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## Long Beach Press-Telegram (CA)

### **This old house can be green Sustainable builder Wes Harding says small changes can add up to savings, energy efficiency**

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**Caption:** Stephen Carr Staff Photographer

Harding Construction owner Wes Harding and his wife, Mary Kraning, are renovating their two-bedroom Long Beach home to improve energy efficiency. They are installing an energy-efficient water heater and furnace and sealing holes and cracks in the roof to save resources and money.

LONG BEACH - The changes Wes

Harding makes to the homes he renovates are invisible but make a huge difference, he said.

His clients have no interest in solar panels or windmills, he said, so he makes subtle changes - reworking the plumbing schemes, swapping out the

appliances, filling tiny cracks.

Each change on its own makes only a small difference, but together they can change an old, drafty house into a model of energy-efficiency, he said.

"They want to keep the look of their homes, but there are a lot of things you can do that you don't see," said Harding, whose business, Harding Construction & Sustainable Solutions, is "Build It Green" certified and an Energy Star Home Performance contractor.

A program coordinator for Cal State Long Beach's Green and Sustainable Building Certificate Program and a member of the Long Beach City College Green Advisory Board and the U.S. Green Building Council, Harding strives to fill two niches at once: restoring historic homes and making them green.

Construction runs in his family, he said. His father was a woodworker, so he grew up surrounded by the craft.

In his early adulthood, he worked as a gondolier at the docks and as a bartender. Then, in 2004, he became a contractor.

Soon after making improvements on homes, he began to advocate for making

the changes more sustainable, he said.

"It's so cutting edge and it engulfs old and new technology," he said. "To be the best in my field, once I got into the green thing, I knew there was no turning back."

One home Harding renovated - a Belmont Heights house on Vermont Street across the street from Fremont Elementary School - was built more than 100 years ago, and it shows, he said.

When it was built people had little understanding of how to create an energy-efficient home, Harding said.

"They were built very leaky and drafty," he said. "Everybody just sat in front of a fan (during hot weather)."

He said he planned on making several changes that will work together, multiplying the impact of other alterations.

"I look at a house so that if you change one thing, you have to change the rest," he said. "There's this whole-house approach."

He explained the changes he was making. He will put a radiant shield - a thin, tin foil-like metal coating - on the inside of the roof, which will lower the attic's temperature by 20 degrees.

He tore out the water heater and put it closer to the sink and shower facilities. He replaced all the plumbing and is wrapping all the pipes in insulation.

"If you have an efficient plumbing design and you put the water heater close to where you use it and size the pipes right, you save water and you save energy," he explained.

Lastly, he is replacing the furnace, water heater and all the appliances with energy-efficient models.

The new water heater is a small box measuring about 11/2 feet. It has no tank, he explained, so it has no pilot light.

"You're not paying to keep hot water hot all the time when you're not using it," he said.

Because of its size, it saves space, too.

The furnace he was installing was 95 percent efficient, he said, whereas the average furnace in use today is

80 percent efficient.

All the appliances he is installing will be the most energy-efficient ones

available. He recommends getting Energy Star appliances.

"It's more cost-effective to change your refrigerator and change out your lighting," he said, than to take more drastic measures, such as putting in solar panels.

Lastly, he uses an infrared camera to find cold spots in a house. This means there's a leak in the house, he explained, so he seals it - usually with gun foam.

"We're trying to stop heat from leaving the house," he said.

These are expensive changes, Harding admitted, but they pay for themselves.

"You pay a little more up front, but you get a return on your investment," he said.

Also, the federal government offers incentives to make these expensive changes.

Though most efficient furnaces cost between \$7,000 and \$8,500, the government offers a tax rebate worth

30 percent of the cost of the furnace through the Federal Tax Incentive.

A homeowner could afford the rest of the improvements with the "Energy-Efficient Mortgage." Anybody qualifying for an FHA loan can borrow

5 percent of the total cost of the home for the same interest rate as their mortgage.

These programs, along with others, make a green home makeover not only affordable, but profitable, he said. "Energy efficiency is affordable and attainable," he said. "People get the idea they can't afford it, but really they can't not afford it."

For more information, visit [www.hardingconstruction.biz](http://www.hardingconstruction.biz).

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