

Integrating Energy Efficiency into Disaster Recovery



Hurricane Maria, Sept. 2017

Kate Lee

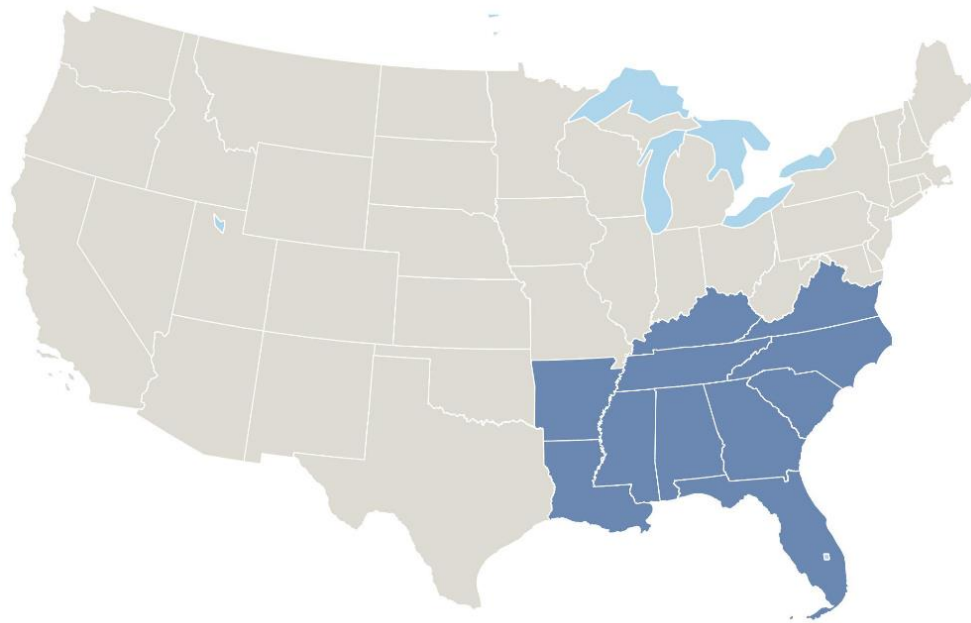
Policy Manager, SEEA

Mandy Mahoney

President, SEEA

Who is SEEA?

The **Southeast Energy Efficiency Alliance (SEEA)** promotes energy efficiency as a catalyst for economic growth, workforce development and energy security. We do this through collaborative public policy, thought leadership, outreach programs, and technical advisory activities.



**Regional Energy
Efficiency Organization**

**Eleven-state
footprint**

**Non-profit,
non-partisan**

SEEA
wants to
help you
build
differently
so that
post
storm
you...

Need less power to
survive

Can meet your power
needs through a range of
options

Decrease your threats of
your infrastructure being
destroyed

Federal Funding for EE

U.S.

Hurricane Irma Destroyed 25% of Homes in Florida Keys, FEMA Estimates

Millions in the Southeast remain without power as some evacuated residents return

Wall Street Journal, 9/12/17



Hurricane Harvey damaged more than 204,000 homes and apartment buildings in Harris County, almost three-quarters of them outside the federally regulated 100-year flood plain, leaving tens of thousands of homeowners uninsured and unprepared.

Houston Chronicle, 3/20/18

Why should energy efficiency be a part of disaster recovery?

1. Improved resilience to future disasters

- Buildings have better structural integrity
- Residents are able to shelter in place
- CHP can power buildings even if outages take place
- Improved grid reliability

2. Making the best of a bad situation

- A large number of homes and buildings have to be replaced or substantially place following a disaster
- Rebuilding better improves the lives of residents

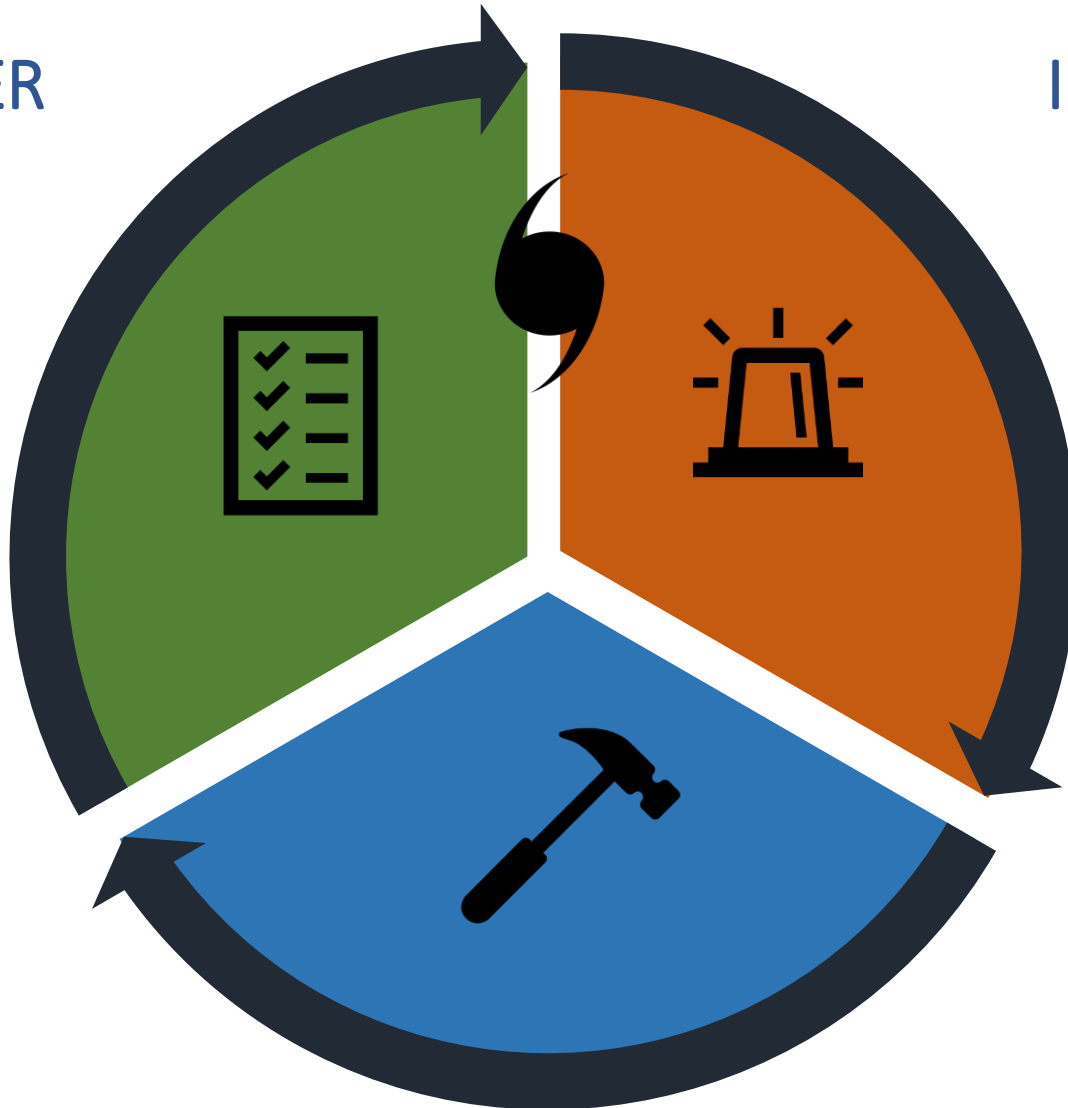
PRE-DISASTER
PLANNING



IMMEDIATE
RESPONSE



LONG-TERM RECOVERY AND REBUILDING



Federal Funding for Disaster Recovery

Screening criteria:

1. Intended for planning and long-term rebuilding
2. Flexible enough to allow for rebuilding differently and with resilience measures
3. Includes a definition of resilience that could include energy efficiency



FEMA



Federal Funding for Disaster Recovery

FEMA Public Assistance (PA)

- Amended in 2018 to allow for rebuilding publicly-owned facilities to industry standards rather than pre-disaster conditions
- Increased federal share for planning measures

FEMA Hazard Mitigation Grant Program (HMGP)

- In practice, hazard mitigation measures may be a limited category
- Cost-effectiveness test requires measures be evaluated in terms of avoided losses—data may be lacking for energy efficiency

HUD Community Development Block Grant-Disaster Response (CDBG-DR)

- Already requires rebuilding to green standards
- Very flexible funding that includes planning component
- Could be used to better coordinate government, utilities, and third parties to maximize energy efficiency deployment

State and Local Policies Matter

- State disaster response plans
- Existing building codes and building energy codes
- Existing energy efficiency policies and programs

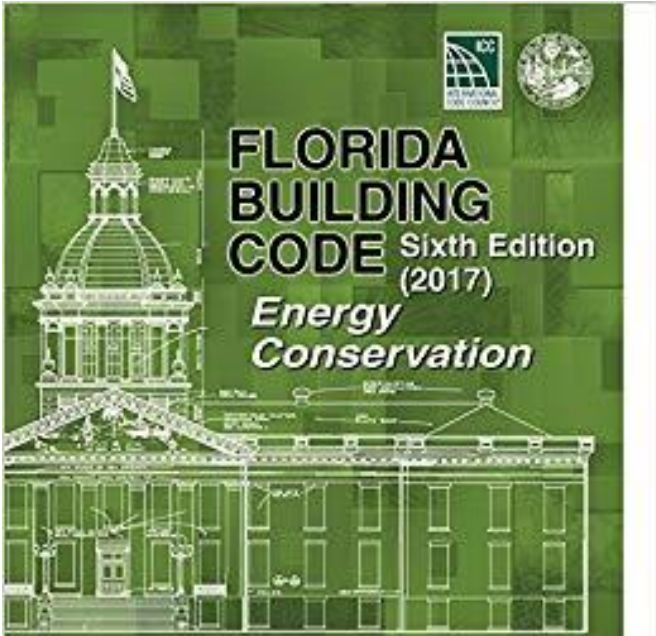


Takeaways and Opportunities

- Advance local and state energy efficiency programs and policies to the extent possible
- Identify opportunities to integrate efficiency into federal disaster rebuilding efforts
- Support disaster response, recovery, and resilience planning



Interesting Examples



Building Codes
Above
All Else

City of Houston – Setting standards

- **Contractor RFP:** APTIM has incorporated language into Houston’s RFP for HUD CDBG contractors that establishes a requirement for contractors to leverage or coordinate with available Centerpoint rebates and incentives at a minimum.
- **Housing Quality Standards:** Building incremental EE requirements and utility program coordination protocols into the program’s construction standards (Housing Quality Standards) in advance, for pre-approval by HUD

October 1, 2018



Braiding
government
funding sources

Weatherization
+
Healthcare

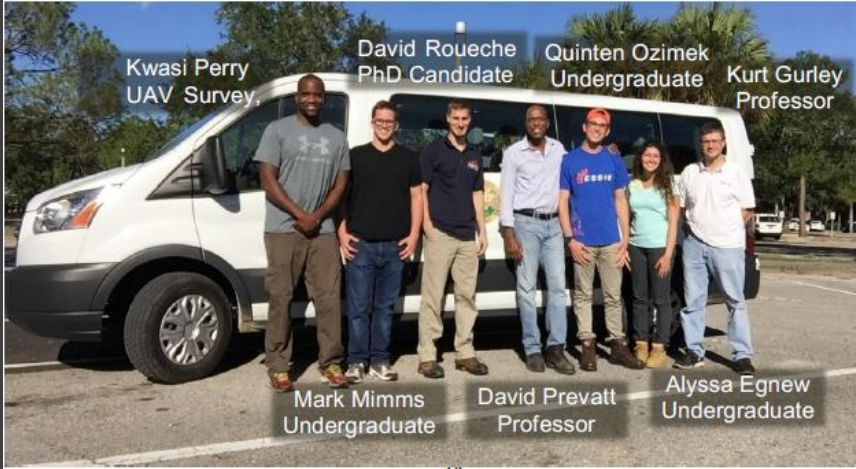
Contact

- Ruth Ann Norton
- President, Green & Health Home Initiative
- ranorton@ghhi.org



This New Orleans home was flooded for weeks, then sat wet for months before the homeowner was allowed to return and face the results.

LSU AGCENTER



Interim Report:

**Survey and Investigation of Buildings Damaged by Category III
Hurricanes in FY 2016-17 – Hurricane Mathew 2016**

Submitted to:

Florida Department of Business and Professional Regulation

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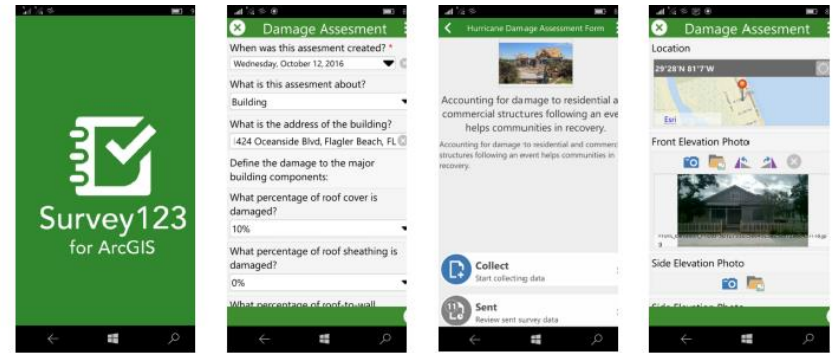
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Example Report Contents

Flagler Beach
Flagler County, FL



Figure 1: Aerial imagery of surveyed homes in Flagler Beach, FL obtained using the UAV.



Figures A-4: From left to right: a) Load screen b) Damage Assessment c) Survey Page d) Location/Images

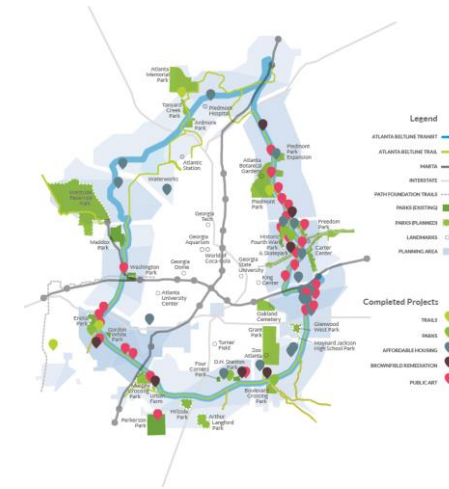
Dubuque, IA

- Located on the Mississippi River
- Frequent flash flooding
- Used CDBG-DR funding to redesign storm water infrastructure
- Contact:
 - Sharon Gaul
 - Resiliency Coordinator, City of Dubuque
 - sgaul@cityofdubuque.org
 - 563-690-6168



Historic Fourth Ward Park

- Atlanta BeltLine
- Formerly blighted property that frequently flooded
- Today- 17 acre park with 5 acre pond
- Pond = 500 year storm event capacity
- Contact
 - Kevin Burke
 - Landscape Architect, Atlanta BeltLine, Inc.
 - kburke@atlbeltline.org





EV School Bus with Vehicle-to-grid (V2G) Capability

Contact

- Andrew Meintz
- Vehicle to Grid Integration Engineer,
DOE NREL
- Andrew.Meintz@nrel.gov