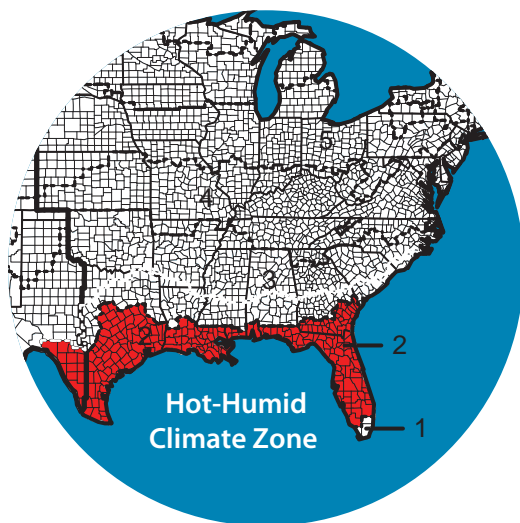




The NextGen Home Experience® partnered with the DOE's Building America team, Building Industry Research Alliance (BIRA), to highlight the energy performance of its IBS NextGen Demonstration home.



## BUILDER PROFILE

The NextGen Home Experience selected Genesis by Champion as their home builder partner.

**Builder:** Genesis by Champion Home Builders

**Founded:** 1953

**Employees:** 3,200

**Square Footage:** 2,480



## Builders Challenge

Recognizing Energy Leadership in Homebuilding

## High Performance Builder Spotlight

## NextGen National Demonstration Home

International Builders' Show (IBS) Orlando, Florida

## NextGen Flex-Home

The NextGen Flex-Home and the 9th edition of the NextGen National Demonstration Home, was located onsite at the International Builders' Show in Orlando, Florida in January 2011 before being donated to an injured veteran and his family.

Built by Champion Homes, one of the nation's largest modular home builders, the NextGen home featured the "GO House" concept. The "GO House" is an affordable, greener home that is professionally designed, engineered and built in a controlled, state-of-art factory. Home buyers can easily design and customize their own green home from the ground up anywhere in the country and own a home that can often be built and installed in less than 90 days.

Champion partnered with U.S. Department of Energy's (DOE) Building America team, BIRA, and BIRA's team lead, ConSol, to build a home that performs much better than a typical new home on DOE's Builders Challenge EnergySmart Home Scale<sup>SM</sup>, which illustrates the home's energy efficiency: a typical existing home has a score of 130; a new home built to code has a score of 100; and the NextGen home scored a 58. (A "0" score is the ultimate net-zero energy home.)

High energy costs and increasing consumer demand for energy performance drive the development of new energy efficient products and building methods, many of which were included in the NextGen Home. The walls of the NextGen home were filled with Icynene spray foam insulation blown in the wall cavities before wall board was installed. The foam insulation seals up all cracks and gaps in the wall and fills the airspace, keeping outside air out and conditioned air in. Locating the HVAC air ducts in a conditioned attic space can reduce heating and cooling costs by 20 to 35%. This was done by insulating and sealing the attic roofline and air barrier system with more of the spray foam insulation. Low-E glass windows were used to reflect heat back to its source – outside in the summer and inside in the winter. Also, the proper installation and flashing materials were used with the windows ensuring reduced moisture and air intrusion into the interior. A DECRA ENERGY STAR® compliant metal roof provides a cooler attic space.

The use of a combination of compact fluorescent bulbs, LED and lighting controls that save energy without sacrificing warmth, beauty and the overall quality of light will provide lower energy bills as will the GE® ENERGY STAR rated appliances.

A Seisco electric tankless water heater was installed to provide a continuous and endless supply of hot water. An electronically controlled pump and valve assembly uses the room temperature water in the water pipes, and circulates it back to the heater. The result is hot water that arrives at the fixtures anywhere in a house an average of four to five times faster than typical hot water distribution, which contributes to dramatic water savings.

Also installed in the home was a hybrid HVAC system by Trane. Capable of heating using either electricity or fossil fuel, an electric heat pump combines with a variable speed gas or oil furnace for ultimate efficiency. With the flexibility of two fuels, the system can optimize energy use by switching back and forth to whichever source is most efficient for comfort. Since this home is all-electric, it will use electricity. The system has a SEER rating of 14.25 which exceeds ENERGY STAR standards. The Delta Breez Ventilation System consumes up to 65% less power and operates more quietly than other leading brands.

While energy saving methods are prime goals, generating energy can also help offset energy costs and lower the EnergySmart Home Scale score. The NextGen Flex-Home gathers energy from a Delta Wind Energy System, which produces minimal noise and delivers 50 kWh/mo at an average wind speed of 13.4 mph.

The home was donated to the non-profit organization “Rebuilding Together Tampa Bay” in co-operation with Sears’ Heroes at Home. The end recipient will be U.S. National Guard and Army Veteran, Waldemar Alameda, and his family located in Tampa, Florida. They reside in Tampa to be near the local VA trauma facility as he recovers from wounds sustained in service to our country.

## Energy-Efficiency Features

### ENVELOPE

Crawl Space	R-22 Insulation
Roofing Material	Metal, Light (0.45 Solar Absorptance)
Radiant Barrier	Yes
Ceiling Insulation	R-30
Walls	R-19 + 5.5" Icynene 2x6 Framing
Windows	Low- E Double (U-Value 0.35, SHGC 0.40)
Infiltration	ACH(50)= 3

### SYSTEMS

Cooling	14.2 SEER
Heating	Electric Heat Pump HSPF 7.7
Ducts	Ducts Inside R-6
Water Heating	Electric Tankless 0.92 EF

### APPLIANCES

GE ENERGY STAR

### LIGHTING

LED, CFL, and Lighting Controls

### HERS RATING WITH 400W TURBINE

58

## For more information:

[www.BIRA.ws](http://www.BIRA.ws)

[www.ConSol.ws](http://www.ConSol.ws)

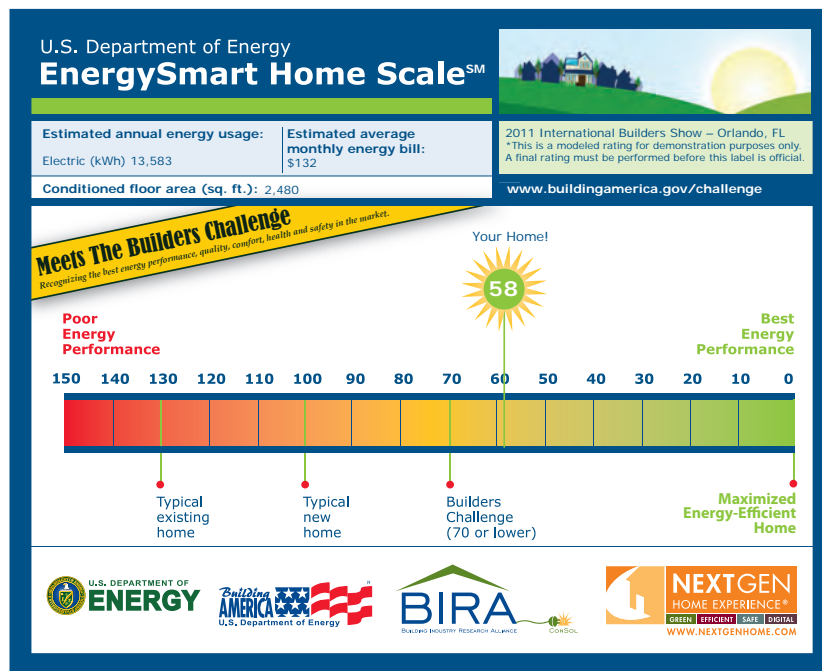
[www.NextGenHome.com](http://www.NextGenHome.com)

[www.championhomes.com](http://www.championhomes.com)

<http://www1.eere.energy.gov/buildings/challenge/>

## U.S. Department of Energy Builders Challenge

DOE seeks to give every consumer the opportunity to buy a cost-neutral, net-zero energy home anywhere in the U.S. by 2030. Homes that qualify for this Builders Challenge must achieve a 70 or less on the EnergySmart Home Scale (E-Scale) which is based on the Home Energy Rating System (HERS) index. The E-Scale allows homebuyers to understand-at a glance-how the energy performance of a particular home compares with others.



To learn more about the Builders Challenge and find tools to help market your homes, visit [www.buildingamerica.gov/challenge](http://www.buildingamerica.gov/challenge).

U.S. DEPARTMENT OF  
**ENERGY**

Energy Efficiency &  
Renewable Energy

EERE Information Center  
1-877-EERE-INF (1-877-337-3463)  
[www.eere.energy.gov/informationcenter](http://www.eere.energy.gov/informationcenter)

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For information on Building America visit [www.buildingamerica.gov](http://www.buildingamerica.gov). The website contains expanded case studies, technical reports, and best practices guides.