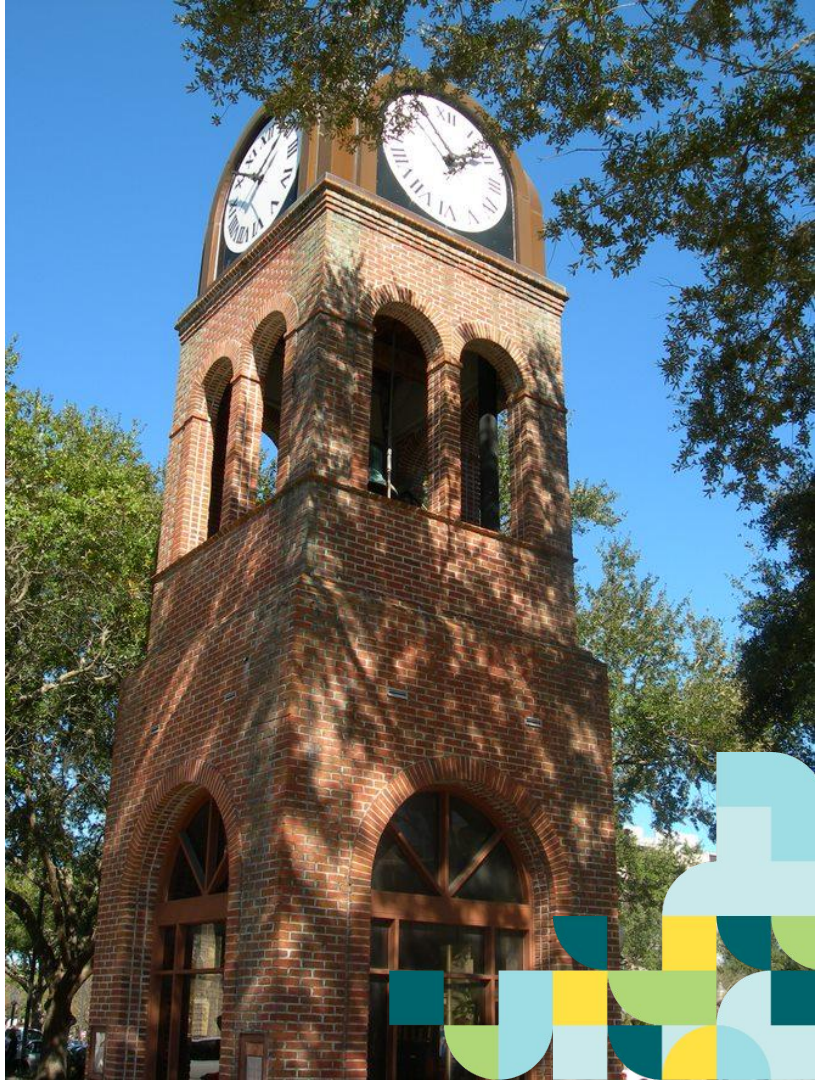
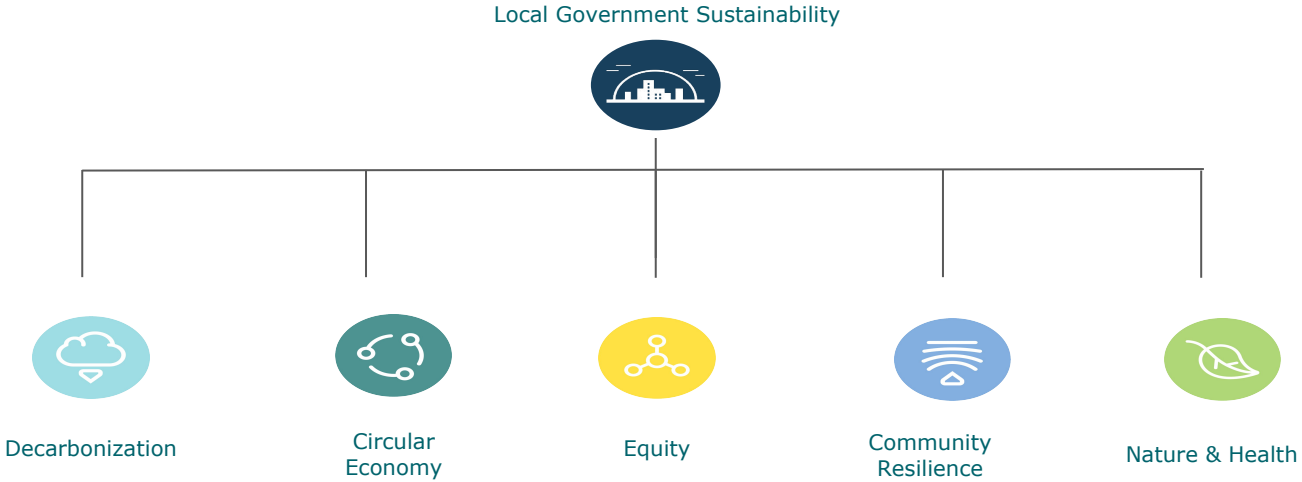
Gainesville, FL 2019 Community-wide & Government Operations GHG Inventory

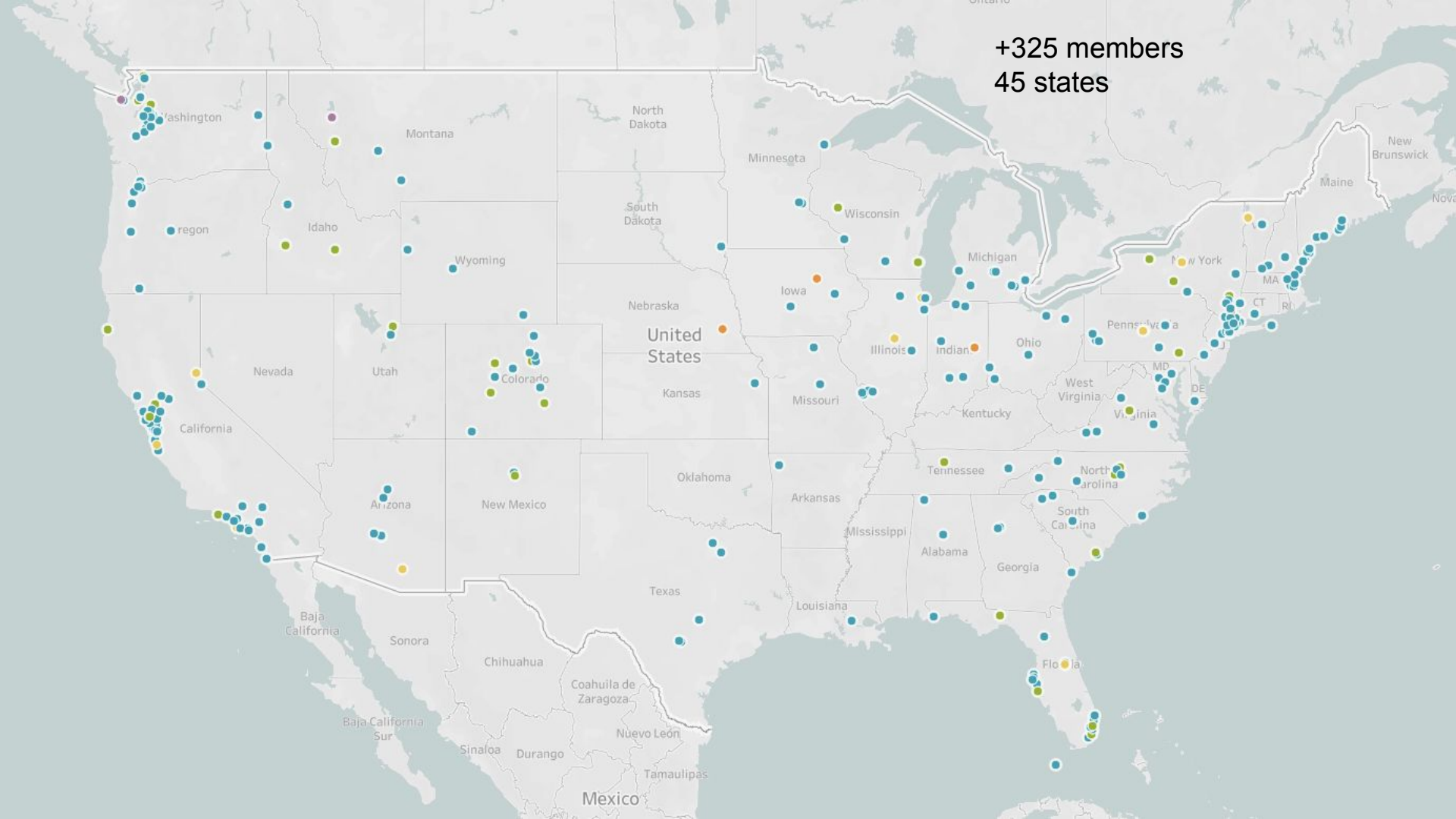
Results and Next Steps



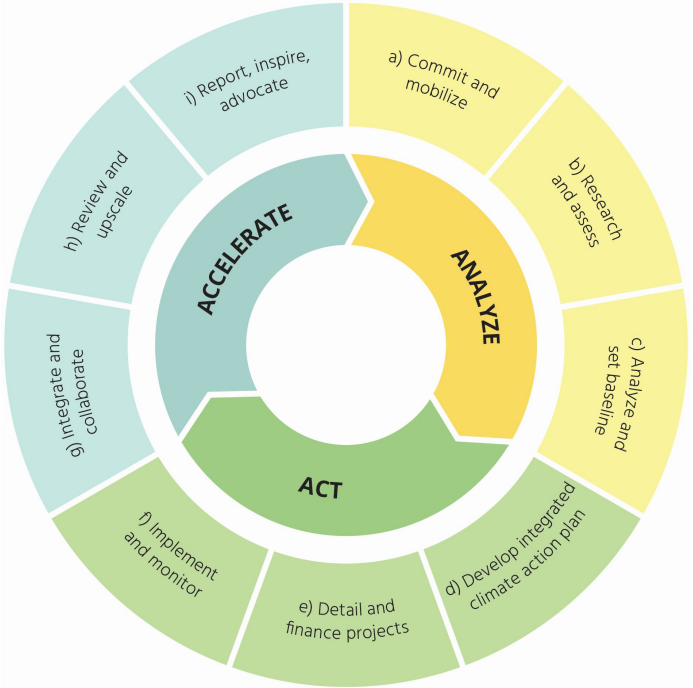
ABOUT ICLEI

ICLEI – Local Governments for Sustainability is a global network working with more than 2,500 local and regional governments committed to sustainable urban development. Active in 125+ countries, we influence sustainability policy and drive local action for low emission, nature-based, equitable, resilient and circular development. Our Members and team of experts work together through peer exchange, partnerships and capacity building to create systemic change for sustainability.




+325 members
45 states
North Dakota
Montana
Minnesota
South Dakota
Wisconsin
Idaho
Wyoming
Michigan
Iowa
Nebraska
United States
Illinois
Ohio
Nevada
Utah
Colorado
Kansas
Missouri
West Virginia
Kentucky
California
Oklahoma
Arkansas
Tennessee
Arizona
New Mexico
Mississippi
Alabama
Georgia
Texas
Louisiana
Baja California
Sonora
Chihuahua
Coahuila de Zaragoza
Baja California Sur
Nuevo León
Sinaloa
Durango
Tamaulipas
Mexico
New Brunswick
Maine
MA
CT
MD
DE

ICLEI framework

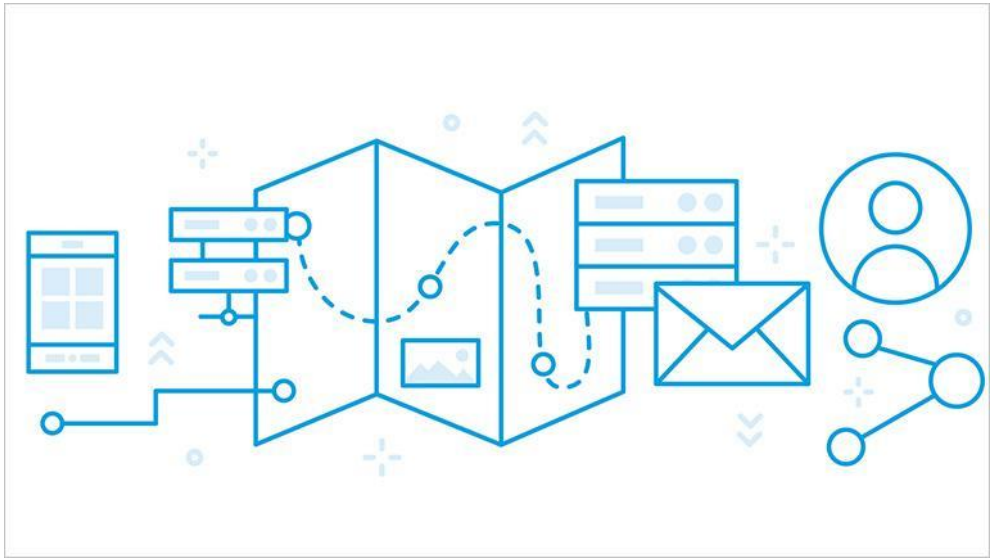


ICLEI Tools

ICLEI Member Journey

City-to-city dialogue
on a specific action

Expert review of
draft plan



Project or plan
scoping

Data
quality-control
checks

Cohort training
engagement

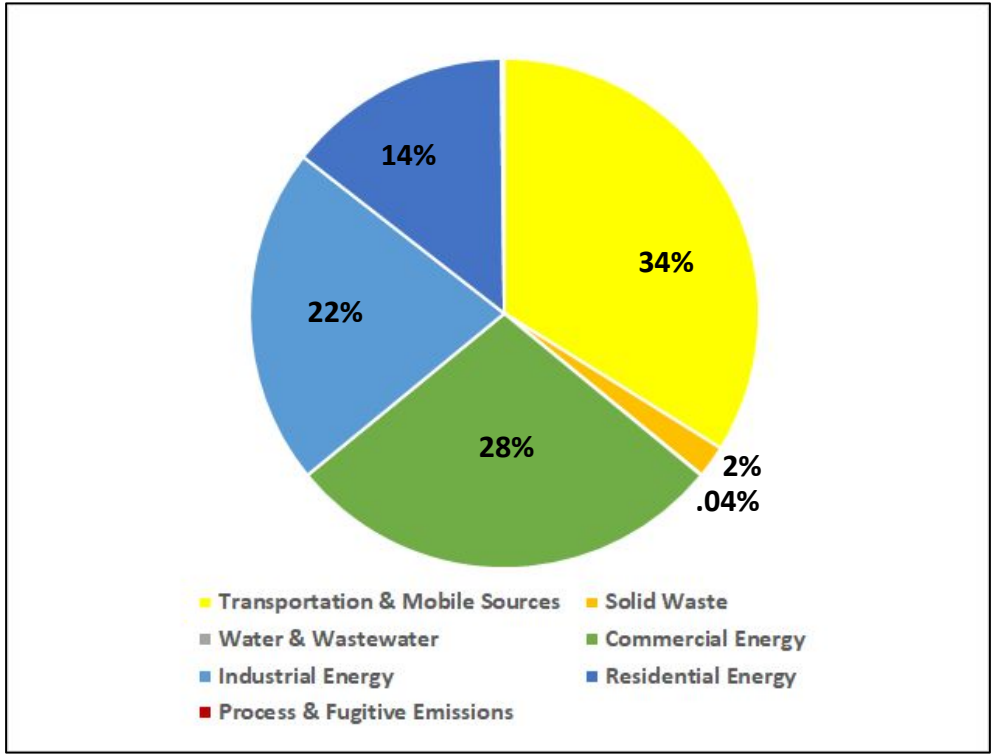
Technical
one-on-one
coaching calls

Community-wide Inventory

Residential Energy	Electricity	538,045,440	kWh	278,064
	Natural Gas	4,006,267	Therms	21,308
	Kerosene/Fuel Oil	22,614	Gallons	132
	Propane	4,903	MMBtu	371
			Residential Energy Total	**299,875**
Commercial Energy	Electricity	1,111,559,392	kWh	557,743
	Natural Gas	6,078,855	Therms	32,331
			Commercial Energy Total	**590,074**
Industrial Energy	Electricity	157,717,120	kWh	81,509
	Natural Gas	12,644,209	Therms	67,109
	Distillate Fuel Oil No. 2	49,584	Gallons	507
	Various Fuels for Power Generation	-	-	301,273
			Industrial Energy Total	**450,398**
On-road Transportation	Gasoline	1,057,085,177	Vehicle Miles Traveled	435,554
	Diesel	108,508,743	Vehicle Miles Traveled	159,750
Transit	Gasoline	107,944	Gallons	10,171
	Diesel	996,038	Gallons	951
Aviation	Jet A (Jet Kerosene)	3,826,419	Gallons	37,433
	Aviation Gasoline	152,802	Gallons	1,274
Off-road	Diesel	-	-	37,759
	Gasoline	-	-	24,731
	Other Fuels	-	-	2,791
Freight Rail	Diesel	16,814	Gallons	173
			Transportation Total	**710,587**
Solid Waste	Waste Generated	149,146	Waste Generated (wet tons)	42,886
	Landfill Gas Combustion	70,202	Annual Gas Combusted (scf / Year)	78
	Compost	1,916	Tons	133
			Solid Waste Total	**43,097**
Water and Wastewater	Wastewater Treatment Processes	223,000	Population	517
	Nitrogen Discharge	453	Daily N Load (kg N / Day)	344
			Water and Wastewater Total	**861**
Process & Fugitive Emissions	Fugitive Emissions From Natural Gas Distribution (GRU)	14,965,995	Natural Gas Used (Therms)	2,597
	Fugitive Emissions From Natural Gas Distribution (University of Florida)	7,763,336	Natural Gas Used (Therms)	1,347
			Process & Fugitive Emissions Total	**3,944**

Total Community-wide Emissions: **2,098,836** MT CO2e

Community-wide Inventory Sectors



Emissions & percentages are rounded

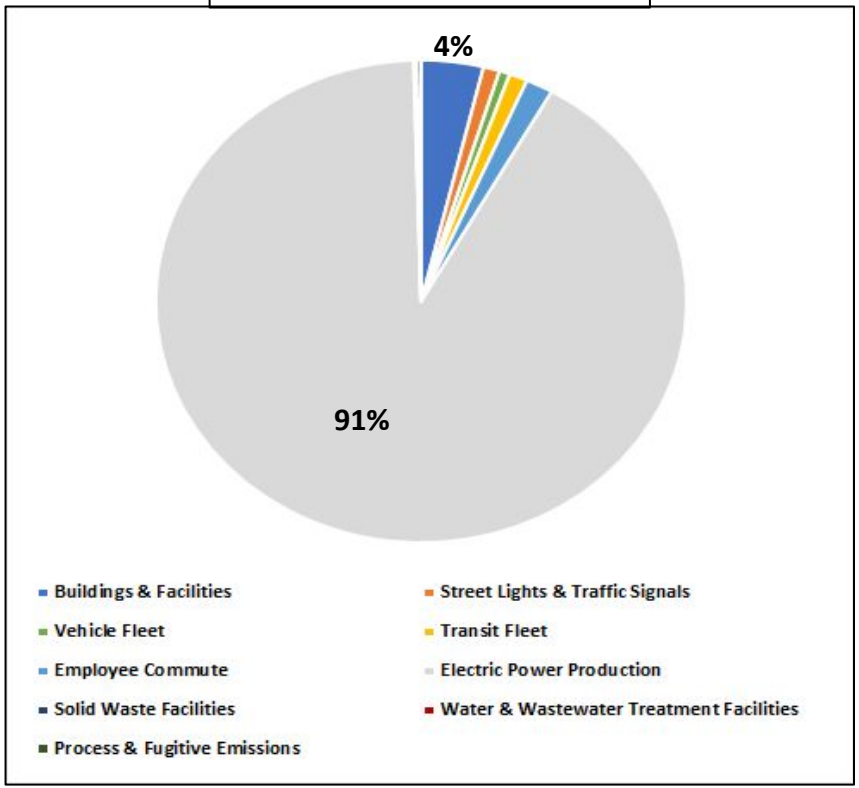
Government Operations Inventory

Buildings & Facilities	Electricity	74,843,691	kWh	38,679
	Natural Gas	90,465	Therms	481
	Buildings & Facilities total			**39,160**
Street Lights & Traffic Signals	Electricity	20,097,858	kWh	10,387
	Street Lights & Traffic Signals total			**10,387**
Vehicle Fleet	Gasoline (off-road)	19,424	Gallons	172
	Diesel (off-road)	9,675	Gallons	100
	Gasoline (on-road)	7,278,940	Vehicle Miles Traveled	4,309
	Diesel (on-road)	2,483,773	Vehicle Miles Traveled	2,117
	Vehicle Fleet total			**6,698**
Transit Fleet	Diesel	1,020,233	Gallons	10,418
	Gasoline	126,089	Gallons	1,111
	Transit Fleet total			**11,529**
Employee Commute	Gasoline	41,037,124	Vehicle Miles Traveled	16,457
	Diesel	636,492	Vehicle Miles Traveled	713
	Employee Commute total			**17,170**
Electric Power Production	Various Fuels for Power Generation	-	-	947,293
	Electric Power Production total			**947,293**
Solid Waste	Waste generation	4,902	Tons	1,265
	Compost	1,916	Tons	133
	Solid Waste Total			**1,398**
Water and wastewater	Wastewater Treatment Process	173,000	Service Population	401
	Effluent Discharge	418	Daily Nitrogen Load	318
	Water and Wastewater total			**719**
Process & Fugitive Emissions	Fugitive Emissions from Natural Gas Distribution	14,965,995	Therms	2,597
	Process & Fugitive Emissions total			**2,597**

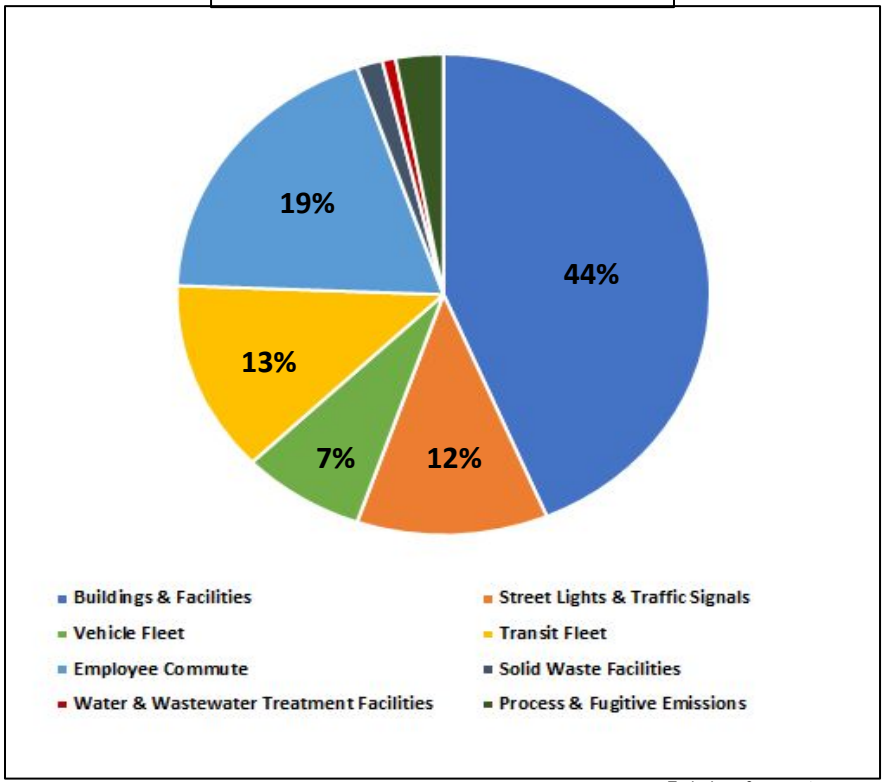
Total Gov. Operations Emissions: **1,036,952** MT CO2e

Government Operations Inventory Sectors

With Electric Power Production



Without Electric Power Production



Emissions & percentages are rounded

Key Takeaways: Community-wide

- Electricity usage is the largest source of emissions- 44%
    - There are opportunities for economic, climate, and social benefits through energy efficiency and grid decarbonization/renewable procurement.
- Mobile combustion (on-road transportation) is the second-largest source of emissions- 28%
    - Gainesville has an excellent opportunity to leverage communitywide vehicle electrification and alternative transit options.
- Stationary combustion (natural gas) is the 3rd largest source of emissions- 6%
    - Electrifying all stationary fuel combustion will reduce emissions/reliance from stationary fuels
- Given the great potential for renewable energy, when combining RE with electrification and energy efficiency, Gainesville would see enhanced greenhouse gas mitigation.
    - This potential comes from:
        - GRU being municipality owned (decarbonization)
        - Geography (distributed solar)
- There is also great opportunity to improve recycling and composting programs to remove greenhouse gas emitting waste types (e.g., papers, food waste, yard waste) from waste streams.

Key Takeaways: Government Operations

- Electric Power Production is the largest source of emissions- 91%
    - Given that GRU is municipally owned, there is great opportunity for decarbonization.
- Building/Street Light electricity consumption is the second-largest source of emissions- 55%*
    - With the great potential for grid decarbonization, renewable energy procurement, and energy efficiency, buildings/street light electricity emissions can be greatly reduced.
- Employee commute is the third-largest source of emissions- 19%*
    - Great opportunity to reduce emissions through work-from-home/hybrid working options, employee public transit programs, and incentivizing walking/biking
- Transit fleet is the fourth-largest source of emissions - 13%*
    - Given that transit is owned by Gainesville, there is an opportunity to reduce emissions by transitioning to electric
- Given the great potential for renewable energy, when combining RE with electrification and energy efficiency, municipal operations would see enhanced greenhouse gas mitigation.

*Electric Power Production Removed

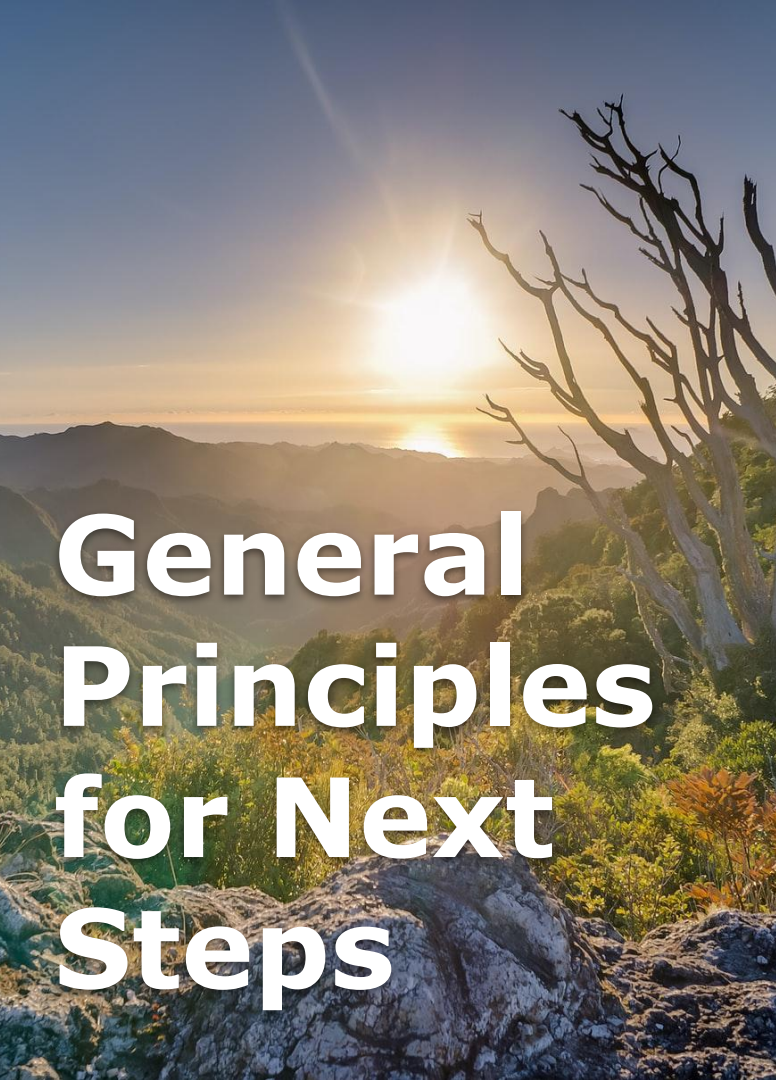
Next Steps

Current Work:

- Developing in-depth High-Impact Action Analysis describing a pathway to Gainesville's Science-Based Target. This Includes:
  - Utility decarbonization
  - Various High-Impact actions (VMT Reduction, EV Adoption, Energy Efficiency, etc).
- Option to amend GHGI report in preparation for CAP
  - Example: 20 year Global Warming Potentials

Planning Support (fee for service, technical support, guidance, toolkits, and resources provided by ICLEI)

- Mitigation/Adaptation (Reduction strategies, Vulnerability Assessment, Resilience planning, Integrated Climate Action)
- *ICLEI Is working with Alachua County as well. Great opportunity for Collaboration and building upon results for action planning!



General Principles for Next Steps

1. It is critical to have a **2030 SBT**
2. Planning should incorporate rapidly **changing trends**
3. Programs should take a **holistic approach,** including health, resilience, and equity
4. Local government can’t do it alone. **Collaboration with state and utilities** is essential
5. Inventories provide the foundation for **informed decisions and transparency**

Thank You!

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