%	2
	Natural Gas	863,069.6	69%	2
	Other Fossil Fuel Combustion	76,184.3	6%	1
	Propane / LPG	30,277.3	2%	1
	Distillate Fuel Oil (#1, #2, Kerosene)	44,182.3	4%	1
	Residual Fuel Oil (#4 and #6)	-	0%	1
	Coal	-	0%	1
Industrial Energy Consumption (MTCO2e)	<b>Total</b>	<b>778,826.8</b>	<b>7%</b>	<b>2</b>
	Electricity	420,355.6	54%	2
	Natural Gas	343,885.6	44%	1
	Other Fossil Fuel Combustion	14,585.7	2%	1
	Propane / LPG	392.0	0%	1
	Distillate Fuel Oil (#1, #2, Kerosene)	215.7	0%	1
	Residual Fuel Oil (#4 and #6)	714.9	0%	1
	Coal	12,330.5	2%	1
Industrial Process (MTCO2e)	<b>Total</b>	<b>609,934.7</b>	<b>6%</b>	<b>1</b>
	Metal Manufacturing	107,477.2	18%	1
	Chemical Manufacturing	23,637.1	4%	1
	Other Manufacturing	77,617.8	13%	1
	Product Use (ODS Substitutes)	401,202.5	66%	1
Energy Generation and Supply (MTCO2e)	<b>Total</b>	<b>144,946.5</b>	<b>1.4%</b>	<b>1</b>
	Electricity T/D Losses	49,025.5	34%	1
	Natural Gas T/D Losses	59,397.6	41%	1
	Use of SF6 in the Utility Industry	36,375.9	25%	1
Transportation (MTCO2e)	<b>Total</b>	<b>4,353,620.3</b>	<b>41.59%</b>	<b>-</b>
	OnRoad	3,583,886.5	82%	3
	Rail	106,523.6	2%	1
	Rail Commercial	89,850.2	2%	1
	Light Rail	1,036.5	0%	1
	Marine	37,810.8	1%	-
	Marine - Personal	19,560.3	0.4%	3
	Marine - Commercial	6,155.7	0.1%	1
	Aircraft	251,566.4	6%	3
	Off-Road	401,564.6	9%	1
Waste Management	<b>Total</b>	<b>797,333.5</b>	<b>8%</b>	<b>-</b>
	Landfill Methane and Combustion	658,482.1	83%	3
	Sewage Total	138,851.4	17%	1
	Public WWTP Sewage Treatment	111,075.4	14%	1
Agriculture (MTCO2e)	Septic Sewage Treatment	27,776.0	3%	1
	<b>Total</b>	<b>182,953.6</b>	<b>1.7%</b>	<b>1</b>
	Livestock Total	150,406.6	82%	1
	Enteric Fermentation	78,346.0	43%	1
	Manure management	72,060.6	39%	1
	Crop Production Total	32,547.0	18%	1
	Use of Fertilizer	1,415.8	1%	1
Grand Total	Soil Management	31,131.2	17%	1
	<b>ERIE COUNTY Total</b>	<b>10,468,452.2</b>	<b>100%</b>	