

## Research that Works

### Habitat for Humanity – Building America Partnership: Jimmy Carter Work Project 1997-2007

Since 1995, The U.S. Department of Energy's Building America program has been providing 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
- do not place a maintenance burden on the homeowner

#### Jimmy Carter Work Project (JCWP)

Former President Jimmy Carter and his wife Rosalyn have a long history with Habitat for Humanity, a non-profit affordable housing provider that sells homes at zero interest and no profit to qualified buyers. Every year, President and Mrs. Carter work on a a special project with Habitat to draw attention to the need for affordable housing. The Carter's have selected domestic sites from the Blue Ridge Mountains to the shores of Lake Michigan and the streets of Harlem, from Florida across the Gulf Coast to Georgia, Alabama, and Texas and west to Los Angeles, the 2007 site. Building America has supported Habitat at many of the sites (*see list, right*) helping Habitat affiliates implement energy efficiency strategies that make affordable housing more affordable to live in.

#### **Energy Star and Beyond**

Recognizing this link between energy efficiency and long term affordability, Habitat for Humanity has embraced construction of Energy Star Homes as a Best Practice. Since 1997, hundreds of Energy Star homes have been built during the JCWP. However, in 2007, things got decidedly *greener*. These 30 dwellings (8 duplexes and 14 multi-family units) are the first Carter Project houses to be LEED Certified. Global Green USA and Gaia Development worked with the Habitat affiliate to identify and implement the green package which includes photovoltaic solar electric systems, designed and installed by GRID Alternatives (*see photo at right.*) Building America worked with Habitat and Alternative Energy Systems (a certified California Home Energy Rater) to certify the 2007 JCWP houses as Energy Star – a LEED prerequisite and important part of green building because it saves energy, conserves natural resources, and reduces air pollution – continuing the decade-long partnership between Building America and Habitat for Humanity.

#### 2007 JCWP Green Features

- LEED Certified at the Gold Level (Pending)
- Close To Transit And Community Amenities
- Ducted Fresh Air Intakes and Exhaust
- Low Water Use Plumbing Fixtures
- Drought-Tolerant, Native landscaping
- On-site Storm water Management Systems
- Non-toxic Paints And Finishes
- See more at: http://www.jcwpla.org/jcwpla/

#### 2007 JCWP Energy Features

- 95% AFUE Gas Furnace, No Air Conditioning
- Tankless Gas Water Heater
- Duct Systems Tested To Ensure Leakage Below 6% of Rated Air Flow
- R-19 Floor, R-13 Wall, and R-38 Ceiling Insulation
- Energy Star Refrigerator and Energy Star Ceiling Fans
- Low-E, double pane, vinyl frame windows (SHGC= 0.30; U-Value = 0.35)
- Blower Door Test to Ensure Infiltration (SLA) below 1.5
- 1.3 2.1 kW solar electric systems (PV Modules and Inverters)
- Average Improvement over California Energy Code = 32% (15% required to qualify for Energy Star in California)



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

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Former President Jimmy Carter, center, at 2007 JCWP site in Los Angeles.

| Carter Project Homes                |                   |                      |
|-------------------------------------|-------------------|----------------------|
| Supported/Rated by Building America |                   |                      |
| Year                                | Site              | Houses               |
| 1997                                | Lee County, KY    | 3 Energy Stars       |
| 1998                                | Houston, TX       | 100 Energy Stars     |
| 2000                                | Americus, GA      | 23 Energy Stars      |
|                                     | New York City, NY | Volunteer Training   |
| 2003                                | LaGrange, GA      | 22 Energy Stars      |
|                                     | Anniston, AL      | 35 Near Energy Stars |
| 2005                                | Benton Harbor, MI | 23 Energy Stars      |
| 2007                                | Los Angeles       | 30 Energy Stars      |
|                                     | •                 | 236 Total            |

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For more information on Building America's Partnership with Habitat for Humanity, see <u>www.baihp.org/habitat</u>

#### **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 1-877-EERE-INF (1-877-337-3463) www.eere.energy.gov



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