U.S. Department of Energy - Building America

Building America Program • Office of Building Technologies, EE-2J • U.S. Department of Energy • 1000 Independence Avenue, S.W. • Washington, D.C. 20585-0121 • **www.buildingamerica.gov**

DOE Team Leader, **Edward Pollock** - Buildings Integration
202-586-5778 • e-mail: edward.pollock@ee.doe.gov

DOE Project Leader, **George S. James** - New Construction
202-586-9472 • e-mail: George.James@ee.doe.gov

DOE Project Leader, **Terry Logee** - Existing Homes
202-586-1689 • e-mail: terry.logee@ee.doe.gov

DOE Project Leader, **Lew Pratsch** - Energy Use Management
202-586-1512 • e-mail: Lew.Pratsch@ee.doe.gov

DOE Team Leader, **James Rannels** - Technology Validation and Market Introduction • 202-586-8070
e-mail: james.rannels@ee.doe.gov

Building America Teams

Building Industry Research Alliance (BIRA)
Robert Hammon - ConSol
7407 Tam O'Shanter Drive #200 • Stockton, CA 95210-3370
209-473-5000 • e-mail: Rob@consol.ws • **www.bira.ws**

Building Science Consortium (BSC)
Betsy Pettit - Building Science Corporation (BSC)
70 Main Street • Westford, MA 01886 • 978-589-5100
e-mail: Betsy@buildingscience.com • **www.buildingscience.com**

Consortium for Advanced Residential Buildings (CARB)
Steven Winter - Steven Winter Associates, Inc.
50 Washington Street • Norwalk, CT 06854 • 203-857-0200
e-mail: swinter@swinter.com • **www.carb-swa.com**

Davis Energy Group
David Springer - Davis Energy Group
123 C Street • Davis, CA 95616 • 530-753-1100
e-mail: springer@davisenergy.com • **www.davisenergy.com**

IBACOS Consortium
Brad Oberg - IBACOS
2214 Liberty Avenue • Pittsburgh, PA 15222 • 412-765-3664
e-mail: boberg@ibacos.com • **www.ibacos.com**

Industrialized Housing Partnership (IHP)
Subrato Chandra - Florida Solar Energy Center
1679 Clearlake Road • Cocoa, FL 32922 • 321-638-1412
e-mail: subrato@pegasus.cc.ucf.edu • **www.baihp.org**

National Association of Home Builders (NAHB) Research Center
Tom Kenney - NAHB Research Center
400 Prince George's Blvd. • Upper Marlboro, MD 20774
301-430-6246 • e-mail: tkenney@nahbrc.org • **www.nahbrc.org**

Building America Lab Leads

National Renewable Energy Laboratory
Ren Anderson - 1617 Cole Blvd., MS-1725 • Golden, CO 80401
303-384-7433 • e-mail: ren_anderson@nrel.gov • **www.nrel.gov**

Pacific Northwest National Laboratory
Michael Baechler - 620 SW 5th, Suite 810 • Portland, OR 97204
503-417-7553 • e-mail: michael.baechler@pnl.gov • **www.pnl.gov**

Lawrence Berkeley National Laboratory
Max Sherman - 1 Cyclotron Road • MS 90-3074 • Berkeley, CA 94720 • 510-486-4022 • e-mail: mhsherman@lbl.gov
www.lbl.gov

Oak Ridge National Laboratory
Pat M. Love - P.O. Box 2008 • One Bethel Valley Road • Oak Ridge, TN 37831-6067 • 865-574-4346 • e-mail: lovepm@ornl.gov
www.ornl.gov

ENERGY STAR
www.energystar.gov

PATH
Partnership for Advancing Technology in Housing
www.pathnet.gov

Building America
U.S. Department of Energy
Research Toward Zero Energy Homes

Residential Buildings

New Construction

Energy Use Management

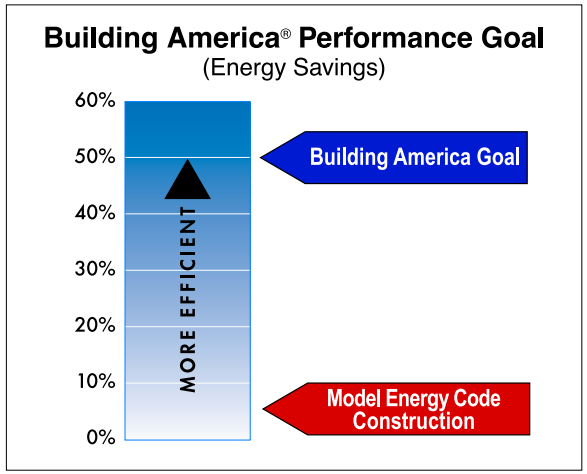
Existing Buildings

www.buildingamerica.gov

OFFICE OF BUILDING TECHNOLOGIES
OFFICE OF ENERGY EFFICIENCY AND RENEWABLE ENERGY
U.S. DEPARTMENT OF ENERGY

Building America:
Innovation in Home Building

Building America (www.buildingamerica.gov) is a private/public partnership sponsored by the U.S. Department of Energy that conducts systems research to improve overall housing performance, increase housing durability and comfort, reduce energy use, and increase energy security for America's homeowners. Program activities focus on finding solutions for both new and existing homes, as well as integrating clean on-site energy systems that will allow the homebuilding industry to provide homes that produce more energy than they use.



Building America
New Construction

Each Building America team is constructing test houses and developing community-scale projects that incorporate its systems innovations. More than 40,000 energy-efficient houses have been built by the seven teams to date.

The teams design houses from the ground up, considering the interaction between the site, building envelope, mechanical systems, and other factors, and recognizing that features of one component in the house can greatly affect others. This approach enables the teams to incorporate energy-saving strategies at little or no extra cost: new techniques for tightening the building envelope, for example, enable builders to install smaller, less expensive heating and cooling systems. Savings from the smaller HVAC system can than be used to purchase high-performance windows that further reduce energy use and costs. System trade-offs like these improve the quality and performance of a home without affecting its costs — to builders or buyers.

Building America
Energy Use Management

New single-family homes are, on average, larger than ever before, and employ many more electrical appliances. More than 50% are being built in the sunbelt where the need for electricity is high because of summertime air-conditioning loads.

Building America's research on the integration of residential renewable and other on-site power systems focuses on identification of system engineering issues that must be resolved before the long term goal of large numbers of cost effective, marketable, zero net energy homes (ZEH) can be achieved.

Research into systems integration of renewable and other on-site power systems such as solar or fuel cells includes evaluation of cost trade-offs between investments in energy efficiency and on-site power systems, along with evaluation of net daily, monthly and annual energy contributions from such systems. Another important research area is Building America's monitoring and analysis of data from the growing numbers of homes at the upper end of the home market that are being constructed utilizing solar technologies as options to reduce some of their energy costs. Such research and development is especially necessary to effectively integrate and reduce the energy costs and at the same time increase the energy efficiency of homes being constructed by production homebuilders.

Building America
Existing Buildings

There are more than 113 million residential households in the United States today. Approximately 78 million of these households live in single family site-built homes, seven million live in mobile homes/manufactured houses and 28 million live in multifamily buildings. Not surprisingly, existing residential buildings represent the single largest source of potential energy savings.

The objectives of the existing homes project of Building America is to establish technology pathways that reduce energy consumption in American homes. The existing buildings project will focus on finding ways to adapt the results from the new homes research to retrofit applications in existing homes. Research activities include a combination of computer modeling, field demonstrations and monitoring to develop integrated approaches to reduce energy use in existing residential buildings. Analytical tools will be developed to guide designers and builders in the selection the best approach for each application.