

# Sustainability Initiatives Update

Board of County Commissioners

April 9, 2024

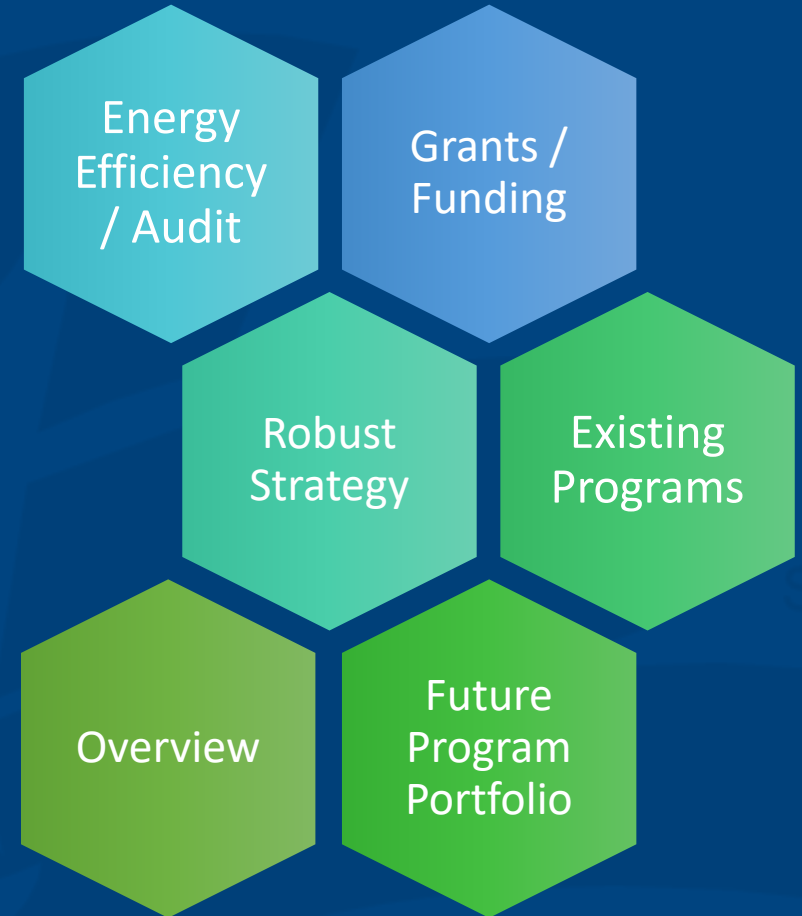
SM

# PURPOSE

To provide a comprehensive overview of the status of Sustainability Initiatives in Seminole County.

# Agenda

- Overview
- Energy Efficiency and Audit
- Existing Programs
- Grants / Funding
- Future Program Portfolio
- Next Steps



- **Overview**
- Energy Efficiency and Audit
- Existing Programs
- Grants / Funding
- Future Program Portfolio
- Next Steps

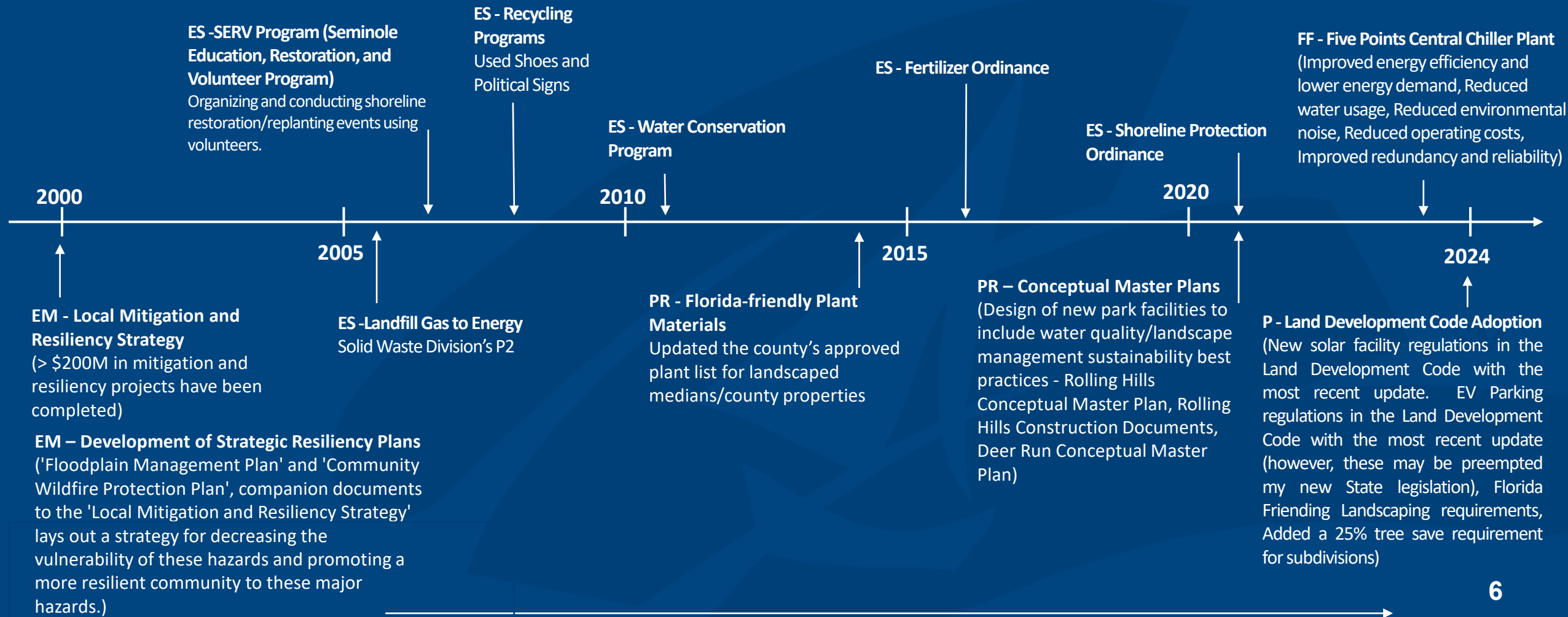


# Sustainability

**Sustainability** is meeting the needs of the present without compromising the ability of future generations to meet their own needs, ensuring a balance between environmental, social, and economic growth factors.



# History - Seminole County Legacy of Sustainability



- Overview
- **Energy Efficiency and Audit**
- Existing Programs
- Grants / Funding
- Future Program Portfolio
- Next Steps



## Investor-Owned Utilities

- 
- The map displays the service territories of two major Florida utilities. Duke Energy's service area, outlined in black, covers a large portion of central and south-central Florida, including major hubs like Orlando, Sanford, and Lake Mary. FPL/NextEra's service area, also outlined in black, encompasses the southeastern coastal region, from Fort Lauderdale in the north to West Palm Beach in the south. The map provides a detailed view of the region's infrastructure, including a dense network of highways, local roads, and numerous water features such as lakes, rivers, and canals. Major cities and towns are labeled throughout the landscape.



# Seminole County Summary

## Electrical Consumption

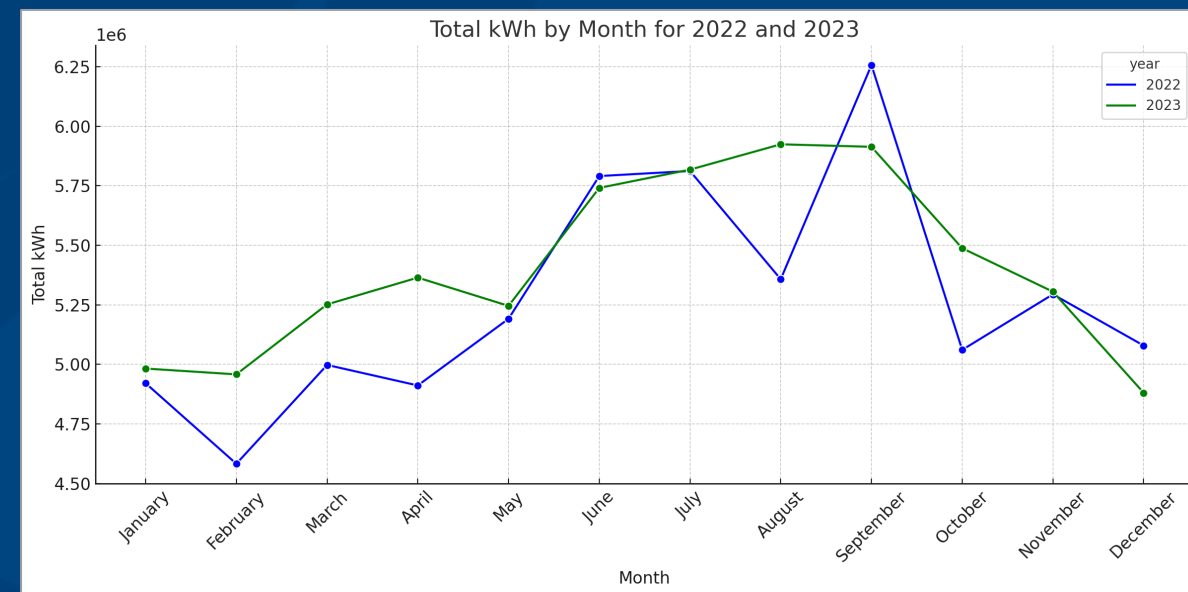
- Seminole County Board of County Commissioners holds:
  - **947** distinct electrical accounts with Duke Energy.
  - **245** distinct accounts with Florida Power and Light.
  - Total of **1192** accounts.
- 2023 to 2022 total electrical cost comparison grew by **13.28%** (FPL – 7.5% increase, Duke – 17.5% increase)
  - Increased cost maybe a result of such items as: non-regulated fuel surcharges and Hurricane Ian recovery (NOTE: as the analysis continues these items will be confirmed)

Provider	2022 MWh Consumption	2023 MWh Consumption
Duke	27,216	28,081
FPL	36,039	36,791
Total	63,255	64,872

Provider	2022 Bill Totals	2023 Bill Totals
Duke	\$4.9M	\$5.7M
FPL	\$3.6M	\$3.9M
Total	\$8.5M	\$9.6M

# Electrical Consumption Across Assets

- Analysis based upon **27,972** electrical bills.
- Electrical consumption grew by **2.56%** from 2022 to 2023.
- 2023 Energy Consumption is equivalent to:
  - **6,012** Home electricity use for one year
  - **182M** Miles driven by electric vehicles
  - **8** Wind turbines running for one year
  - **45** Football fields filled with solar panels



# County Assets by the Numbers

- Outdoor lighting makes up a significant percentage of the county's energy portfolio
- Next step in the analysis is to analyze individual lights' rate schedules

Type of Asset	Accounts	Details
Buildings	97	Includes permanent and relocatable facilities
Lights	638	Includes sports lighting, digital signage, site lighting, street lighting, and traffic signals
Other Assets < 1MW	450	Includes water treatment plants, lift stations, chillers, transmitters, cell towers, and irrigation.
Other Assets > 1MW	7	Includes water treatment plants, lift stations, and chillers.

Fleet Type	Vehicles	Details
Light Duty/Cars*	403	Includes small trucks, SUVs, and cars
Heavy Duty*	203	Includes Fire Department engines, ambulances, military, mobile command, water tankers, off-road trucks

\* Does not include all constitutional officers

# Duke Energy Rates



- Unusually high lighting service rate may be due to the ratio between bill minimums and kWh usage.
- Further analysis of assets by rate type will be completed in next phase of the analysis.

Rate Schedule	Avg. Cost per kWh (2022)	Avg. Cost per kWh (2023)	Percent Increase
General Service + Demand	\$0.10329	\$0.12388	19.94%
General Service – Time of Use + Demand	\$0.11120	\$0.13251	19.16%
General Service – Non-Demand	\$0.11818	\$0.13766	16.48%
General Service – Time of Use	\$0.14383	\$0.17279	20.13%
General Service – Non-Demand	\$0.16131	\$0.18635	15.52%
Lighting Service – Non-Demand	\$0.43854	\$0.47146	7.51%

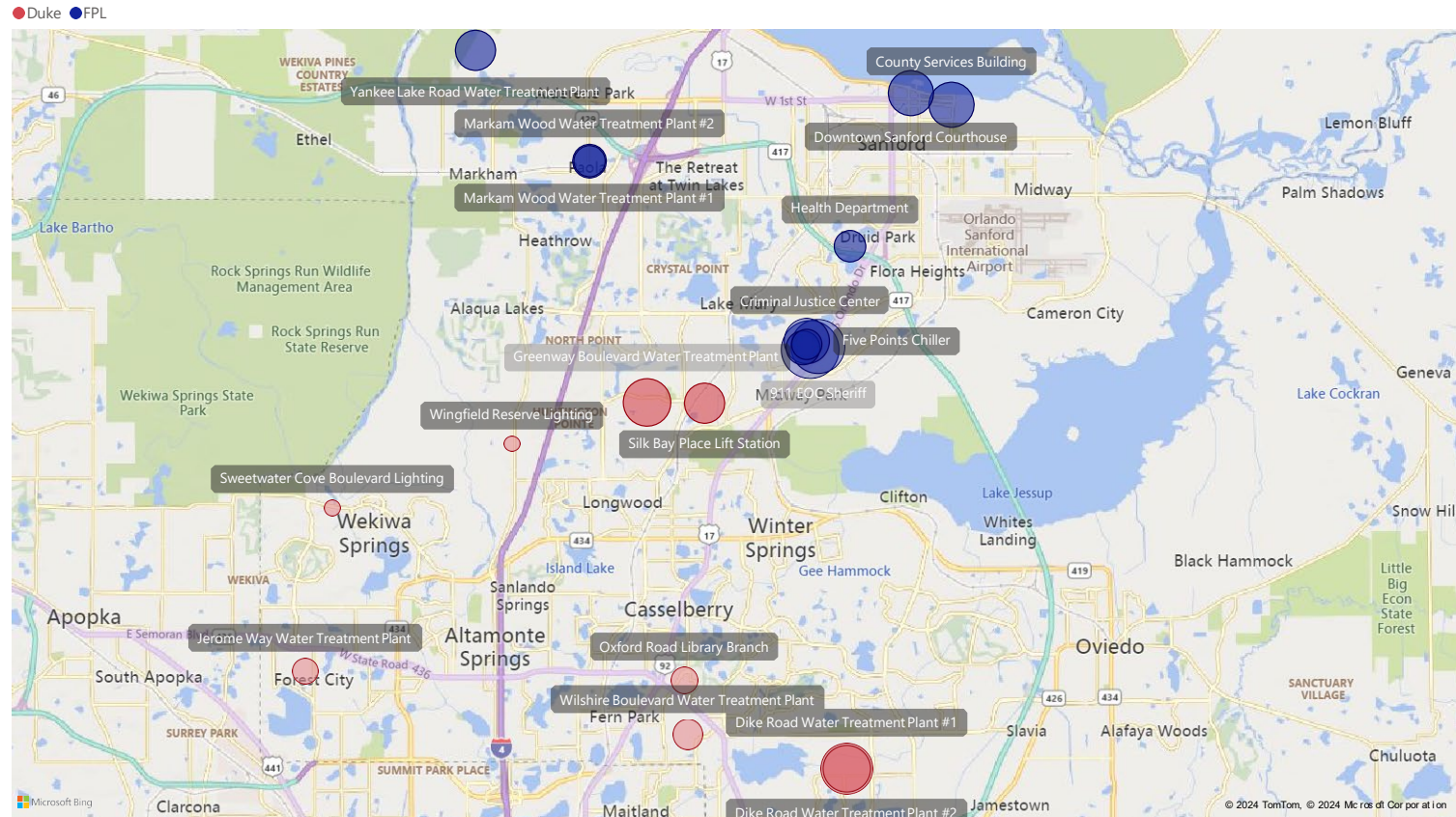


# FPL Energy Rates

- Further review of rate changes from the Public Service Commission will be completed in next phase of analysis

Rate Schedule	Avg. Cost per kWh (2022)	Avg. Cost per kWh (2023)	Percent Increase
Commercial Industrial Load Control (500+kW)	\$0.08050	\$0.08350	3.72%
Commercial Industrial Load Control (200-499kW)	\$0.08941	\$0.08807	-1.50%
General Service Demand (25-499kW)	\$0.08956	\$0.09446	5.47%
General Service Large Demand TOU (500-1999kW)	\$0.09652	\$0.10036	3.97%
Traffic Signal Metered	\$0.11832	\$0.13999	18.32%
General Service Large Demand (500-1999kW)	\$0.11939	\$0.12013	0.62%
General Service Demand (25-499kW)	\$0.12518	\$0.13026	4.06%
General Service Non-Demand (0-24kW)	\$0.13216	\$0.14826	12.18%

# Top 20 Highest Energy Cost Assets (2023)





# Top 20 Highest Energy Cost Assets (2023)

Rank	Address	Rate Schedule	Provider	Total MWh	Total Bill Amount
1	101 ESLINGER WAY – CRIMINAL JUSTICE CENTER	General Service Large Demand TOU (500-1999kW)	FPL	4,556	\$471K
2	3304 DIKE RD – WATER TREATMENT PLANT #1	General Service – Time of Use + Demand	DUKE	3,372	\$463K
3	3304 DIKE RD – WATER TREATMENT PLANT #2	General Service – Time of Use + Demand	DUKE	2,764	\$387K
4	701 GREENWAY BLVD – WATER TREATMENT PLANT	General Service – Time of Use + Demand	DUKE	2,961	\$350K
5	100 ESLINGER WAY – 911-EOC-SHERIFF BUILDING	Commercial Industrial Load Control (500+kW)	FPL	3,925	\$341K
6	208 ESLINGER WAY – FIVE POINTS CHILLER	General Service Large Demand TOU (500-1999kW)	FPL	2,623	\$317K
7	501 YANKEE LAKE RD – WATER TREATMENT PLANT	Commercial Industrial Load Control (500+kW)	FPL	2,014	\$286K
8	1101 E 1 <sup>ST</sup> – COUNTY SERVICES BUILDING	Commercial Industrial Load Control (500+kW)	FPL	2,636	\$260K
9	211 ESLINGER WAY – CORRECTIONAL CENTER	General Service Demand TOU (25-499kW)	FPL	1,325	\$247K
10	299 SILK BAY PL – WATER TREATMENT PLANT	General Service + Demand	DUKE	2,014	\$234K

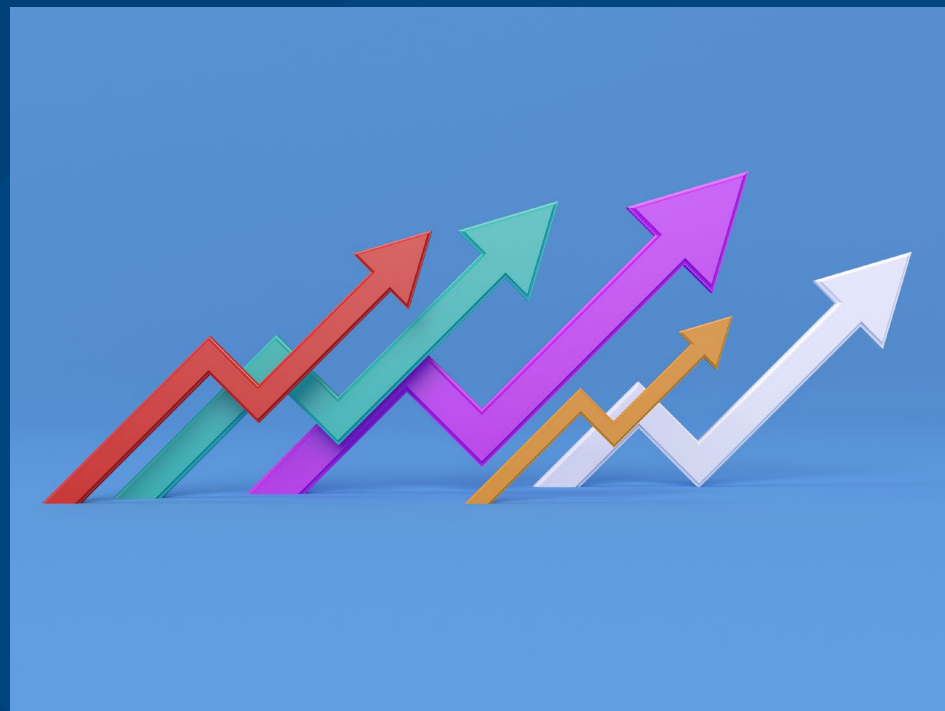
# Top 20 Highest Energy Cost Assets (2023)

Rank	Address	Rate Schedule	Provider	Total MWh	Total Bill Amount
11	301 N PARK AVE – COURTHOUSE	Commercial Industrial Load Control (200-499kW)	FPL	2,636	\$232K
12	5651 LAKE GUSSIE CIR – MARKHAM WOODS WATER TREATMENT PLANT #2	General Service Large Demand (500-1999kW)	FPL	1,325	\$159K
13	5651 LAKE GUSSIE CIR – MARKHAM WOODS WATER TREATMENT PLANT #1	General Service Demand (25-499kW)	FPL	1,096	\$129K
14	400 W AIRPORT BLVD – HEALTH DEPARTMENT	General Service Demand (25-499kW)	FPL	1,123	\$120K
15	1900 WILSHIRE BLVD – WATER TREATMENT PLANT	General Service – Time of Use + Demand	DUKE	909	\$110K
16	200 ESLINGER WAY – JUVENILE JUSTICE CENTER	General Service Demand (25-499kW)	FPL	1,003	\$106K
17	215 N OXFORD RD – CENTRAL BRANCH LIBRARY	General Service – Time of Use + Demand	DUKE	710	\$96K
18	1003 JEROME WAY – WATER TREATMENT PLANT	General Service – Time of Use + Demand	DUKE	626	\$84K
19	2200 NORTH STREET – SEMINOLE SOFTBALL ALTAMONTE	General Service – Non-Demand	DUKE	425	\$70k
20	1950 STATE ROAD 419 – TRANSFER STATION	General Service – Time of Use + Demand	DUKE	558	\$69K



# Preliminary Findings - Examples

- Five Points Parking Garage's electricity consumption triple in four months.
- Upgraded equipment may reduce ongoing consumption cost. (Ex: Variable speed pumping systems (VPS) for water treatment plants.)



- Overview
- Energy Efficiency and Audit
- **Existing Programs**
- Grants / Funding
- Future Program Portfolio
- Next Steps



# County Hosted Sustainability Efforts

- Holistic Water Plan & Key Strategic Priority
- Natural Landscaping LDC & IFAS-Extension Programming
- Parks, Trails & Natural Lands - Environmental Education and Programs
- RFP for LED Sports Lighting Replacement
- EECBG Allocated Grant Improvements to County Services Building
  - Lighting Design / Improvements

# Short-term Sustainability Initiatives

- Established “Evergreen Fund” framework with OMB
- Energy technologies and auditing solutions
  - Net metering
  - Auditing
  - Monitoring
- Rebate pursuits
  - Partnered with Facilities and FPL to secure a \$21,600 rebate received for Five Points Chillers
- ENERGY STAR rating audit and pursuit
- Other grant pursuits

# Available Sustainability Resources

- GIS Maps of assets with limited data (also Water ATLAS)
- Databases of County by the Numbers Dashboard
- Duke & FPL Energy bill aggregated and audited
- Regular meetings with account managers of both energy utilities
- Standardized process for pursuing relevant sustainability focused grants
- Formation of County-wide Sustainability Task Force
- Standardized process for pursuing retroacted and future rebates on energy efficient systems or practices

- Overview
- Energy Efficiency and Audit
- Existing Programs
- **Grants / Funding**
- Future Program Portfolio
- Next Steps



# Grant Pursuits

- CPRG – Biosolids (Waste to Energy)
- CPRG – Landfill Solar (Floating Solar)
- Landfill membrane to reduce outgassing and improve methane capture
- Landfill gas collection and conversion to renewable natural gas
- Emergency Management-led electric vehicle program

- Overview
- Energy Efficiency and Audit
- Existing Programs
- Grants / Funding
- **Future Program Portfolio**
- Next Steps

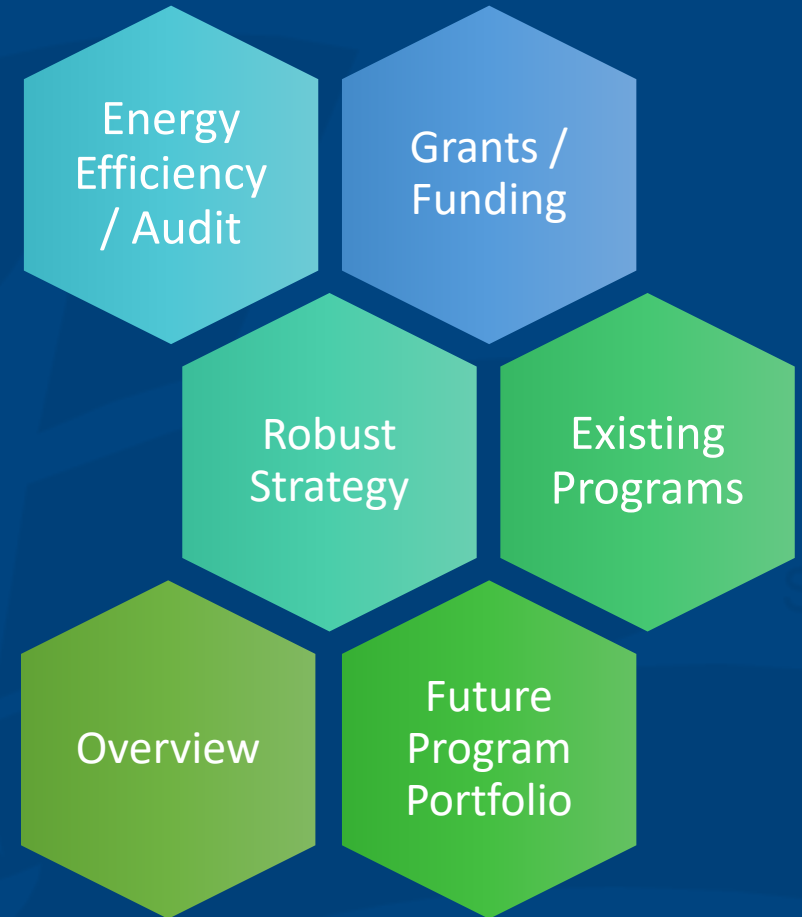




# Immediate Focus Areas

- New policies and standards for Facilities/Fleet
  - Procurements
  - Building specifications
  - Expected performance measures
- Continuous auditing of utility bills/consumption trends
- Audit of equipment age and maintenance records
- Chronicling additional details on assets such as square footage, lumens, etc.
- Hire Energy Manager under Facilities and Fleet

- Overview
- Energy Efficiency and Audit
- Existing Programs
- Grants / Funding
- Future Program Portfolio
- **Next Steps**



# Next Steps

- Continue work with Hanson Professional Services Inc.
  - Currently refining next phase scope
- Conduct Duke and FPL energy audits for top energy assets
- Conduct an ENERGY STAR auditing approach for key locations to identify potential facilities that qualify.
- Develop a robust County-wide Sustainability Strategy

# Thank you

## Q & A