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Timber frame home goes off-grid in Oregon

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Some of the wood in Leanne Smith's timber frame, off-grid home in Sisters, Ore., has a unique story.

"That's my uncle's barn that blew down," Smith says, referring to the century-old



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By Jay Mather

Douglas Fir in her kitchen cabinets, living room floor, foyer ceiling and fireplace mantel.



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The 2,900 square foot home, chosen as "This Week's Green House," uses other recycled materials,



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such as stainless steel with a shimmery patina for a kitchen countertop.

Its greenest feature may be its 27 rooftop solar panels which provide all its power. Since the house, on 27 acres, was so far from public utilities, Smith decided to go off-grid. The 5.1 kilowatt system cost \$54,00 before tax credits and about \$24,000 after them.

"We're demonstrating to people that even though we're off grid, we don't live in a closet," she says, citing the home's openness and modern amenities.



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Smith, a retired Department of Energy chemist, and her husband Doug, a former DOE nuclear engineer, are now Oregon representatives for [Davis Frame Co.](#), a New Hampshire company that provided their home's exterior.

Davis Frame began making timber frame homes in 1987 by hand in a converted dairy barn. In 1997, it moved to a bigger, mechanized facility in Claremont, N.H.

"Timber frame is an age-old craft," says Jeff Davis, company president, describing the exposed natural beams and traditional wooden joinery.

Davis says his homes are not only beautiful but also energy efficient, because he combines timber frames with structural insulated panels or SIPS. Together they provide an envelope that's at least twice as efficient as most homes. The walls have an insulating value of R26 and the roof, R40.

Smith says her home has additional layers, including air space, that provide more insulation. Its exterior arrived in panels on a flat-bed truck.

"It went up very fast," she recalls. The interior finish work took another four months and the house was completed on Halloween Day in 2008.

Davis' timber frame homes don't come cheap. He says they're mostly custom and their exteriors, which he sells throughout the United States via kits, cost \$60 to \$70 per square foot. Once the homes are completely finished, they typically cost between \$200 to \$250 per square foot, not including site and land costs.

Smith estimates her home cost \$640,000, including the solar array and the road they built, but she says its zero energy bills and its lovely finishes are worth every penny.

"You should see the Travertine floors against the Douglas Fir. You need heart medicine," she gushes.

Her house also has in-floor solar heating, a cistern, low-flow plumbing fixtures, Energy Star appliances, efficient LED/CFL lighting and high-performance Eagle windows by Anderson.

It has no air conditioning. "We don't need it," she says, adding that its SIPS panel keep the heat out in the summer.

To sell others on their version of the American dream, she and her husband are holding a workshop at their home on June 19th.

Their home won the top or platinum certification from the [Earth Advantage](#), a Portland-based nonprofit group that rates homes for eco-friendliness.

Smith says they lived in Colorado for many years but never plan to move again. "This is where we were born," she says. "This is home."

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