RECOGNIZING ENERGY LEADERSHIP IN HOMEBUILDING

BUILDERS CHALLENGE

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

High Performance Builder Spotlight

NextGen Home

Las Vegas, Nevada

The 2009 NextGen Home Experience® demonstration home is a U.S. Department of Energy Builders Challenge home. Since 2003 home builders and home buyers in the tens of thousands have toured NextGen Home Experience® demonstration homes (www.nextgenhome.com) to see some of the latest innovations for the American home. In the past, these demonstration homes have been built on-site at industry conventions.

> "People increasingly want these low-energy homes; it's the perfect time for builders to make these next generation homes more available and give themselves a significant advantage over their competition, while helping to reduce our nation's energy consumption."
>
> **PAUL BARNETT**, President of iShow, producers of all the NextGen Demonstration Homes

The 2009 NextGen home will differ from previous NextGen homes in two important ways. First it is being built on a permanent site so the builder has the luxury of time to incorporate every desired energy-efficiency feature in the 5,200 sq ft home. Second, the home meets the stringent energy efficiency requirements of the U.S. Department of Energy's Building America Builders Challenge.

Building America research partner ConSol estimates the NextGen home will achieve whole house energy savings of 63% over the Building America benchmark requirements and it will be 51% more efficient than today's standard home. ConSol estimates the house will achieve a HERS index score of 44; that's a remarkable feat for a home of this size when one considers that the average U.S. home scores 130 and typical new home construction scores an average of 100. Builders Challenge requires homes to score 70 or lower to qualify, along with meeting some specific requirements such as air sealing and moisture management details to help improve a home's comfort, durability, and safety as well as its energy efficiency.

The NextGen home's walls are made of insulated concrete forms, which are steel-reinforced styrofoam insulated concrete blocks that provide superior strength, fire proofing, sound proofing, and insulation value compared to wood-framed homes. A 4-kW DC solar photovoltaic power system will be mounted on the roof. The photovoltaics are embedded in lightweight, flexible laminate panels that peel and stick to the roof surface. The panels are easy to install and virtually unbreakable since no glass is used; they are expected to provide a significant percentage of the home's power needs. The home will also conform to the Institute for Business and Home Safety's *Fortified. . .for safer living*® designation.

Throughout 2009, the National Demonstration Home will be open to attendees of the largest home industry tradeshows in the world, including the International Builders' Show, the Consumer Electronics Show, the World of Concrete, and the International Roofing Expo.

BUILDER PROFILE

NextGen 09 LLC
www.nextgenhome.com

Development: 2009 NextGen National Demonstration Home

Square footage: 5,200 sq ft model home, with five bdrms, 6.5 baths, 3-car garage

Architect: Aronson & Associates based in Hollywood, Florida www.aarchitect.com

Builder: NextGen 09 LLC is represented by Andreas Kuhlmann and Mike Verba. Paul Barnett is President of iShow, producers of the NextGen Home Experience, and a partner in the NextGen 09 LLC.

U.S. Department of Energy
Energy Efficiency and Renewable Energy
Bringing you a prosperous future where energy is clean, abundant, reliable, and affordable

1/2009

NextGen Home

KEY FEATURES

- 4 kW DC solar laminate panel system
- Insulated concrete form wall construction, R40
- Ducts located in conditioned space
- Vinyl-framed low-emissivity, argon-filled windows
- Spray foam insulation in attic, R40
- Insulated glass windows
- ENERGY STAR appliances and CFL lighting
- Tankless electric water heater
- 95% AFUE furnace
- SEER 16 AC
- Engineered duct layout with mastic-sealed ducts
- Meets Institute for Business and Home Safety *Fortified...for safer living®* designation
- Guardian Safety Solutions kitchen fire suppression system
- Water-conserving plumbing
- One touch electronic controls for lighting, sound, appliances, drapes
- Engineered hardwood flooring
- DECRA roofing made from 25% post-consumer recycled steel
- 100% recycled wood content composite garage doors
- Recycled leather floor tiles
- 100% recycled glass countertops

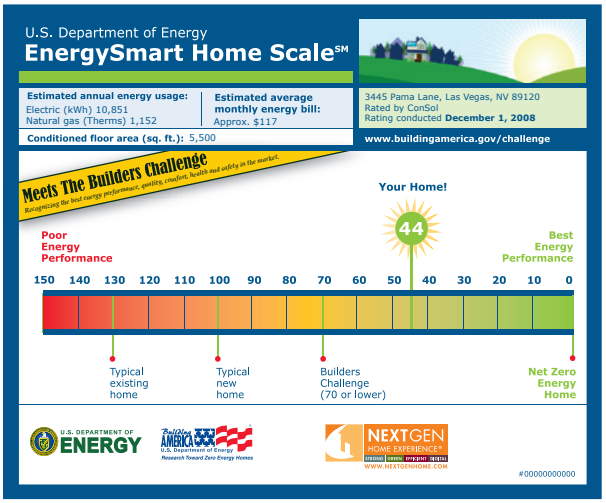
"A recent survey asked homeowners how they would best spend an extra $5,000 on a new home. At the top of the list were improvements to energy efficiency. Skyrocketing energy costs and increasing consumer demand for energy performance are driving the development of new energy-efficient products and building methods, making it an entirely different market for builders. When it comes to energy performance, the Builders Challenge is a path to a distinct competitive advantage. At last, you have a clear way to highlight features that surveys show are increasingly pivotal in home buying decisions," said Paul Barnett, President of iShow.

U.S. Department of Energy Builders Challenge

DOE has posed a challenge to the homebuilding industry—**to build 220,000 high performance homes by 2012**. Homes that qualify for this Builders Challenge must meet a 70 or better on the EnergySmart Home Scale (E-Scale). The E-scale allows homebuyers to understand—at a glance—how the energy performance of a particular home compares with others. Through the Builders Challenge, participating homebuilders will have an easy way to differentiate their best energy-performing homes from other products in the marketplace, and to make the benefits clear to buyers.

The figure to the right shows an E-Scale for the NextGen Home. The E-scale is based on the well-established Home Energy Rating System (HERS) index, developed by the Residential Energy Services Network. To learn more about the index and HERS Raters visit www.natresnet.org.

To learn more about the Builders Challenge and find tools to help market your homes, visit www.buildingamerica.gov/challenge.



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For more information visit www.buildingamerica.gov. The website contains expanded case studies, technical reports, and best practices descriptions.

The Building America Program

Building America is a private/public partnership sponsored by DOE 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. Building America teams construct test houses and community-scale projects that incorporate systems innovations. 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. More than 40,000 energy-efficient houses have been built by the seven teams to date.