



PHOTOS BY MEGHAN NEAL

The zero-energy homes in Hansen Lane Estates have stucco exteriors and clay roofs and are positioned for ultimate warming by the sun. The outside walls are insulated by 10 inches of Styrofoam, which keeps the home cool in the summer, reducing the need for air conditioning. The landscaping is all native plants that can be watered less than three days a week and eventually not at all.

Green homes are dream come true

Zero energy houses are comfortable, healthy—and beautiful

By MEGHAN NEAL

For 50 years Norman Rhett's family has owned the property at 216 Hansen Lane in Danville, once a simple piece of land boasting little more than a house and a barn. About a decade ago, Rhett and his wife Kay began to dream about building a green community there.

"I'm concerned about climate change. I think it is potentially a severe risk, possibly to my generation but very likely my children's and, if any, their children's," said Rhett. "Maybe a few years after I started taking global warming seriously, I started thinking about what I would do with that property."

He decided it was the best chance he'd have at making a difference. After seeing an ad in the newspaper he called up John Suppes, president of

Clarum Homes, a Bay Area environmental homebuilding company.

"He contacted me out of the blue one day and said he was interested in building the greenest possible project," said Suppes. The result was Hansen Lane Estates: zero-energy, sustainable homes that are the first of their kind in Contra Costa County.

"This is the fulfillment of a 10-year dream," said Rhett. The first of 10 homes was completed last month and so far four have sold, including one bought by the Rhetts themselves.

The tan-colored, Tuscan-style houses are modeled after Italian architecture. On the outside is a stucco exterior and clay roof. Inside the open floor plan highlights a large "great room" with high ceilings and dark wooden beams.

"It's a very beautiful look," said Suppes. "There's nothing like it in Dan-

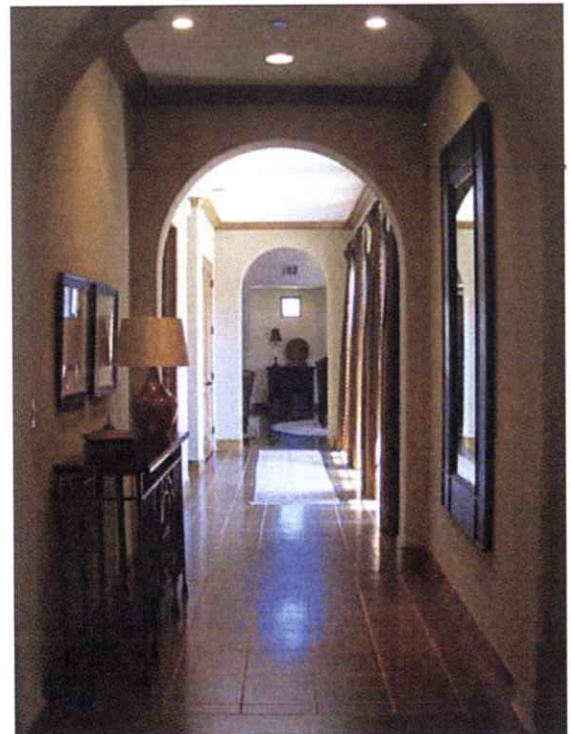
ville anywhere. It's really unique."

But the really unique aspect of the homes is their energy efficient design. They are built to produce nearly as much energy as they consume, using solar power, high-efficiency furnaces, on-demand water heaters and myriad other features.

"All these components together allow the homeowner to save up to 90 percent on their electricity, their gas, their water bill," said Nicole Gittleton, VP of marketing and operations for Clarum Homes.

Canceling out energy consumption is a two-step process. Step one is to decrease the energy used and step two is to produce energy by converting sunlight to electricity.

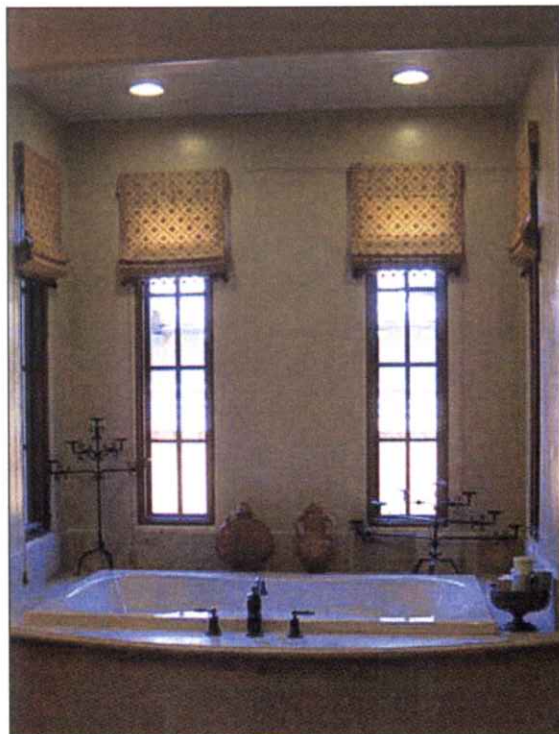
To conserve energy, the Hansen Lane homes are built with 10-inch walls insulated with Styrofoam, which helps regulate the temperature inside the home.



The hallways have small circular skylights, called solar tubes, to illuminate areas that would otherwise be dark.



The open floor plan features a large "great room" with high ceilings and the kitchen at one end. The special glass in the windows reflects ultra violet rays away from the homes, which are designed to be environmentally sensitive, high performance and comfortable.



The master bathroom features a 6-foot jetted soaking tub with a marble top deck. Hot water flows instantly, thanks to the solar thermal system.

More green features

- Fluorescent light bulbs—use less energy
- Ceiling fans—help circulate air
- On-demand water heater—heats water only when you need it
- Dual-flush toilets/low flow showers/front loading washing machine—conserve water
- Engineered wood—lasts longer, reduces waste
- Recycled flooring and construction materials
- Eco-cabinets—made without formaldehyde
- Gray water system—recycled bath and laundry water can be used to irrigate landscaping
- Fiberglass doors—look like wood without sacrificing trees
- Whole house vacuum—reduces dust, improves air quality



The gourmet kitchen has an island, a breakfast bar and slab granite counters with a tumbled marble backsplash. Stainless steel appliances are energy efficient.

Low-emission windows have a similar effect. The special glass functions like a sunscreen for a house, to reflect ultra violet rays away from the home.

There is also a huge emphasis on water conservation. Structured plumbing re-circulates hot water, so hot water begins to flow immediately when you turn on the faucet or shower—water isn't wasted while you wait for it to heat up.

The landscaping is all native plants that don't need a lot of water. The garden can be watered less than three days a week and eventually not at all, said Suppes.

Also, the satellite-linked irrigation system is controlled by real weather data.

"On a hot day it'll water more, on a cool day it'll water less, and on a rainy day it won't water at all," he said.

The system uses up to 40 percent less water than traditional ones.

Now for step two—producing energy. The homes are heated by hydronic heat. Each house has two 4- by 10-foot solar panels on the roof and a storage tank in the garage that holds hot water. As sunlight heats the panels, it charges the water storage tank in the garage.

Use of the sun is also maximized to help illuminate the homes. Each house has 12 to 16 solar tubes, said Suppes. They are small, circular skylights put in wherever there are natural dark spots in the house, such as the hallway at the main entrance.

"My mother was an architect ... She really taught me a lot about architecture and how to build things correctly," he said. "From a global standpoint, it's just been a commitment to the environment."

The homes are LEED certified, the national standard for green building. The single-story and two-story homes range from 3,600 to 5,000 sq. ft. and start at just under \$2 million.

They are marketed not just as green, but also luxury homes - touted as Danville's most prestigious new address. They even come with a Toyota Prius Hybrid car.

"I look at green building differently," Suppes said. "It's both environmentally sensitive and high performance, comfortable."

Also there are health benefits to living in a green home. An air vacuum system keeps the air fresh and dust free by constantly exhausting stale air and bringing in fresh air.

Indoor air is on average five to seven times more polluted than outdoor air, said Suppes. Various products can release gasses and toxins into the sealed home. Garages are the biggest culprits. Carbon monoxide from the running vehicle can seep in to the adjacent home. All the Hansen Lane Estates homes have an exhaust fan in the garage to remedy this.

Almost never having to turn the air conditioning also does wonders for your health, said Suppes. During the May heat spell when temperatures climbed to 105 degrees in Danville, the model home at Hansen Lane Estates never went over 77 degrees, without using any AC.

"When you're in an air conditioned home or you're in a more passively cool home, the passively cool home is more comfortable," he

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The homes have an emphasis on outdoor living, including expansive courtyards with fireplaces, views of the hills in the distance, and easy access to the Iron Horse Trail.

GREEN HOMES

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said. "And healthier."

Natural lighting increases health and comfort by being softer on the eyes, plus it creates a pleasant ambiance. Suppes said he tries to design homes where you can be inside during the day without turning on any lights.

This is achieved using the skylight-like solar tubes, and also by positioning the homes in a solar passive way. For example, southern facing windows get more sunlight than those facing other directions.

The homes have an emphasis on outdoor living. They have courtyards with fireplaces, views of the hills in the distance, and easy access to the Iron Horse Trail.

Decades ago when the early green homes were being built, a public perception formed that they were unattractive. "I think that's pretty much changing," said Suppes.

Today, people are proud to have solar panels on their roofs, even if passersby do a double take.

"They feel good about it," he said. "If you drive around now, you see panels all over."

The change is owed in part to advances in the art of sustainable architecture and design. It's also brought on by the national trend toward green living, rooted in the energy crisis and threat of global warming.

"I think our dependence on foreign oil has the country in motion now, realizing it's economically unsustainable," said Suppes. "Global warming's a big part of it. The earth's getting warmer and I think there's a percentage of people that realize that."

He added, however, that concern for the environment alone wasn't quite enough to motivate people to make lifestyle changes. The tipping point really happened when the energy crisis started affecting their pocketbooks.

"I think for the majority of peo-



Two 4-by-10-foot solar panels on the roof instantly convert sunlight into electric power; if the homeowner is on vacation, the PG&E meter actually spins backwards.

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John Suppes,
president of Clarum Homes,
an environmental homebuilder

ple it's economic," he said. "I hate to be cynical but I've been building homes and talking about global warming for 10 years ... What affects them directly is what they relate to."

Green homes cost more up front to build, but it's offset by the money saved over time from low energy consumption. People can save up to 85 or 90 percent of their electric and gas bill, said Suppes. "I've had homeowners where their bill is \$2 to \$5 a month and it would have

been \$70 or \$80."

In fact, if the homeowner goes on vacation, the PG&E meter actually spins backwards, putting energy back on the grid.

Green homes have a very high resale value, too. "This kind of technology increases homeowners' resale value," said Gittleton. "It's becoming more and more mainstream, which is really good for the industry and for the homeowner."

Still at \$2 million per home, the potential buyers who come to look at Hansen Lane Estates aren't doing it to save on their PG&E bill, or even because of resale value. The main reason is to have a home that makes sense in today's environment.

"The reward of daily living without significant impact on greenhouse gasses and so forth, I think will be an incentive," said Rhett.

Suppes predicted that in five to 10 years it will be mandated that people build low energy homes.

"This is starting to take off everywhere," he said. "Builders aren't going to have a choice. They're going to have to build green homes in the future." ■

How to improve a lackluster lawn

Fall is the time to prepare for a lush springtime lawn

Fall is the time to repair summer-damaged, lackluster lawns and prepare for the winter season. The time you invest in your lawn this fall will earn you lush, healthier grass next spring.

Follow these four fall lawn-care steps to promote a greener, better-looking, lush lawn next season:

Loosen up and let it breathe: Your lawn needs air to grow. As a rule of thumb, if you can't see the grass due to leaf coverage, then it's time to remove the lawn debris from the yard. Clearing leaves and clippings in the fall will help by removing the clutter that keeps air and sun from reaching the growing grass.

Aeration and dethatching loosen up the lawn, promote deep root growth, and reduce soil compaction that can keep grass from developing roots deep enough to absorb rainwater. Tackling these tasks in the fall can help ensure the health and beauty of your lawn come spring.

Fortunately, it's easier than ever to avoid the hard work of traditional aeration and dethatching methods. There are now all-natural, spray-on products that aerate and dethatch soil without mechanical means. They also condition the soil at the same time.

Drive out drought damage: Summer's drought leaves many lawns across the country straw-colored and dormant. To help your lawn recover during and after drought, fertilize it every eight weeks with a slow-release fertilizer. A lawn that has the proper nutrients grows dense and deep and will green up faster. A regularly fed lawn will also be healthier and thicker than an unfed lawn. Couple feedings with infrequent,

deep watering to promote deeper roots and offer a larger reservoir of water to draw from.

Continue to feed the need: Even lawns not stricken by drought need nourishment in the fall. Fall feeding can bring dramatic improvements as the lawn recovers from summer damage. Fertilizers help "winterize" the lawn, storing vital nutrients so that underground root development can continue until the ground freezes to ready the lawn for fuller growth next spring. Two feedings—timed around Labor Day and the end of October—are recommended for northern lawns, while southern lawns are best-fed four to six weeks before the first frost occurs.

Always overseed: Once the lawn is aerated and dethatched, look for weak spots in it. Overseeding, the spreading of grass seed directly onto soil within an existing lawn, can improve a lawn's appearance dramatically and eliminate the need for a total lawn renovation. Early fall is the prime time to overseed because the warm soil promotes rapid seed growth and typically, fewer weed problems emerge during this time of the year.

The day before you overseed, be sure to mow the lawn slightly lower than normal and use fertilizer when you seed. For the next several weeks after overseeding, keep the top inch of soil moist to permit growth.

If you follow these simple steps and don't neglect much-needed fall lawn care, you'll be amazed at the difference in your lawn next spring. Fall lawn care is your window to a spectacular spring and summer lawn next season. So "loosen up" and lay the lawn care groundwork this fall.

—ARAccontent

Rakes and pains

Tips to take the pain out of fall cleanup

As the leaves turn different colors and the weather becomes cooler, many American begin to engage in outdoor cleanup. Consider the number of Americans injured in yard work accidents every autumn and you may begin to suspect that "fall" is actually short for "pitfall." Fall, it seems, is the season for back injuries, tumbles from ladders and lawn mower accidents.

"Approximately 42 million people seek emergency room treatment for injuries each year, according to the Centers for Disease Control and Prevention," says Brett Taylor, MD, spokesman for the American Academy of Orthopedic Surgeons (AAOS). "Many of these injuries can happen while performing seemingly routine tasks, like autumn yard work."

The AAOS offers a few simple tips to avoid common autumn injuries while working around the yard:

- Use a rake that is comfortable for your height and strength. Wear gloves or use rakes with padded handles to prevent blisters.

- Vary your movement, alternating your leg and arm positions often. When picking up leaves, bend at the knees, not the waist.

- Inspect ladders for loose screws, hinges or rungs. Clean off accumulated mud, dirt or liquids.

- Never use your hands or feet to clear debris from under a lawnmower. Use a stick or broom handle instead. Likewise, never touch the blades with your hands or feet, even if the engine is off. The blade can still move and cause serious injury.

For more lawnmower or ladder safety tips, visit the American Academy of Orthopedic Surgeons Web site at www.orthoinfo.org.

—ARAccontent