



# Premier Oaks

## Roseville, California

# Moving Toward Zero Energy Homes

## Premier Generates Another “Zero Energy” Community

Premier Homes opened their second standard “zero energy” community in the Sacramento region—Premier Oaks in Roseville. This visionary project combines private industry with public interest for the good of the environment. By partnering with some of the industry’s leading experts in energy-efficiency including the Roseville Electric, ConSol and the National Renewable Energy Laboratory (NREL), Premier Oaks was designed to save homebuyers up to 60 percent on utility costs.

Consisting exclusively of “Zero Energy Homes” (ZEH), this 45 home community combines innovative construction and energy-efficient appliances with renewable energy to create a home that is not only energy-

efficient but produces its own electricity. Branded as a “Premier ProEnergy Community,” Premier Oaks offers entry-level buyers many energy features as part of the standard package. The three to six-bedroom homes range in size from 1,787 to 3,322 square feet.

Each “Premier ProEnergy” home is designed with cutting edge energy technologies that will be independently inspected for quality and performance. Using ComfortWise construction protocols and features, each home qualifies for the Environmental Protection Agency (EPA) and the Department of Energy’s (DOE) ENERGY STAR® Homes national program. Specific energy-efficiency features include: a 2 kW AC solar electric home power system, a tankless water heater that produces 6.5 gallons of hot water per minute, a mechanically designed heating and air conditioning system, spectrally selective glass windows, fluorescent lighting, and tightly sealed air ducts.

The ComfortWise program requires independent third party inspectors to

document the quality of the installations of insulation, caulking and sealing, windows, HVAC ductwork and equipment efficiencies as per ComfortWise protocols. Inspections and tests are performed by ComfortWise home energy raters who are certified and monitored by the California Home Energy Efficiency Rating System (CHEERS). CHEERS is certified by the California Energy Commission (CEC ) to certify and monitor energy raters.

*“We are excited to bring the second standard “zero energy” community to the Sacramento area. Premier Oaks is a unique opportunity for homebuyers to live in an extremely energy-efficient home that will provide them with a solid value both now and in the years to come.”*

*- Kevin Yttrup, President,  
Premier Homes*

## TANKLESS WATER HEATER



*The on-demand tankless water heater delivers endless hot water when you need it. It is up to 50% more efficient than a standard water heater.*

Tankless water heaters replace the antiquated technology of hot water tanks. Traditionally, hot water tanks hold a limited amount of water and constantly heat and reheat it whether or not it is demanded. The tankless unit holds no water, but attaches to the plumbing system and heats water as it runs through the unit's heat exchanger.

When a consumer opens a hot water tap, the unit begins heating water in 3-5 seconds. Once the consumer shuts off the hot water tap, the unit shuts off, eliminating standby loss, and conserving a substantial amount of energy versus a tank. It won't run out as it is continually heating water. The unit is able to supply multiple water outlets simultaneously without running out of hot water. For example, a home owner can run a dishwasher, washing machine, take a shower, bathe the kids, etc. without running short of hot water or losing the desired temperature for any outlet.

A typical shower uses 2 gallons of water per minute - that's 1 gallon of hot to one gallon of cold. The units used in these homes produce 6.5 gallons of hot water a minute. You do the math!

## Key Features

### Energy Efficiency

Appliances	Energy Star®
Air Sealing	Caulking and sealing measures ensure low air infiltration
Insulation	R-19 wall insulation R-38 attic insulation R-4.2 duct insulation Insulated ducts buried in attic
Windows	Spectrally selective glass high performance windows U-factor: 0.37 sliders; 0.33 fixed; 0.34 patio door. SHGC: 0.32 sliders; 0.35 fixed; 0.33 patio door.
Heating/Cooling	0.92 AFUE furnace 14 SEER A/C Zone control (two story plans)
Lighting	All fluorescent lighting
Water Heating	Tankless water heater with 0.82 energy rating

Photovoltaics	2 kW AC roof-integrated solar electric system
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## PROJECT INFORMATION

### ConSol

Rob Hammon, principal

Phone: 209.473.5000

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

[rob@consol.ws](mailto:rob@consol.ws)

### Roseville Electric

Patrick Morrison, Energy Specialist

916.774.5624

[pmorrison@roseville.ca.us](mailto:pmorrison@roseville.ca.us)

### Premier Homes

John Stewart, principal

916.789.9715

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

### U.S. Department of Energy

Lew Pratsch

Phone 202.586.1512

[Lew.Pratsch@hq.doe.gov](mailto:Lew.Pratsch@hq.doe.gov)

### National Renewable Energy Laboratory

Tim Merrigan

Phone: 303.384-7349

[tim\\_merrigan@nrel.gov](mailto:tim_merrigan@nrel.gov)

## 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.

## *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.*

## For more information: Building Technologies Program

[www.building.gov](http://www.building.gov)  
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***Research that Works***