

If 'cash for caulkers' starts, we should rethink how we heat our homes

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A "cash for caulkers" program being studied by the Obama administration should look at much more than caulking windows and other simple ways to give households money to pay for weatherization projects.

Filling in air gaps where heat escapes from homes is a good start to cutting heating bills and thus cut America's energy use, but any stimulus project aimed at homes should look at how most American homes are heated and how to do it more efficiently.

New York Times columnist [David Leonhardt](#) recently wrote about the home weatherization version of the wildly successful cash for clunkers program. It would help put contractors and construction workers back to work insulating homes and caulking air leaks, while saving homeowners money in the long term by weatherizing their homes.

Leonhardt had an energy audit done of his home and found out it would cost \$4,500 to do all of the weatherization projects recommended in the report. It would save him \$400 a year in energy costs, but he wrote that he's unsure if his family would stay in the house long enough to justify the investment.

The federal plan being proposed by Silicon Valley venture capitalist John Doerr would cost \$23 billion over two years. Most of the money would go for incentive payments, from \$2,000 to \$4,000 for weatherization. The homeowner would have to pay at least half of the project's total cost.

With Leonhardt's column, the Times published a graphic showing the most energy saving improvements in existing homes. At the top of the list by far was sealing ducts, saving 510 trillion BTU's.

That's why most heating bills are so high: Heat is escaping out of ducts. Using forced air is inefficient because it uses so much energy pumping heat around a house that by the time it comes out of a vent, much of the heat is gone.

A far better way to heat a house, I think, is with radiant heating that is felt directly from an energy source. I asked Russ Dunn, vice president of marketing for ThermoSoft, a radiant floor heating company near Chicago, about how much more efficient radiant floor heating is than using forced air.

Homeowners can save up to 40% on their heating bills, Dunn said.

A common myth is that heat rises, he said. What is actually happening is that heated air rises, leaving the ceiling warm and the the rest of the room cooler.

"You don't need warmth at the ceiling, you need it at the foot to head level," he said.

A heated floor -- meaning electric heated wires on fiberglass mesh that are underneath a laminated wood or tile -- but not an insulator such as carpet -- can heat the floor from 80 to 90 degrees and the ceiling will be 72 degrees or lower, Dunn said. Forced air will do the opposite, he said.

Radiant heat feels 8% warmer than forced air because it's not escaping as fast, so the thermometer can be set at 65 degrees but still feel like 72 degrees, he said. Every 1 degree drop in temperature will save 5% in heating, he said.

Such floor heating costs about \$7 per square foot to install yourself, and another \$1 to \$2 more for an installer to do the work, he said.

For now, homeowners are more likely to install radiant floor heating in bathrooms and kitchens because those rooms have tile or wood floors. The main change Americans will have to make to get such heating in their living rooms is to tear up their carpets and replace them with wood floors.

If "cash for caulkers" ever gets off the ground, carpet companies could also see a boost in business, instead of everyone plugging air holes in energy-consuming forced air vents.

It won't be the same stretching out on the hard wooden living room floor as having a soft carpet, but it would sure be a lot warmer. And cheaper.

Article from WalletPop: http://www.walletpop.com/blog/2009/11/20/if-cash-for-caulkers-starts-we-should-rethink-how-we-heat-our/?icid=sphere_copyright