

This announcement brings you the latest information about news, activities, and publications from the U.S. Department of Energy's [Building America](#) program. Please forward this message to colleagues who may be interested in [subscribing](#) to future *Building America Update* newsletters.

### Learn about Top Innovations from Building America

Since 1995, Building America research has resulted in more than 30 major innovations that are helping to transform our nation's home building and retrofit industry to high performance homes. In fact, Building America [research teams](#) have helped deliver more than 42,000 high performance new and existing homes, working with 300 U.S. production home builders. Learn about the [Top Innovations](#) as identified in 2012, and plans for future Top Innovations. An article in the March/April 2013 issue of [Green Home Builder](#) magazine highlights these accomplishments that serve to guide the building industry in its move toward more energy efficient, healthy, and durable homes.

### New Version of BEopt Offers Enhanced Capabilities

The new BEopt Version 2.0 is now available! [BEopt](#) evaluates residential building designs and identifies cost-optimal efficiency packages at various levels of whole-house energy savings along the path to zero net energy. BEopt 2.0 includes major new features such as improved retrofit analysis capabilities, integration with the [National Residential Efficiency Measures Database](#), photovoltaic and whole-house efficiency incentives, and [HPXML](#) export. Read about the new [features](#) and visit the [website](#) to download BEopt Version 2.0.

### What is Building America? Watch the New Video

Want to learn more about Building America or help us spread the word about the program? A new [video](#) shows how Building America aims to bridge the gap between homes with high energy costs and homes that are healthy, durable, and energy efficient.

### View the Agenda for the 2013 Technical Update Meeting

See the preliminary [agenda](#) of critical questions and top innovations that will be addressed at the Building America [2013 Technical Update Meeting](#) scheduled for April 29-30, 2013, in Denver, Colorado—and [reserve your spot](#) now! The meeting will showcase Building America's world-class building science expertise for high performance homes, and is co-located with the [2013 Affordable Comfort, Inc. \(ACI\) National Home Performance Conference](#). This meeting is free and open to the public. Space is limited, so please [register](#) soon!

### Reminder: DOE Challenge Home Trainings in Your Area

In 2013, DOE [Challenge Home](#) is conducting Zero Net-Energy-Ready Home training with Sponsor Partners throughout the country. This 3.5-hour training provides builders with a comprehensive review of zero net-energy-ready home construction including the business case, detailed specifications, and opportunities to be recognized as an industry leader. Please visit the Challenge Home [Events Calendar](#) to view and register for upcoming Zero Net Energy-Ready Home trainings. For questions about these trainings, contact [DOEChallengeHome@newportpartnersllc.com](mailto:DOEChallengeHome@newportpartnersllc.com).

### New Publications from Building America

The Building America [Publications Library](#) offers an extensive collection of technical reports, measure and strategy guidelines, case studies, and other resources to help you boost energy efficiency in new and existing homes. In addition, the Building America [Solution Center](#) links you to fast, free, and expert building science and energy efficiency information based on [Building America](#) research results. Here is a sampling of some of our most recent publications:

#### [Measure Guideline: Air Conditioner Diagnostics, Maintenance, and Replacement](#)

This guideline responds to the need for an efficient means of identifying, diagnosing, and repairing faults in air conditioning systems in existing homes that are undergoing energy upgrades. Inadequate airflow due to constricted ducts or undersized filters, improper refrigerant charge, and other system defects can be corrected at a fraction of the cost of equipment replacement and can yield significant savings. The guideline presents a two-step approach to diagnostics and repair.

### [Energy Retrofit Field Study and Best Practices in a Hot-Humid Climate](#)

Energy efficiency improvement as a component of comprehensive renovation was investigated under U.S. Department of Energy (DOE) funding of the Building America Partnership for Improved Residential Construction (BA-PIRC). Researchers at the Florida Solar Energy Center (FSEC) worked with affordable housing partners renovating foreclosed homes built from the 1950's through the 2000's in the hot-humid climate (within the Southern census region), primarily in Florida. Researchers targeted a 30% improvement in whole-house energy efficiency along with the health and safety, durability, and comfort guidelines outlined in DOE's Builders Challenge Program (Version 1) Quality Criteria.

### [Side-by-Side Testing of Water Heating Systems: Results from the 2010 – 2011 Evaluation](#)

The Florida Solar Energy Center (FSEC) continues the testing and evaluation of seven water heating systems operating side-by-side at the HWS laboratory in Cocoa, FL, and documents results in this report. All systems are submitted to alternating hot water draw schedules (ASHRAE 90.1 and NREL/BA). The most significant system change under the latest testing rotation comes from the evaluation of a new state-of-the-art electric heat pump water heater (HPWH) system. The HPWH water heater has demonstrated that under favorable ambient conditions it can perform very well against the best system evaluated in Phase I (2009-2010) – the differentially controlled solar flat plate solar system.

### [Comparison of Home Retrofit Programs in Wisconsin](#)

To explore ways to reduce customer barriers and increase home retrofit completions, several different existing home retrofit models have been implemented in the state of Wisconsin. This study compared these programs' performance in terms of savings per home and program cost per home to assess the relative cost-effectiveness of each program design. However, given the many variations in these different programs, it is difficult to establish a fair comparison based on only a small number of metrics. Therefore, the overall purpose of the study is to document these programs' performance in a case study approach to look at general patterns of these metrics and other variables within the context of each program. This information can be used by energy efficiency program administrators and implementers to inform home retrofit program design.

Additional reports published recently are:

- [Approaches to 30% Energy Savings at the Community Scale in the Hot-Humid Climate](#)
- [Hood River Passive House](#)
- [Laboratory Evaluation of Gas-Fired Tankless and Storage Water Heater Approaches to Combination Water and Space Heating](#)
- [Ductless Mini-Split Heat Pump Comfort Evaluation](#)
- [TaC Studios New Construction Test House](#)
- [Building America Expert Meeting: Combustion Safety](#)
- [Laboratory Performance Testing of Residential Window Air Conditioners](#)

Visit the Building America [Publications Library](#) to access the entire catalog of publications to help improve efficiency of new and existing homes.

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