

SNEAK PEEK

# Inside our Green-Built Idea House

Earth-friendly features you can use now

BY PETER O. WHITELEY



**Our next Idea House** explores one of the fastest-growing trends in the West: green building. Using two side-by-side homes in Menlo Park, California, to demonstrate techniques and materials, the Green-Built Idea House will be a showcase for eco-savvy homeowners. While building green typically adds about 6 percent to the initial cost of a home, the long-term savings in energy use, improved air quality, and other benefits make it a compelling trend. "It's just the right thing to do," says our builder, John Suppes of Clarum Homes in Palo Alto, California. The two completed homes will be profiled in our December issue. Turn the page for an overview of what we have planned.

THOMAS J. STORY

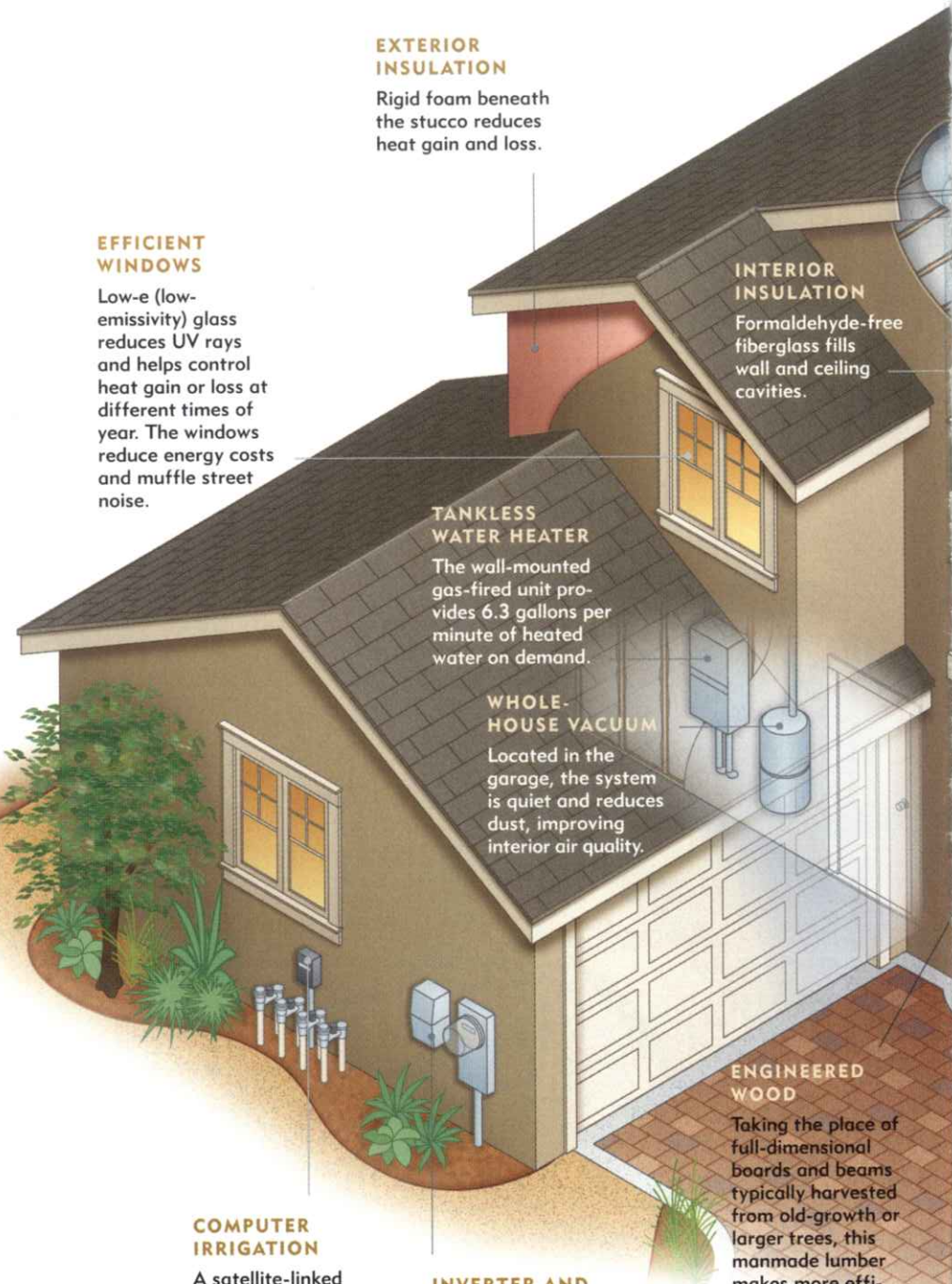
# Overview of an eco house

**What:** Both versions of our Green-Built Idea House are less than 2,000 square feet. One home will be fully decorated; the other will include cutaway wall sections and exhibits explaining eco-friendly building materials and products. Clarum Homes, our builder, constructs “zero-energy homes,” which incorporate roof-mounted photovoltaic panels designed to produce enough electricity to meet the needs of each home. The homes will also be able to feed excess electricity back to the utility power grid.

**Who:** This collaboration is one of our most ambitious. We’re working with the City of Menlo Park; the California Integrated Waste Management Board; Clarum Homes; EDI Architecture in San Francisco; Pamela Pennington Studios in Palo Alto for interior design; HLD Group Landscape Architecture in Los Gatos; and our national sponsors.

**Where:** Hamilton Park, a 6-acre development that includes a 1-acre park and 47 single-family residences, with some moderate-cost units designated for school teachers and city employees.

**When:** Completed homes will be open for viewing October 7, 2005, to January 22, 2006; call 800/786-7375 for information.



## EXTERIOR INSULATION

Rigid foam beneath the stucco reduces heat gain and loss.

## EFFICIENT WINDOWS

Low-e (low-emissivity) glass reduces UV rays and helps control heat gain or loss at different times of year. The windows reduce energy costs and muffle street noise.

## INTERIOR INSULATION

Formaldehyde-free fiberglass fills wall and ceiling cavities.

## TANKLESS WATER HEATER

The wall-mounted gas-fired unit provides 6.3 gallons per minute of heated water on demand.

## WHOLE-HOUSE VACUUM

Located in the garage, the system is quiet and reduces dust, improving interior air quality.

## ENGINEERED WOOD

Taking the place of full-dimensional boards and beams typically harvested from old-growth or larger trees, this manmade lumber makes more efficient use of wood fiber from smaller trees.

## COMPUTER IRRIGATION

A satellite-linked system monitors the weather and moisture levels to run the drip-irrigation system only when it is needed.

## INVERTER AND REVERSE METER

These components link the rooftop photovoltaic panels to the utility grid so excess energy generated by sunlight can flow back into the grid.

ART BY TOPDOG ILLUSTRATION



**HIGH-EFFICIENCY HEATER**

Mounted in the attic, the unit is linked to a programmable thermostat.

**TIGHTLY SEALED DUCTS**

Ductwork is sealed and tested to stop heat loss and improve the heater's efficiency.

**ROOF TILES AND SOLAR PANELS**

Fire-resistant roof tiles blend seamlessly with tile-shaped photovoltaic panels that convert sunlight to electricity.

**ECO-FRIENDLY PAINT**

Room interiors are painted with low-VOC (volatile organic compound) paint for improved interior air quality.

**WATER-SAVVY APPLIANCES**

Dual-flush toilets, low-flow showerheads, and front-loading washer reduce water use.

**RADIANT ROOF BARRIER**

Aluminum foil bonded to the roof sheathing reflects up to 97 percent of the sun's heat, reducing attic temperature and keeping the house cooler.

**FIBER-CEMENT SIDING**

Beneath this fire- and termite-resistant siding, a breathable membrane stops moisture buildup.

**NATIVE PLANTS**

Drought-tolerant shrubs and ground-covers reduce water use. Deciduous trees shade the south-facing windows in summer.

**HIGH-EFFICIENCY LIGHTING**

To meet California's new Title 24 energy code, the kitchen's ceiling-mounted can lights use pin-based compact fluorescent lamps.

**SYNTHETIC LAWN**

A realistic, permeable "lawn" made of recycled materials requires no water or mowing.

**PERMEABLE LANDSCAPE**

Interlocking concrete pavers, gravel paths, and recycled-glass mulches allow rainwater to drain directly into the ground rather than flow into city streets and sewers.

## Idea House choices for your remodel



**Glazed tiles.** These tiles from Fireclay's Debris series are handmade from recycled glass and waste material from gravel and asphalt production. Available in 160 colors. **INFO:** Fireclay ([www.fireclaytile.com](http://www.fireclaytile.com) or 408/275-1182)



**Engineered wood.** These manmade products— I joists, Laminated Veneer Lumber (LVL), and Oriented Strand Board (OSB)—take the place of larger-diameter logs. **INFO:** Louisiana Pacific ([www.lpcorp.com](http://www.lpcorp.com) or 877/744-5600)



**Resin panels.** The kitchen cabinets' door panels are made from thatch encased in EcoResin, a 40 percent recycled polyester resin. **INFO:** 3form ([www.3-form.com](http://www.3-form.com) or 800/726-0126)



**Radiant-barrier sheathing.** A thin aluminum layer laminated to the roof sheathing prevents radiant heat from entering attic. **INFO:** TechShield by Louisiana Pacific (see above)



**Synthetic lawn.** SYNlawn artificial turf is made using renewable resources (soybean oil), post-industrial waste (from coal-burning power plants), and post-consumer waste (recycled plastics). **INFO:** SYNlawn ([www.synlawn.com](http://www.synlawn.com) or 866/796-5296)



**Formaldehyde-free insulation.** Densely packed thin fiberglass strands improve heat resistance and sound control. **INFO:** EasyFit insulation by Johns Manville ([www.jm.com](http://www.jm.com) or 800/654-3103)



**Roman shades.** Painted, handwoven bamboo ColourWeave shades offer privacy with color. **INFO:** Hartmann & Forbes ([www.hfshades.com](http://www.hfshades.com) or 888/582-8780)



**Recycling of construction debris.** Instead of becoming landfill, 90 percent of debris was ground up and recycled. **INFO:** Packer Industries ([www.packer2000.com](http://www.packer2000.com) or 800/818-2899)



**Low-VOC paints.** Kelly-Moore Paints' 1500 Enviro-Cote paints are low VOC (volatile organic compound). **INFO:** Kelly-Moore Paints ([www.kellymoore.com](http://www.kellymoore.com) or 888/562-6567)

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