

## High Performance Builder Spotlight

# Clarum Homes

Watsonville, California



### Nation's Largest Zero Energy Home Community a Winner in Watsonville

In 2003 Bay area production builder Clarum Homes partnered with Building America to build the nation's largest zero-energy home community, Vista Montana, in Watsonville, California, near Santa Cruz. The development of 177 single-family homes, 80 townhouses, and 132 apartments opened in August 2003 and sold out in its first year. Clarum initially advertised prices of \$379,000 to \$499,000 but some units sold for as much as \$600,000. Every home features a slew of energy-efficiency measures throughout plus a 1.2 to 2.4 kW photovoltaic system on the roof in a package of zero energy features that Clarum offered standard at Vista Montana.

“ We have a commitment to high-performance houses and we have a commitment to the environment. Since 1999, we have been dedicated to building sustainable communities ”

JOHN SUPPES - CLARUM HOMES

### Innovations

Clarum partnered with ConSol and others to develop its Enviro-Home package of energy efficiency and solar power features, designed to reduce homeowner energy bills by up to 90%. Each Enviro-Home™ has been professionally designed, certified, and inspected to reduce energy consumption and use sustainable resources while improving comfort. The program has also earned the U.S. Environmental Protection Agency's ENERGY STAR® seal, ConSol's ComfortWise™ designation, and the California Building Industry Institute's California Green Builder certification.

In addition to a solar electric home power system, each Enviro-Home™ in the Vista Montana community features a tankless on-demand water heater, and a high-efficiency furnace as standard features. The homes also feature a foam-wrapped building envelope, increased insulation, radiant roof barrier, advanced HVAC technology, tightly sealed ducts, and low-E energy-efficient windows. Ceiling fans, fluorescent light bulbs, water conserving plumbing fixtures, and water conserving landscaping are also incorporated, providing homeowners further utility savings.

The Enviro-Home™ incorporates sustainable building materials, such as engineered lumber, recycled decking material, and fiberglass doors, and offers recycled content carpet, bamboo flooring, cork flooring, environmentally friendly paint as optional items.

### BUILDER PROFILE

Clarum Homes

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

Founded: 1994

Employees: 35-50

ZEH Commitment: Committed to all sustainable, energy efficient construction since 1999.

Development: Vista Montana, California.

Size: 177 single-family homes, 80 townhouses, 132 apartments

Square Footage: 3-5 bedrooms, 10 different floor plans

Price Range: \$379,000 to \$600,000

This builder is described in Building America's Marine Best Practices.



U.S. Department of Energy

**Energy Efficiency and Renewable Energy**

Bringing you a prosperous future where energy is clean, abundant, reliable, and affordable



Clarum's Vista Montana in Watsonville, California, near Santa Cruz is the nation's largest zero-energy home community. Photo courtesy of Bruce Baccei, ConSol

KEY FEATURES

Winner of the California Governor's 2006 Environmental and Economic Leadership Award for Sustainable Communities.

1.2 to 2.4 kw photovoltaic system

Tankless water heater with 0.82 energy factor

Foam wrapped walls

Radiant roof barrier

Low-E, U-factor 0.4, SHGC 0.4 windows

90% AFUE furnace with a programmable thermostat

Tightly sealed ducts

Low-flow showers

Ceiling fan outlets

ENERGY STAR appliances

Fluorescent lighting

Dollars and Sense

The Enviro-Home™ features that are included as standard equipment will provide more than \$20,000 of added value to homebuyers at no extra cost to them, says Suppes.

Clarum works with Building America to use their cost and energy savings analysis to point to the most cost-effective combination of features for the climates it builds in. Once a cost-effective combination is chosen, economies of scale can be achieved through volume purchasing and training of subcontractors.

Pushing Ahead

Clarum is building four super-efficient demonstration homes in Borrego Springs, California where temperatures routinely soar past 100°F 6 months of the year. The homes are equipped with cutting edge wall, cooling, heating, water heating, ventilation, and PV systems.

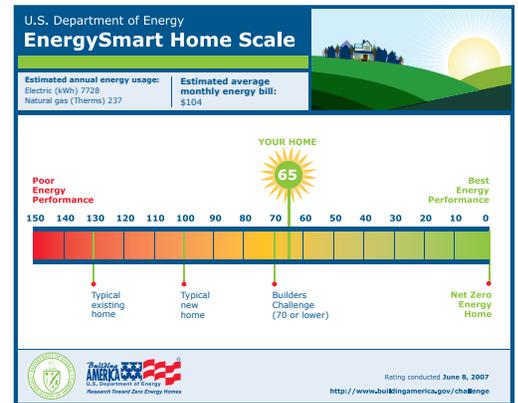
“These demonstration homes in Borrego Springs provide an opportunity to try out new products that could be economically viable in the regular and affordable housing markets we serve,” explained Suppes.

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 example. 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](http://www.natresnet.org).

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).



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.

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