

Building America is sponsored by the U.S. Department of Energy. The program aims to:

- Reduce energy use by 50% and reduce construction time and waste
- Improve indoor air quality and comfort
- Encourage a systems-engineering approach for design and construction of new homes.
- Develop system cost/performance tradeoffs that improve housing quality and performance without increasing cost.
- Conduct cost-shared research to accelerate development and adoption of innovative building systems.

Unvented Attic Increases Energy Efficiency and Reduces Duct Losses

Pulte Homes — Sun Lakes at Banning, California

New houses in the Sun Lakes at Banning subdivision are designed by Pulte Homes with technical support from the Building Science Consortium as part of the U.S. Department of Energy's Building America Program. These homes save their homeowners money by applying the principles of "whole-building" design, which considers the house as a complete system instead of separate components. This approach benefits homeowners by reducing construction costs, assuring system performance, addressing health and safety concerns, and allowing builders to install downsized cooling equipment, which lowers utility bills.

Homes built by Pulte in this development are achieving 35 to 40% reductions over the requirements of the 1995 Model Energy Code and 15 to 20% over California's new Title 24 requirements. An innovative design system brings the heating and cooling ducts inside the conditioned space with an added supply ventilation system using the AirCycler, which was developed under the Building America Program.

Pulte Homes selected the following energy-efficient features in its effort to achieve Building America's space-conditioning performance goal.



Pulte Homes/PIX09819

-  **High-performance spectrally selective windows**
-  **Low-loss duct systems in sealed, conditioned attic**
-  **High-efficiency, downsized, SEER-12 AC system**
-  **Closed-combustion, 90% AFUE furnace**
-  **Controlled ventilation systems**

Pulte Homes is working with the Building Science Consortium (BSC), one of the five Building America industry teams. All Building America houses built by Pulte Homes receive an ENERGY STAR® label that certifies the performance rating of these houses is at least 30% better than the ENERGY STAR® reference house based on the Model Energy Code. The ENERGY STAR® program is a joint effort of the U.S. Department of Energy and the Environmental Protection Agency.

Building America Program relocates the entire HVAC system into the conditioned space of the attic. Overall building airtightness is improved because the air barrier is the sheathing of the roof.





BUILDINGS FOR THE 21ST CENTURY

Buildings that are more energy-efficient, comfortable, and affordable ... that's the goal of DOE's Office of Building Technology, State and Community Programs (BTS). To accelerate the development and wide application of energy efficiency measures, BTS:

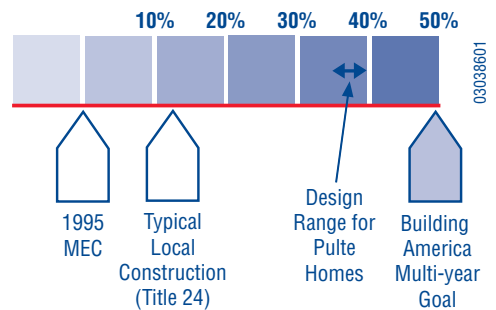
- Conducts R&D on technologies and concepts for energy efficiency, working closely with the building industry and with manufacturers of materials, equipment, and appliances
- Promotes energy-/money-saving opportunities to both builders and buyers of homes and commercial buildings
- Works with state and local regulatory groups to improve building codes, appliance standards, and guidelines for efficient energy use
- Provides support and grants to states and communities for deployment of energy-efficient technologies and practices.

The Approach

Building America's systems-engineering approach unites segments of the building industry that have traditionally worked independently of one another. It forms teams of architects, engineers, builders, equipment manufacturers, material suppliers, community planners, mortgage lenders, and contractor trades. More than 230 different companies make up the five Building America consortium:

-  Building Science Consortium (BSC)
-  Consortium for Advanced Residential Buildings (CARB)
-  Hickory Consortium
-  Industrialized Housing Partnership.
-  Integrated Building and Construction Solutions (IBACOS) Consortium

Building America Performance Goal (Heating and Cooling Energy Savings)



The teams design houses from the ground up, considering the interaction between the site, building envelope, mechanical systems, and other factors. With this approach, the teams can incorporate energy-saving strategies at little or no extra cost.

VISIT OUR WEB SITES AT:

WWW.EREN.DOE.GOV/BUILDINGS/BUILDING_AMERICA



WWW.ENERGYSTAR.GOV



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*An electronic copy of this fact sheet is available on the Building America Web site:
www.eren.doe.gov/buildings/Building_America*



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