

Solar Energy Innovation Network Round 2

Clear Sky Tampa Bay: A Regional Framework for Enhancing Resilience through Solar Plus Storage (Tampa Bay, FL) Team Brief

Team Snapshot

Project title: Clear Sky Tampa Bay: A Regional Framework for Enhancing Resilience through Solar Plus Storage

Cohort: Commercial-Scale Solar

Project description:

This team is creating a regional framework to help cities and counties across the Tampa Bay region evaluate opportunities for solar-plus-storage and microgrid applications that can contribute to local disaster mitigation and resilience efforts. The framework will include a standardized process for identifying and prioritizing sites for deployment. The team is also developing a template to help cities and counties conduct integrated cost-benefit analyses for solar-plus-storage and additional microgrid systems that consider both traditional economic and broader societal and resilience-related costs and benefits. The project aims to develop recommendations on model solutions and procurement strategies that can be deployed by local governments throughout the region and beyond.

The Clear Sky Tampa Bay team seeks to:

- Develop a standardized, resilience-based assessment framework and process that local governments can use to first identify and then prioritize sites for solar-plus-storage techno-economic assessments and potential investment. The site identification and prioritization process will focus on strategic sites which align with disaster mitigation, emergency preparedness, and resilience priorities.
- Develop a regional model to help local governments conduct solar-plus-storage cost-benefit analyses that incorporate both traditional economic variables, as well as broader societal costs and benefits (both qualitative and quantitative). The model will be designed to help decision-makers evaluate the business case for solar plus storage and microgrids to support resilience and emergency preparedness efforts. The model will also consider how costs and benefits accrue to different stakeholders.
- Test the site identification and prioritization process and cost-benefit model within cities and counties in the Tampa Bay region and develop case studies documenting how the processes are being deployed in individual cities and counties.

The framework will build on the Federal Emergency Management Agency's (FEMA's) Threat and Hazard Identification and Risk Assessment (THIRA) framework (a risk assessment methodology) by specifically considering the post-disaster energy needs and gaps identified by city and county project partners through the THIRA process.

Key questions: The following questions will guide the team's work:

1. How might solar-plus-storage solutions support the post-disaster use of private, community and government facilities during grid outages in Florida? What are the current opportunities for solar plus storage in Tampa Bay communities?
2. What types of buildings and systems provide the maximum resilience benefits? What are the factors for determining the use of solar-plus-storage or additional microgrids? How can local governments identify and prioritize these sites within their jurisdictions?
3. What is the cost-value case to justify the capital expense of solar-plus-storage or microgrid systems? How does the business case vary when looking at normal, everyday operations versus post-disaster operational needs?
4. How might the costs and benefits of solar plus storage be quantified and assessed in terms of disaster mitigation and broader socio-economic resilience?
5. Where and how can solar plus storage or microgrids address community capability gaps identified through the FEMA THIRA process?

6. What are emergency managers’ priorities and where are there opportunities for solar plus storage to address those priorities? How can solar resilience strategies be integrated into pre-disaster management plans and capital improvement budgets ?

Impact Model

This project is designed to create impact beyond the immediate project team by:

- Creating a shared regional understanding of how to approach solar-plus-storage decision-making for resilience, creating consensus for assessment methodologies.
- Identifying strategies to empower local government staff to evaluate the potential for solar plus storage to reduce risk and enhance resilience in their respective contexts.
- Engaging new stakeholders (including emergency management staff and community service providers) in developing solar-plus-storage deployment strategies to enhance resilience and support emergency management.
- Developing and sharing regional solar plus storage strategies for resilience by publishing easily-accessible data, methodologies, findings and case studies for public and private decision-makers and disseminating these through the [Tampa Bay Regional Resilience Coalition](#) and nationwide.

Team Summary

Who’s on the team:

Main Contact & Title	Organization	Role on SEIN Round 2 Project
Randy Deshazo, Director of Planning and Research	Tampa Bay Regional Planning Council (TBRPC)	Project Team Lead
CJ Reynolds, Director of Resilience and Engagement	TBRPC	Project Team Lead
Sarah Vitale, Senior Planner	TBRPC	Project Coordinator
Hank Hodde, Sustainability & Resiliency Coordinator	Pinellas County Government	Project Partner
Karim Molina-Oyola, OAM Energy Program Coordinator	Pinellas County Government	Project Partner
Eric Caplan, Manager of Energy and Sustainability	Manatee County Government	Project Partner
Lea Harper, GIS Analyst II	Manatee County Government	Project Partner
Sheila McNamara, Sustainability Manager	Hillsborough County Government	Project Partner
Laura Thomas, Sustainability Program Administrator	City of Largo Government	Project Partner
Scott McIntyre, CEO	Solar Energy Management LLC	Industry Advisor
Subcontractor (to be determined via competitive bidding process)	To be determined	TBD
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Critical project context:

States and markets covered by the project	Florida (regulated) <ul style="list-style-type: none"> • Manatee County, Florida Power & Light; Peace River Electric Cooperative (PRECO) • Pinellas County, Duke Energy Georgia • Hillsborough County, Tampa Electric, an EMERA Company • City of Largo, Duke Energy
Technologies	Solar PV, energy storage, microgrids

Market barriers and opportunities addressed:

This project is designed to address and overcome barriers related to:

- *Lack of resilience-based assessment approach:* Communities within the region (and across the country) are independently exploring the potential for solar-plus-storage systems and microgrids to enhance emergency management and resilience operations, which can be time-consuming and resource intensive for local governments.
- *Economic feasibility:* Pursuing solar-plus-storage or microgrid deployment to meet emergency management and resilience priorities can be challenging in markets where these systems may not currently be economically feasible. Resilience benefits and resilience valuation metrics need to be defined to augment traditional techno-economic analyses.
- *Integrated decision-making:* Identifying and capitalizing on the potential for solar plus storage to address emergency management and resilience objective requires strategies to support holistic decision-making.
- *Building technical knowledge and experience:* Increasing technical knowledge and experience with solar-plus-storage and microgrid systems generally, and specifically for emergency management and resilience, will enhance decision-making.

Audience for project replication: Materials used for replication will predominately target other Florida cities, counties, and regional planning councils that are interested in solar plus storage solutions as a strategy for resilience.