

Florida Alliance for Accelerating Solar and Storage Technology Readiness

BOS - SOFT COSTS

PROBLEM STATEMENT

- Florida, the sunshine state, number 3 in population, number 1 in utility electric generation capacity, significantly lags the nation in solar and renewables.
- Detailed state-specific foundational research needed to develop new approaches and strategies that grow solar and DER while delivering maximum value.

State	Installed Solar Capacity [MW]	Installed Solar Capacity Rank	Installed Solar Numbers of Systems	Installed Solar Numbers of Systems Rank	Installed Solar Capacity per capita [W]	GMI (2017)
California	7378.81	1	626820	1	188.0	1
Texas	334.09	7	14347	8	12.0	3
Florida	135.96	13	2984	18	6.6	25
New York	575.34	5	51005	5	29.1	8

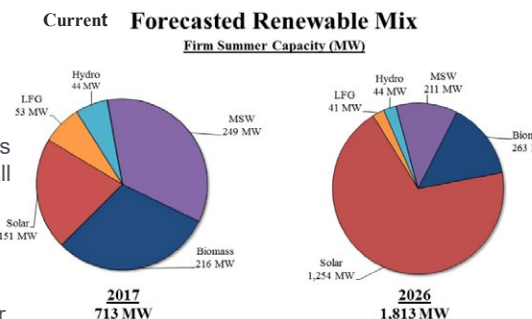
PROJECT OVERVIEW

Providing pathways to a sustainable Florida energy future that benefits from expanded integration of solar, storage, responsive load, electrified transportation and other energy resources used in combination to provide greater value to all who depend on energy.



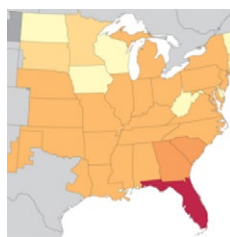
PROJECT GOALS

- Enable Florida Municipal Electric Association (FMEA) member utilities to increase solar energy to over 10% of power capacity by 2024 (versus the current projected total for all Florida utilities of 2.1%)
- Enable informed policy and regulation in the state that maximizes consumer benefit from substantial growth in solar.



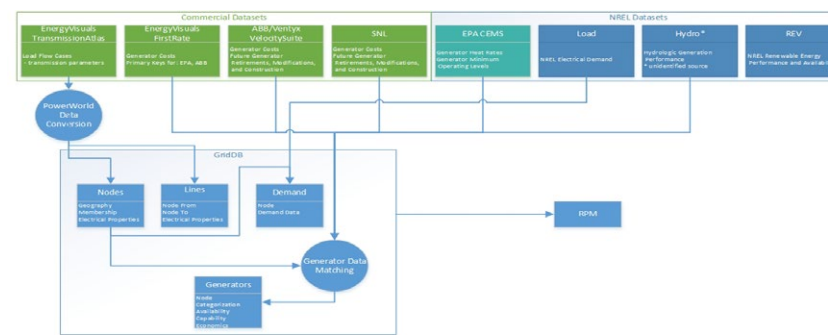
VALUE PROPOSITION

Unlock substantial additional value from Solar+ through:



- Integrating it more strategically in utility planning and operations,
- Understanding and quantifying value at the systems level from the smart deployment of complimentary resources

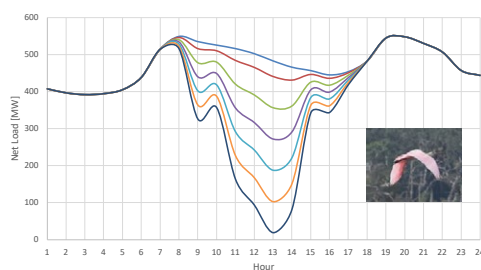
TECHNOLOGY OVERVIEW



MILESTONES

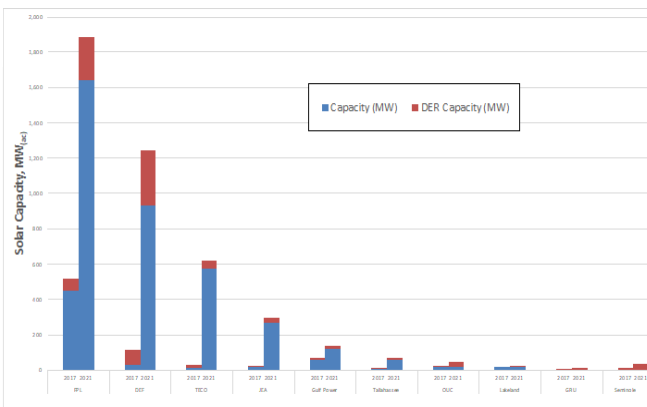
- Engage stakeholders and collect data
- Identify issues, needs, and barriers for Florida
- Conduct foundational research and analysis
- Develop new integrated strategies
- Assist utilities in piloting new strategies

The "Flamingo Curve"

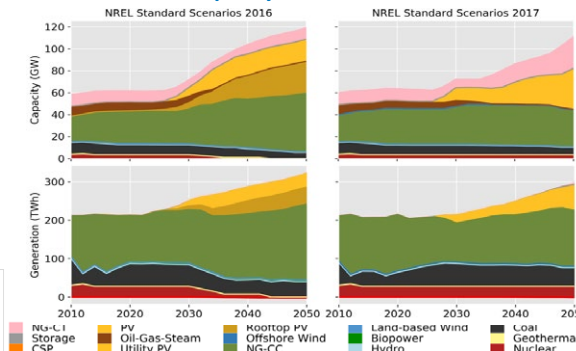


RESULTS

Utility	Watts per Customer	
	2017	2021
Southeast Average	209	525
Coal Power	151	311
Lakeland	139	404
Orlando (OUC)	124	211
Florida Power & Light	109	389
Tallahassee	106	567
State Average	83	425
Duke Energy Florida	65	679
Jacksonville (JEA)	58	667
Gainesville (GRU)	45	95
Tampa Electric	37	818
Seminole	17	50



Central Scenario Capacity and Generation - Florida



Florida PV Deployment in the 2017 Standard Scenarios

- Biggest early jump is in 2022, the Low Finance Cost scenario
- Similar results occur in 2024 under high NG prices
- The high-end bracketing scenario is a nation-wide 80% renewable portfolio standard (RPS)
- The low-end bracketing scenarios are High RE cost (2 GW in 2050) and Low NG price (16 GW in 2050)

INDUSTRY IMPACT

- Informs system planning with sufficiently detailed research and analysis commensurate with the complexity of the challenge associated with integrating very high penetration levels of solar and distributed energy resources.
- Excessively conservative approaches can then be revised.
- System flexibility is increased and reliability and resiliency improved rather than degraded.
- Aids industry in more rapidly adapting to change, helps provide pathways for transforming utility business models.
- Provides policy makers and regulatory bodies foundation for updating rate design and regulations.