

AVIGNON

Centex Homes
Pleasanton, CA



No More Electric Bills Zero Energy Homes

Well, not quite. But “zero-energy homes” keep them low.

Zero Energy Homes Can Cut Utility Bills in Half

Located in a quiet area of Pleasanton in northern California, Avignon’s estate-style homes feature cutting-edge energy efficient design and solar electric generation. This Centex Homes “Powersave Plus” community blends cost-effective energy efficient features with roof integrated solar electric systems to reduce homeowners’ average electric bills by 70 percent.

Avignon is built to ComfortWise® standards, which means the homes are built to exceed stringent California energy code by at least 15 percent. Licensed engineers design the HVAC system for optimal performance. ComfortWise

standards specify tight ducts, spectrally selective windows, and properly installed insulation. Third party inspectors test for quality and performance. The Avignon community also meets the Department of Energy’s (DOE) Building America standards, and the goals of the California Energy Commission’s (CEC) Zero Energy New Home Program. The electricity Avignon homes will generate is especially beneficial during the higher cost peak power period. It helps minimize the demands on California’s electric grid.

Homebuyers find real benefits when they purchase a home with “PowerSave Plus” features. The photovoltaic (PV) system provides reliable, clean, and renewable electricity every day. The tight building envelope combined with a well-designed two-zone HVAC system provides improved comfort and quality. Greatly reduced monthly energy bills lower the cost of home ownership while providing greater independence from rising energy costs.

Aimed at preserving the environment, Avignon homes use fewer natural resources and produce less greenhouse gasses. By first constructing the most energy efficient home and then adding state-of-the-art renewable resources, these homes reduce energy consumption, save money, and help protect the environment

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

Key Energy Efficiency Features

PowerLight 3.5 kW Solar Electric System

Photovoltaics (PVs) harness the energy from the sun's light and convert it into clean, quiet electricity which is channeled to the electric utility and is credited towards the home owner's account. This system includes a web-based home solar monitor.

Insulation

R-49 attic insulation w/ R-30 above garage cantilever

R-15 and R-19 wall insulation

High performance windows

Spectrally selective glass has a nearly invisible coating that blocks sunlight's infrared rays, allowing the sun to shine through the window without heating up the house in the summer and without letting the heat out in the winter, and it lessens fabric fade.

U-factor: 0.33 sliders; 0.34 fixed; 0.33 french door

SHGC: 0.33 sliders; 0.32 fixed; 0.29 french door

Tankless water heaters

A tankless water heater has no holding tank. Instead, it heats water instantaneously, as it is needed, in a heat exchanger. It can save up to 30 percent in energy costs per year while giving homeowners an endless supply of hot water.

14 SEER air conditioner and a thermal expansion valve (TXV)

Seasonal Energy Efficiency Ratio (SEER) is a number that rates the efficiency of air conditioners. The higher the SEER rating, the more efficient a unit is and the less it will cost to operate. The TXV meters the flow of refrigerant to the indoor evaporator coil of the AC making it more efficient.

0.92 AFUE Furnace

The higher the Annual Fuel Utilization Efficiency (AFUE), the less gas the furnace consumes.

Low-flow showers and toilets

Low-flow toilets use a maximum of 1.6 gallons of water per flush compared with about 3.5 gallons of water used by a standard toilet. Low-flow shower heads use about 2½ gallons of water per minute compared to between four and five gallons per minute used by conventional heads.

Energy-efficient lighting

Fluorescent lighting provides natural and long lasting lighting, while using 75 percent less energy than standard lighting lighting. A fluorescent bulb produces less heat and is four to six times more efficient than incandescent bulbs. A 15-watt fluorescent bulb produces the same amount of light as a 60-watt incandescent bulb.



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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 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 six 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. ConSol serves as the team leader for one of the teams, Building Industry Research Alliance (BIRA).

Avignon Estimated Utility Cost Comparison

