



July-August 2007

SUCCESSFUL BUILDER

CONCRETE DOORS of Wisconsin



Wisconsin
ENERGY STAR®
reaches a milestone

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Wisconsin ENERGY STAR Celebrates

and still counting...



Focus on Energy, Wisconsin's energy efficiency and renewable energy initiative, celebrated the completion of the 8,000th home certified under its Wisconsin ENERGY STAR® Homes Program during a

dedication ceremony on Friday, June 15, 2007. Speakers included Greg Nahn, program manager for the Wisconsin ENERGY STAR Homes Program, and David Ciepluch, energy efficiency project strategist for We Energies.

The 8000th home was built for Jim and Cindy Madson in Caledonia by Kevin Jones Builders, LLC with Tom Bawolek serving as the building science consultant.

In a state that builds just over 20,000 new single- and multifamily homes each year, reaching this milestone in only six years underscores the growing importance Wisconsin home builders and buyers alike are placing on energy efficiency. Even more remarkable, Wisconsin ENERGY STAR had reported that they reached 5,000 homes in May 2005. In a little over two years the total number of certified homes grew more than 60 percent.

The success of ENERGY STAR-certified new homes in Wisconsin is the result of a strong commitment by builders to testing building performance and efficiency. Using program-accredited consultants, builders benefit by proving their value to homeowners through a process





8000th Statewide Certified Home

of plan evaluation, using computer modeling to target efficiency, and the execution of construction details to ensure performance. The result is a home estimated to be on average at least 25 percent more efficient than homes built to Wisconsin's Uniform Dwelling Code and tested to meet or exceed nationally recognized new construction performance standards.

The program

According to the Environmental Protection Agency's national ENERGY STAR Program, households can reduce their energy use and save up to 30 percent (or \$600 annually on average) on their utility bills. The national average for residential utility bills is currently around \$1,900 per year.

In Wisconsin, over 350 builders and a growing number of building science consultants have worked together since 2001 to make the Wisconsin ENERGY STAR Homes Program successful. "The program has worked hard over the years to build the necessary infrastructure of partners who work together with a set of proven and effective building standards specific to Wisconsin's extreme weather," added Nahn. "Their combined technical expertise during the planning, construction and testing of each home results in a dwelling that combines enhanced comfort and safety with increased durability and energy efficiency."

"Building green is on the forefront of many consumers' minds, and it's important to recognize that the biggest

Fast Facts about ENERGY STAR

Close to 3,500 builder partners constructing new homes in every state and the District of Columbia that qualify as ENERGY STAR — saving homeowners money while maintaining high levels of comfort.

Close to 200,000 new homes were constructed to meet ENERGY STAR guidelines in 2006, bringing the total number of ENERGY STAR-qualified homes to more than 725,000. Owners of these homes are saving more than \$170 million annually on their utility bills. As a result of the ENERGY STAR program's expanding efforts, the total number of ENERGY STAR-qualified homes nationwide has doubled in the past two years, with market penetration exceeding 20 percent of the new home starts in more than 10 states and 20 metropolitan areas.

State- and locally sponsored programs have used Home Performance with ENERGY STAR to improve more than 26,000 homes across the country. This comprehensive whole-house approach, backed by the EPA and DOE, increases the comfort of existing homes, saves homeowners money on utility bills and reduces peak loads.

Recognized by more than 65 percent of the American public, the ENERGY STAR label is the trusted national symbol for environmental protection through superior energy efficiency. Whether replacing an old appliance, making home improvements, or buying a new home, consumers can use ENERGY STAR to help guide their purchasing decisions, save money and prevent greenhouse gas emissions.



component of green building with the largest long-term impact has to do with the home's performance and efficiency," states Greg Nahn, program manager for the Wisconsin ENERGY STAR Homes Program. "This is where the Wisconsin ENERGY STAR Homes Program comes into play; a certified home will help lower the cost of living while protecting our environment now and for the future generations."

The builder

Kevin Jones of Kevin Jones Builders, has been building custom homes throughout southern Wisconsin for over 10 years. Having started as a designer for other builders in the area, he realized certain building techniques resulted in better-built and more energy-efficient homes without significantly impacting the cost of construction.

Taking this knowledge and experience, he formed Kevin Jones Builders and currently builds between 10 and 15 homes each year. He has been an ENERGY STAR builder since 2001 and has completed a total of 26 Wisconsin ENERGY STAR-certified homes. In 2006 they received the Excellence in Building Air Tightness Award at the New Construction Awards Banquet, sponsored by Wisconsin ENERGY STAR Homes.

"When we reviewed our building practices and products, we found that we already met many of the program requirements for home certification, at least on paper," states Jones. "From there it was only a matter of implementing specific recommendations (made by the consultant) and taking the final step in testing to gain the actual certification. Really it was a no-brainer." Nahn continually points to this builder revelation when promoting ENERGY STAR building practices.

Whether the home plan is one of Kevin Jones' or a design brought in by the client, Kevin is quick to point out the benefits of their building experience and performance in the program in regards to energy efficiency

and the resulting utility cost savings. And while home certification is offered to the buyer as an option, Kevin sees the additional cost as increasingly not an issue—in essence being the consultant's fee for design modeling, site visits and final performance testing. Across the state this fee varies, being set by individual consultants, averaging less than \$700 on a typical home. And if the buyer chooses not to seek the certification, it's no problem. "We don't change our building practices based on whether they want the certification, we still build to the same performance standards, it is just what we do," says Jones.

The consultant

Tom Bawolek of Five Star Energy Corporation, Inc. an independent building science consultant who partners with the Wisconsin ENERGY STAR Homes Program, pointed out some of the key areas that were addressed in the initial modeling and design. Icynene was applied around each ceiling can light in the vaulted ceiling before the standard insulation was blown in. Icynene was also used for the exterior wall insulation.

To test its effectiveness, Bawolek used an infrared camera at the height of midday sun. The western exposed exterior walls remained very consistent with little heat gain across the entire wall. Laser temperature readings indicated that both the external walls and the ceiling were at 77.8°F with little variation.

When building tight homes, of which Wisconsin builds some of the tightest in the country, ventilation is a critical concern. The Madson home was designed with Broan Ultra Silent bath fans which were installed on timers. This allows pre-programming of regular ventilation without any disruption to the residents.

In Wisconsin, heat loss in the wintertime is one of the most critical areas to address in new home design and construction. With heating fuel prices continuing to rise, energy conservation is becoming more of a buyer-driven deal-closer. Builders throughout Wisconsin have the tools and resources available to quickly meet this growing demand with little upfront cost. In many cases the consulting cost doesn't have to be borne by the builder. It can be passed on to the buyer by illustrating a very short payback period and the annual savings realized through building an ENERGY STAR home.

At this rate 15,000 or even 20,000 ENERGY STAR homes can't be that far off. With the push for green building, pressure on energy conservation and the personal feeling that one is helping make a difference in the environment, buyers appear to be adopting ENERGY STAR building practices faster than ever. ▲