

High Performance Builder Spotlight The Grupe Company

Rocklin, California



Meeting the Challenge

Grupe Homes has earned California's first Energy-Smart Home Scale™ (E-Scale) label, awarded by the U.S. Department of Energy's Builders Challenge. The Carsten Crossings house earned the E-Scale label for energy efficiency after rigorous testing; it is the third home in the nation to receive this award.

“Consumers are looking for energy efficiency and the E-Scale shows how well our homes measure up.”

MARK FISCHER, SENIOR VICE PRESIDENT
THE GRUPE COMPANY

The home is part of a 144-unit all-solar development. Grupe, a Stockton-based production builder, developed Carsten Crossings with guidance from the Davis Energy Group (DEG), a US Department of Energy Building America partner. The development is the second largest community to meet the California Energy Commission Zero Energy New Homes initiative criteria and the largest all-solar community in Northern California. Grupe markets the homes as GrupeGreen.

Solar Power Boosts Efficiency and Sales

Grupe chose the SunPower SunTile™ 2.4kw solar-electric system for the homes. Rather than mounting on top of the roof like traditional solar panels,

these integrated solar tiles are used in place of roofing tiles or shingles. The solar tiles blend in seamlessly with the roofline. By logging onto SunPower's user-friendly web site, homeowners can see how much power their Photovoltaic (PV) solar system is producing on a given day and how much greenhouse gas emissions from traditional power sources their PV system is displacing. A GrupeGreen solar system saves the equivalent carbon of not driving 186,000 miles over 30 years.

California encourages renewable technology for the home by offering cash incentives to builders and owners. These incentives, plus a Federal tax credit, brought Grupe's costs down to about \$18,000 per home for the solar plus all additional energy efficiency measures. And, the local utility gives the homeowner credits when excess electricity is produced.

According to David Springer of DEG, the cost of the solar system will be defrayed over time, especially as utility bills continue to rise. “When we compared the incremental cost-to-energy savings annually, we showed a positive cash flow,” said Springer. “Consumers want energy efficiency and in fact, Grupe has consistently outsold their competition.”

A Tight Seal & Good Ventilation Makes a Healthy Home

Grupe made sure that all exterior walls were blanketed with a 1-inch-thick layer of rigid foam insulation for a tight seal, while the house walls were filled with blown-in fiberglass or soy-based foam insulation. The attics are equipped with R-49 blown cellulose and the heating and cooling system

BUILDER PROFILE

The Grupe Company
www.grupe.com

Founded: 1966

Development:
Carsten Crossings

Square Footage:
2,168-2,755 sq ft

Number of Homes: 144

GrupeGreen homes qualify for LEED* for homes.

**Leadership in Energy and Environmental Design*



Energy Efficiency
le Energy

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

6/2008



Homeowners can log onto the Internet to see how much power their PV system is producing.

KEY FEATURES

SunPower SunTile™ 2.4 kw roof integrated solar electric system

Tankless gas-powered hot water heaters

Energy-efficient windows

High-efficiency, variable speed furnace 90+AFUE

SmartVent automatic night ventilation cooling

“FreshVent” continuous ventilation system (CVS)

Dual-zone equalizer two-zone heating and cooling system

Energy-efficient lighting

1-inch rigid foam-wrapped building envelope (R5)

R49 attic insulation

Radiant barrier sheathing in attic ceiling to reduce cooling

Homerun parallel piping manifold plumbing

Third-party duct and air sealing testing

ENERGY STAR® appliances

ducts are wrapped, sealed, and buried in the attic insulation. In addition, attic ceilings are lined with a radiant barrier to keep out heat.

Grupe selected the FreshVent system to remove stale air with continuous ventilation. In addition, a SmartVent system uses a thermostat-controlled damper to automatically let in cool filtered air when the outdoor temperature drops at night to effectively cut cooling costs.

Other Efficiencies

Hot water on demand is made available via tankless gas-powered water heaters. Low-E glass windows add to the overall insulation of the house, reduce air

leakage, and block ultraviolet light that can damage drapes and furniture. Carsten Crossings homes are equipped with furnaces with an AFUE of 94%, plus a variable speed fan to keep air circulating.

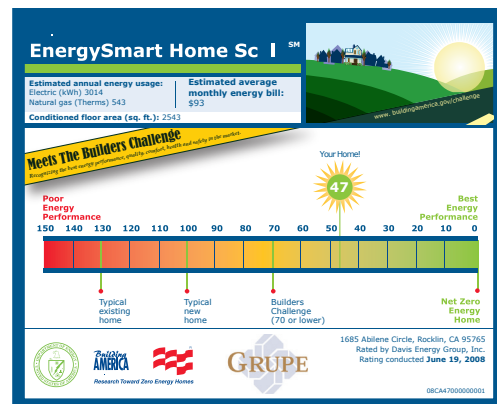
The Bottom Line

Grupe anticipates that Carsten Crossings homeowners will see annual utility savings of up to 70% over homes built to the California energy code thanks to photovoltaics and an impressive mix of energy-efficient features. The average GrupeGreen home reduces electric and natural gas utility costs for a savings of \$120 per month or \$1,440 in the first year.

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 70 or less on the EnergySmart Home Scale (E-Scale). The first EnergySmart Home label was awarded to Palm Harbor Homes in February 2008.

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 above shows an E-Scale for The Grupe Company. 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.



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.