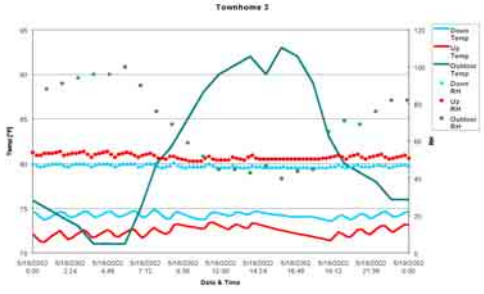
Building AMERICA U.S. Department of Energy

CARB NEWS

Consortium for Advanced Residential Buildings Vol. 6, No. 7 - January 2003

MONTHLY UPDATE ON PARTICIPATION IN THE U.S. DEPARTMENT OF ENERGY'S BUILDING AMERICA PROGRAM

Building America Ups the Ante



From the very start of the **U.S. Department of Energy's Building America** program, the goal has been to design and build homes that perform better than what the Model Energy Code calls for. For the past few years, the performance target has been 30% savings in space conditioning, water heating, and lighting, over the 1993 MEC—a goal that CARB homes have achieved, based on monitoring in the field (right). As of this month, however, Building America has upped the ante. CARB and its member builders will be shooting for at least 40% energy savings in space conditioning, water heating, and lighting. This increase in efficiency may not seem to be a big jump, but it presents a real challenge for many homebuilders in terms of making the grade cost-effectively. In addition to the new energy savings target, the goals of Building America are to accelerate development and implementation of advanced energy systems in new and existing residential construction; reduce residential construction site waste, construction cycle time, and warranty and call back costs; increase the use of recycled materials; and improve labor productivity, system durability, and reliability. CARB is also in step with Building America in its goal to develop innovative technologies (see page 2) and strategies that enable the U.S. housing industry to deliver environmentally sensitive, quality housing on a community scale; and to increase housing value and affordability for all homeowners.

CARB/ Mercedes Steps Up Production of Concrete Homes

For the past several years, CARB has helped the Melbourne, Florida, division of **Mercedes Homes** develop a new line of energy-efficient concrete homes that have been met with great success by homeowners, with hundreds sold. These concrete homes have included CARB advancements such as inside-the-envelope HVAC equipment and ducts, light-gage steel interior partitions, and increased insulation levels. CARB has also worked with the Melbourne division to incorporate the CARB-developed "plenum truss," which provides an insulated plenum space through which ducts are run. Now, Mercedes' Jacksonville division, which has produced only wood-framed homes, will also produce concrete homes that include CARB advancements. These will be phased in with the goal of producing only concrete homes by the year 2005.

Patent Awarded on Deadband Thermostat

As part of its research on best practices and innovative residential technologies under the **Building America** program, Steven Winter Associates, Inc. (SWA) has been recently awarded a U.S. Patent for its invention of a "variable deadband" energy-saving thermostat. A deadband is the range of fluctuation in temperature that will cause HVAC cycling (which contributes to energy inefficiency). The variable deadband results in a more efficient thermostat, particularly in mild spring/fall seasons. The variable deadband is kept narrow at its normal value during peak heating/cooling periods, and wider during shoulder months with low heating/cooling requirements. With this technology, comfort is maintained while saving energy and increasing the life of mechanical equipment. Following the idea's conceptual discovery during CARB research with **Del Webb Homes** in Phoenix, SWA and **Home Automation, Inc. (HAI)** received a grant from the **National Institute of Standards and Technology** to develop and demonstrate the technology. HAI has implemented the concept in pre-production models.

Certifying "Whole-House" Energy Improvement Contractors

The **Environmental Protection Agency (EPA)** has rolled out a new program called "Home Performance," which aims to certify whole-house energy improvement contractors and incorporate "best practices" when making improvements to existing homes. The states of New York and Wisconsin are the first to implement EPA's Home Performance program. **The New York State Research and Development Authority (NYSERDA)** and the **Wisconsin Energy Conservation Corporation (WECC)** (both members of CARB) are the first to implement Home Performance with the ENERGY STAR program. NYSERDA is working with the Building Performance Institute (BPI) to provide contractor certification in New York in response to a marketing campaign in the state that revealed that consumers are demanding better energy-saving services. This demand provides contractors with the incentive to get certified. WECC is concentrating on training and mentoring of its registered contractors to establish "initial capacity" in the market.

CARB NEWS is published monthly by the Consortium for Advanced Residential Buildings, part of the **Building America Program**, sponsored in part by the **U.S. Department of Energy** through the **National Renewable Energy Laboratory.** For further information and suggestions for inclusion in *CARB-NEWS*, please contact Michael J. Crosbie, Steven Winter Associates, Inc., 50 Washington St., Norwalk, CT 06854; 203-857-0200, 203-852-0741 (fax); swinter@carb-swa.com (e-mail). **CARB** Primary Team Members are: Steven Winter Associates, Ryan Homes, Del Webb Corp., Beazer Homes USA, Crosswinds Communities, Mitchell Homes, Mercedes Homes, McStain Enterprises, Cambridge Homes, D.R. Horton, Unibilt Industries, Don Simon Homes, Tindall Homes, Wausau Homes, and William Ryan Homes. Also Weyerhaeuser, Andersen Windows, Owens Corning, Honeywell, Whirlpool Corp., DuPont, Simpson Strong-Tie, Steel Floors, LLC, CertainTeed Corp., and Trus Joist MacMillan. More **CARB** information is available on its web site: www.carb-swa.com.