

Alternative Fuel Resiliency Plan

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Office of Energy

Florida Department of Agricultural and

Consumer Services

Project ID: ti110



Project Overview

Timeline –



Budget –

Partners	Commitment
DOE	\$350,013
NREL	\$349,987
FDACS	\$901,000
FSEC	\$17,728
TBCCC	\$10,000

Barriers –

- Availability of alternative fuels and electric vehicle charging stations
- Availability of AFVs and electric vehicles
- Range of existing electric vehicles
- Uncertainty surrounding weather events and evacuations
- Consumer reluctance to purchase new technologies



Project Objective

Develop, disseminate, and integrate a comprehensive Statewide Alternative Fuel Resiliency Plan (Plan) that utilizes multiple alternative fuels to achieve resiliency in Florida's transportation fuels.

VTO TI Goals:

- 1) National Security
 - ✓ Increases availability of alternative fuels and reduces reliance on single fuel source
- 2) Economic Growth
 - ✓ Demonstration of new technologies
- 3) Resiliency
 - ✓ Emphasis on evacuations routes to address hurricane preparedness



Approach

Goal: Examine how our state can maximize its existing alternative transportation fuels and identify new ways to use alternative fuels after a natural or man-made disaster

Data Collection

- **Identify stakeholders and hold workshops to maximize engagement;**
- **Perform site visits and collect data on needs, AFVs, and infrastructure;**
- **Study supply chains for each alternative fuel and evaluate benefits and risks;** and
- **Assess AFV technologies relative to capabilities for emergency response vehicles.**

Plan Development

- **Identify federal and state regulations;**
- **Develop list of alternative supply fuel vendors;**
- **Publish Alternative Fuel Resiliency Plan; and**
- **Integrate Plan into the statewide hurricane exercise.**

Best Practice Sharing

- **Diffuse lessons learned through partnership networks;**
- **Design transportation fuel resiliency toolkit for Clean City Coalitions;** and
- **Provide ongoing technical support and engagement.**

Approach - Data Collection and Collaboration

Task 1.1 - Data Collection

- Identify relevant stakeholders, visit key facilities, and hold a workshop with stakeholders to determine the necessary data and parameters to complete the Plan.
- Assess the communications practices and protocols that should be taken during the public workshop and private sectors facility visits.

Task 1.2 - Analysis

- Determine where additional alternative fuel stations and Electric Vehicle Supply Equipment (EVSE) should be located.
- Analyze the supply chain for electric, natural gas, propane to understand the benefits and risks associated with each fuel type.
- Assess AFV technologies relative to their capabilities to be used for emergency response vehicles, to better understand how vehicles deal with standing water issues.

Task 1.3 - Development

- Develop procedures, protocols, tools and instructions for securing and communicating current status of compressed natural gas (CNG), propane, and electric fueling stations along evacuation corridors and in disaster-affected areas, including use of existing communications protocols, proactive outreach or crowdsourced input.



Approach - Statewide Alternative Fuel Plan Development

Task 2.1:

- Identify federal and state laws and regulations governing alternative fuels to determine any policy related issues or waivers that need to be in place for emergency events.

Task 2.2:

- Write the Statewide Alternative Fuel Resiliency Plan.

Task 2.3:

- Develop a best practice guide for stationary alternative fuel generators. Include guide in Florida Division of Emergency Management's shelter inspection materials.

Task 2.4:

- Provide to local emergency managers and building facility managers to prepare for power outages.



Approach - Best Practice Sharing

Task 3.1:

- Develop Clean Cities Toolkit and provide best practices to local governments, commercial fleet operators and local emergency managers.

Task 3.2:

- Engagement with local governments, commercial fleet operators and local emergency managers regarding best management practices related to the Plan.



Milestones –

Budget Period #	Milestone	Type	Progress
1	Needs identified and assessed	Technical	Completed
	Infrastructure data collected	Technical	Completed
	Analysis completed	Technical	Near Completion
	Data sharing mechanism Completed	Technical	Near Completion
	Stakeholder involvement	Go/No Go	In Progress
2	Statewide Alternative Fuel Resiliency Plan developed	Technical	Upcoming
	Laws and regulations identified and reviewed	Technical	Upcoming
	Best Practices developed for alternative fuel generators for buildings	Technical	Upcoming
	Guidelines for emergency managers and facility managers distributed	Technical	Upcoming
	Written Plan including assessment, recommendations, and associated management tools	Go/No Go	Upcoming
3	Quarterly stakeholder engagement through webinars, videos, and other outreach	Technical	Upcoming



Collaboration



**Florida Department
of Agriculture and
Consumer Services**



**National
Renewable Energy
Laboratory**



**Florida Solar
Energy Center**

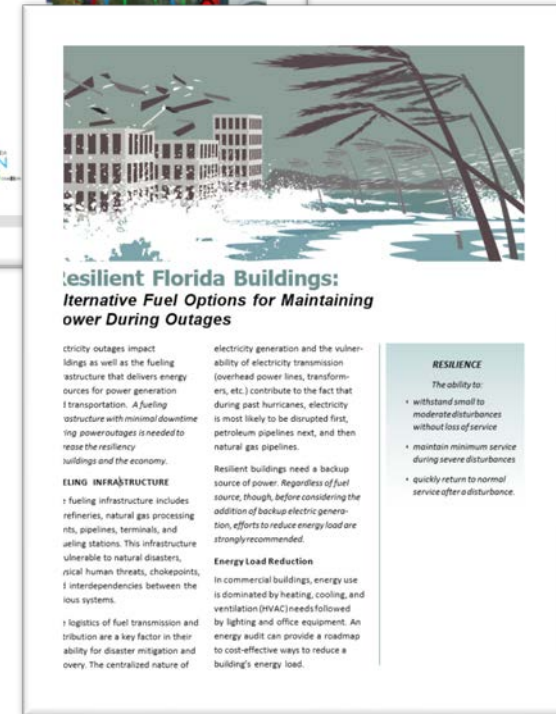


**Tampa Bay Clean
Cities Coalition**



Accomplishments & Progress

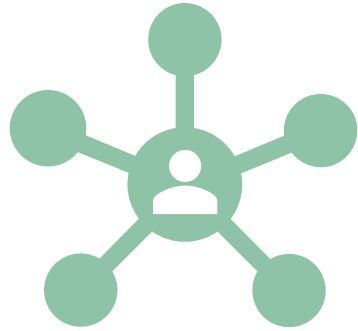
- ✓ Developed Electric Vehicle Roadmap;
- ✓ Held initial workshop with stakeholders to determine the necessary data and parameters;
- ✓ Completed three site visits of alternative fuel facilities;
- ✓ Collected data to input into web-based tool; and
- ✓ Developed “Resilient Florida Buildings: Alternative Fuel Options for Maintaining Power During Outages” brochure.



Next Steps



Finalize Alternative
Fuel Resiliency Plan



Integrate findings
in state planning
exercises and
policies



Share best practices
with stakeholders
and local
communities

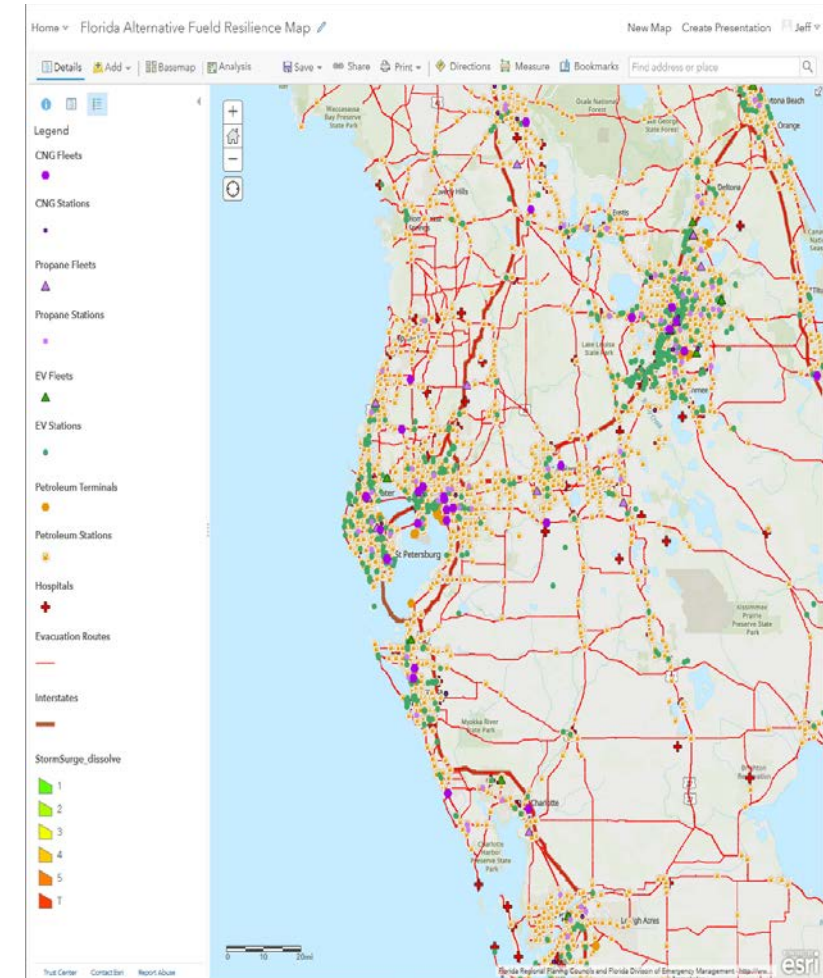


Implement EV
chargers based on
findings

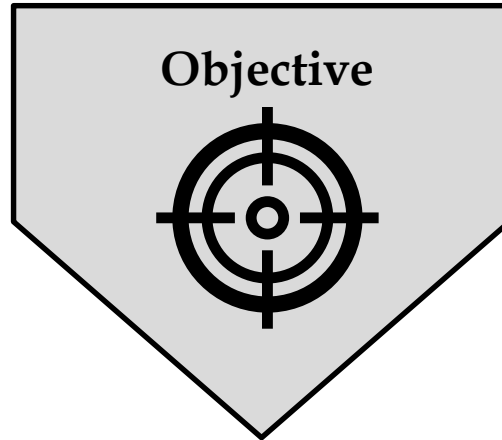


Overall Impact

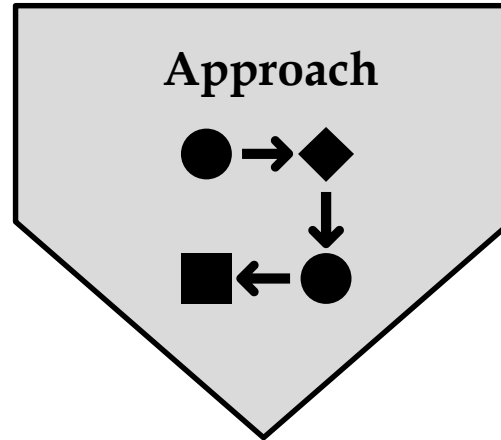
- Collaborate with a broad range of stakeholders to capture unique characteristics across the state;
- Address critical barriers to AFV adoption;
- Decrease recovery time from natural or manmade disasters;
- Analyze and report on AFVs and emergency generators for emergency response efforts;
- Develop and share best practices regarding resiliency for locating alternative fuel infrastructure; and
- Implement EV chargers based on findings.



Summary



Increase resiliency through the development of statewide Alternative Fuel Resilience Plan



- 1. Collect relevant data**
- 2. Develop Plan**
- 3. Share best practices**



- 1. USDOE**
- 2. FDACS**
- 3. NREL**
- 4. TBCCC**
- 5. FSEC**



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