

# Vista Montaña

## Watsonville, California



# Moving Toward Zero Energy Homes

## Zero Energy Community Harvests Solar Power

In August 2003, Clarum Homes opened the doors at Vista Montaña, California's largest Zero Energy Home community, with homes designed to use almost zero net electricity over the course of a year. Built on a former apple orchard, all homes in the development will harvest the sun to generate electricity.

When completed in 2005, the community will consist of 257 solar-powered, single-family homes and townhomes and a 14-acre park and elementary school. At Vista Montaña, 25% of the homes at will be priced below market as affordable homes, qualifying for special HUD mortgages.

Traditionally, Watsonville has been an agricultural town but is now making a gradual shift to becoming a suburb of Santa Cruz. The Vista Montaña subdivision targets first-time and move-up

buyers who are priced out of Santa Cruz neighborhoods, but have the "earth-friendly" mindset typical of those residents.

While the environmental aspects of the community are attractive to many, some buyers are initially unaware of the standard solar and energy-efficient features of the homes. They are, however, very enthusiastic once they learn about the added benefits. Standard home plans feature three, four, or five bedrooms, 10 different floor plans, and two-car garages.

Clarum has a reputation as a pioneer in the Bay Area home-building industry. Clarum began its green building

***"We have shifted our entire company mission and business plan to building nothing other than Zero Energy Homes from this point forward."***

***– John Suppes, vice president,  
Clarum Homes***



**All 257 homes in Vista Montaña come with solar energy as a standard feature.**

program in 1999, with energy efficiency features and sustainable building materials as standard equipment.

Clarum's participation in the U.S. Department of Energy's Zero Energy Homes (ZEH) initiative built on the company's previous experience with renewable energy. Working with energy consultant ConSol and the National Renewable Energy Laboratory, Clarum was able to reduce the energy consumption of the Vista Montaña homes by more than 50%.



## About Zero Energy Homes

To take U.S. home energy performance to a higher level, DOE created the Zero Energy Homes (ZEH) initiative, bringing the latest R&D out of the laboratory and into homes. Both energy efficiency and renewable energy technologies - like solar water heating and solar electricity - serve these homes. DOE's goal is to help builders create homes that produce as much energy as they use over the course of a year. ZEHs are connected to the utility grid, and some are even energy generators, rolling the utility meter backward when they produce more electricity than they consume.

DOE selected four teams that are working with researchers at the National Renewable Energy Laboratory to introduce the ZEH concept into the single-family, new-home construction industry. The four teams are ConSol, Stockton, California; Davis Energy Group, Davis, California; NAHB Research Center, Upper Marlboro, Maryland; and Steven Winter Associates, Norwalk, Connecticut.

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## Research that Works



### A Strong Energy Portfolio for a Strong America

Energy efficiency and clean, renewable energy will mean a stronger economy, a cleaner environment, and greater energy independence for America. Working with a wide array of state, community, industry, and university partners, the U.S. Department of Energy's Office of Energy Efficiency and Renewable Energy invests in a diverse portfolio of energy technologies.



**U.S. Department of Energy**  
**Energy Efficiency**  
**and Renewable Energy**



### Clarum's Enviro-Home™ combines energy efficiency, renewable energy, and sustainable building materials.

This community is proof of Clarum's commitment to build attractive, affordable, green homes using energy-efficient designs and renewable energy systems.

The Vista Montaña houses have been so popular that the builder plans to continue building ZEHs. Clarum has received significant recognition from the community and the press for its efforts in green building, and the company attributes this success to its decision to participate in the Zero Energy Homes initiative.

Clarum built every home in the community to be an Enviro-Home™. Clarum's Enviro-Home™ is its brand name for a home that combines state-of-the-art energy efficiency and renewable energy with environmentally sustainable materials.

Sustainable features include engineered lumber, recycled decking material, and water saving plumbing and landscaping. Buyers can choose to pay extra for sustainable, green building materials such as recycled-content carpet, bamboo flooring, cork flooring, and low-VOC paint.

Through its use of renewable energy and energy efficiency features, the Enviro-Home™ earned additional recognition by receiving the Environmental Protection Agency's ENERGY STAR® home rating, ConSol's ComfortWise<sup>SM</sup> designation, and the Building Industry Institute's California Green Builder Certification. The project was also supported by the city of Watsonville and the California Energy Commission.

### Key Features

Energy Efficiency	
Appliances	ENERGY STAR®
Building Envelope	
Walls/Roofing	Foam wrapped Radiant roof barrier sheathing
Windows	Low-e, U-factor 0.4, SHGC 0.4 French doors: U-factor 0.85, SHGC 0.7
Cooling/Heating	90% AFUE furnace, programmable thermostat Ceiling fan outlets reduce the need for A/C Tightly sealed ducts
Lighting	Fluorescent light bulbs
Water Heating	Tankless water heater with 0.82 energy factor Low-flow showers
Renewable Energy	
Photovoltaic	1.2- to 2.4-kW photovoltaic system.

### Project Information

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