

Case Study

# High Performance Residential Retrofits

Florida and Alabama



## OVERVIEW

In 2009, a Department of Energy Building America team led by the Florida Solar Energy Center began working with eight local government and non-profit partners to find cost-effective paths for improving the energy performance of existing homes in the hot humid climate. Our research was designed to determine if and under what circumstances deep energy retrofits (HERS Index of 70 or 30-50% improvement) could be cost-effectively achieved.

Commitments were received from partners to attempt cost-effective renovations in 10 or more homes targeting a HERS Index of 70 or below as part of the overall scope of work. In all partnerships, the scope of renovation work encompassed general repair and renovation needed to bring homes up to market standards which often included components, equipment, and appliances that impact energy efficiency.

A test-in energy audit and energy use modeling of the partner's proposed renovation package was performed for 41 affordable and middle income foreclosed homes in Florida and Alabama. HERS Indices ranged from 92 to 184 with modeled energy savings ranging from 3% to 50% (average of 26%). Of these homes, 10 renovations have been completed. Analyses and recommendations

## PROJECT PROFILE

**Project Team:**  
 Building America  
 Industrialized Housing  
 Project, BAIHP

**Location:**  
 Florida and Alabama

**Description:**  
 Single family; detached and two half-duplex units, concrete masonry unit or frame construction, mostly slab-on-grade, primarily single story, built between 1954 and 2004, living area between 780 sq. ft. to 2,408 sq. ft.

**Completion Date:**  
 As of June 2010, 10 renovations completed, 31 in progress

**Estimated Annual Energy Savings:**  
 15% to 50% savings per year



were discussed with partners to encourage more efficient retrofits, highlight health and safety issues, and gather feedback on incremental cost of higher performance measures. A summary of cost-effective improvements most commonly incorporated into our recommended deep retrofits is illustrated in this study.





