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

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

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.
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 replaced following a disaster
   - Rebuilding better improves the lives of residents
PRE-DISASTER PLANNING

IMMEDIATE RESPONSE

LONG-TERM RECOVERY AND REBUILDING
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
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
• **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
Braiding government funding sources

Weatherization + Healthcare

Contact
• Ruth Ann Norton
• President, Green & Health Home Initiative
• ranorton@ghhi.org
Survey and Investigation of Buildings Damaged by Category III Hurricanes in FY 2016-17 – Hurricane Matthew 2016

Submitted to:
Florida Department of Business and Professional Regulation
Mo Madani, Program Manager
Building Codes and Standards
1940 North Monroe Street
Tallahassee, Florida 32399

Prepared by:
David O. Prevatt, Ph.D., PE (MA)
Principal Investigator
Associate Professor (Structures)
Kurt R. Gurley, PhD, Professor (Structures)
David A. Rouache, Ph.D., Postdoctoral Researcher

Engineering School of Sustainable Infrastructure and Environment
Department of Civil and Coastal Engineering
University of Florida
362 Weil Hall
P.O. Box 115550
Gainseville, FL 32611-5550

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Example Report Contents

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