

PROJECT NAME: Florida Alliance for Accelerating Solar and Storage Technology Readiness (FAASSTeR)

Last 5 digits of project number: **07668**

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BACKGROUND / INDUSTRY IMPACT

- Florida, the sunshine state, number 1 in utility electric generation capacity in 2017, lagged the nation in solar.
- Florida-specific foundational research needed to develop strategies that grow solar while delivering maximum value.

PROJECT OVERVIEW / OBJECTIVES

- Engage stakeholders - utilities, national laboratories, the Florida Office of Energy, suppliers and developers.
- Provide pathways and strategies for utilities to increase solar PV penetration and meet aggressive renewable energy goals.
- Provide technical assistance to municipal utilities to expand solar+

METHODS

- Ensure regular engagement with municipal utility partners (weekly meetings) and periodically with larger stakeholder community through workshops.
- Use adoption and production cost models for FL
- Use actual FL utility data & use cases for analysis of net load, balancing, reserves, and capacity credit, using

KEY OUTCOMES / MILESTONES

- Developed and analyzed net load curves using Florida muni data for different seasons and locations.
- Improved and updated FL data and assumptions in NREL dGen and RPM models
- Assembled and presented to muni's FL-specific utility-scale and distributed solar data, and BTM storage value.
- Analyzed balancing and reserves issues and requirements at high solar penetration and developed strategies to address

CONCLUSION / REMAINING RISK

- At solar PV penetration levels above 10-30% of system peak load, solar+ is needed – business as usual will not work for FL muni's.
- Municipal utilities with system balancing authority have greater operational challenges than large IOU's under high solar penetration.
- Increased solar deployment at the system level can increase the *energy storage capacity credit*, which varies with power and energy relative to solar
- Utility scale solar – land availability and cost
 - Provides solar for all or many customers
 - Few locational and resiliency benefits
- Storage still requires value stacking for a business case

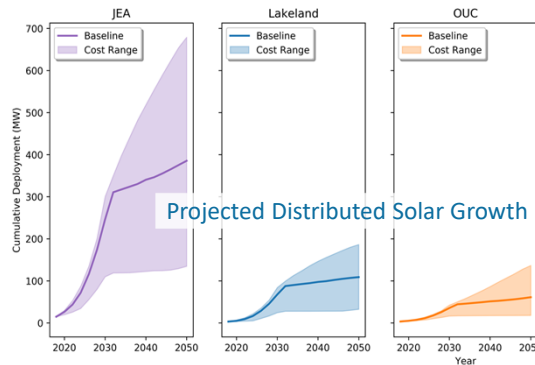
SOFT COSTS TRACK (STATE ENERGY STRATEGIES)

Municipal utilities who self generate and help balance the electric grid require sophisticated solar+ strategies to reach renewable energy goals exceeding 30-50%.

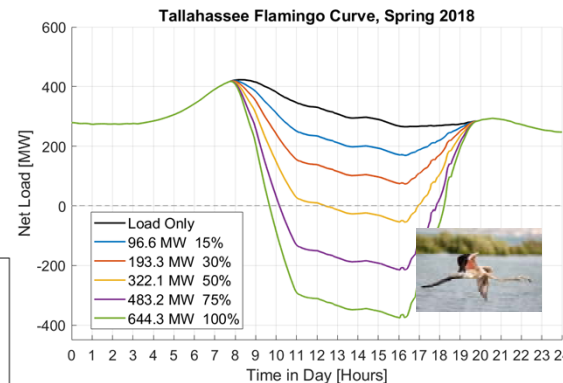
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Stakeholder Engagement



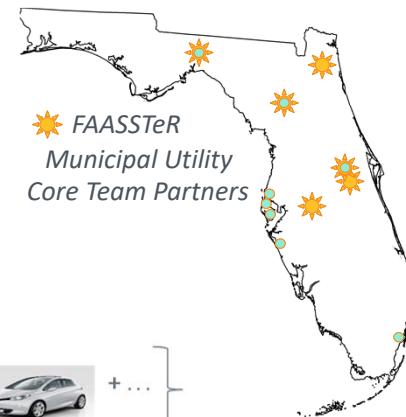
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Impact of High Penetration Solar



Florida Cities Committed to 100% Renewable Energy



FAASSTeR Municipal Utility Core Team Partners

