



Research that Works  
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## RESNET Rater Volunteers with Habitat for Humanity in Greenville, South Carolina

Since 1995, The **U.S. Department of Energy's Building America** program has provided technical assistance to Habitat for Humanity International and local Habitat affiliates interested in building energy efficient homes. Building America researchers help Habitat identify energy improvements that:

- are proven to be cost effective,
- are readily available in the market place,
- are appropriate for Habitat's volunteer construction crews, and
- do not place a maintenance burden on the homeowner.

### Free Home Energy Ratings for Habitat for Humanity Affiliates

In 2007, Building America researchers partnered with RESNET (a national standards making body for building energy efficiency rating systems) whose members are encouraged to volunteer with Habitat for Humanity by providing free home energy ratings to their local Habitat affiliate. Todd Usher, a Volunteer RESNET Member and president of Addison Homes, works with Habitat in Greenville, South Carolina as a way of giving back to the community, networking, and raising awareness of energy efficiency and green building.

Usher encouraged Greenville Habitat to consider energy efficient, green building and "house as a system" thinking, and provided them with a baseline evaluation of their energy features – which achieved a HERS Index of 100. He took affiliate leaders from Greenville to visit the Atlanta Habitat affiliate where they build homes that are Energy Star and Earth Craft (green home) certified.

When Greenville Habitat received two free lots with the stipulation that they build Earth Craft green certified homes on each, Usher recommended volunteer-friendly improvements that would take the "path of least resistance" to reaching the Energy Star and Earth Craft standards (see bulleted list below.) Usher points out that volunteers excel at caulking and other air sealing tasks – an important part of gaining control over household air flow and heat loss. After completing their two required houses, Greenville Habitat decided to build all of their houses to this high standard, and they have completed more than 15 houses. HERS indices range from 72 to 84.

### Systems and Appliances

- SEER 14 Air Conditioning
- Sealed and Tested Ducts
- Duct Leakage less than 5%
- Energy Star Refrigerator
- Energy Star Dishwasher
- HVAC Integrated Outside Air Ventilation

### Enclosure

- R-38 Ceiling Insulation
- R-13 Wall Insulation
- R-19 Floor Insulation
- Energy Star Windows
- Extensive Air Sealing
- Insulated Exterior Corners

**Original HERS Index** = 100 (85 or less required for Energy Star)

**Improved HERS Index** = Ranges from 72 to 84

# RESNET

Residential Energy Services Network

[www.natresnet.org](http://www.natresnet.org)



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Read more about this Partnership:  
[www.natresnet.org/rater/partnership](http://www.natresnet.org/rater/partnership)



For more information on Building America's Partnership with Habitat for Humanity, see [www.baihp.org/habitat](http://www.baihp.org/habitat)

### Durability features

- Erosion control site plan
- Engineered roof framing
- Integrated drainage plane
- 30-year roof shingles
- Posted job site waste management plan
- Kitchen exhaust fan vented to outside
- Alternative termite treatment (borate)
- Review energy operations with homeowner



U.S. Department of Energy  
**Energy Efficiency  
and Renewable Energy**

**Building Technologies Program**

*Bringing you a prosperous future where energy is clean, abundant, reliable, and affordable*

## A Strong Energy Portfolio for a Strong America

Energy efficiency and clean, renewable energy will mean a stronger economy, a cleaner environment, and greater energy independence for America. Working with a wide array of state, community, industry, and university partners, the U.S. Department of Energy's Office of Energy Efficiency and Renewable Energy invests in a diverse portfolio of energy technologies.

## Research and Development of Buildings

Our nation's buildings consume more energy than any other sector of the U.S. economy, including transportation and industry. Fortunately, the opportunities to reduce building energy use—and the associated environmental impacts—are significant.

DOE's Building Technologies Program works to improve the energy efficiency of our nation's buildings through innovative new technologies and better building practices. The program focuses on two key areas:

### • Emerging Technologies

Research and development of the next generation of energy-efficient components, materials, and equipment

### • Technology Integration

Integration of new technologies with innovative building methods to optimize building performance and savings

For more information contact  
EERE Information Center  
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