

Sleuths help save Energy

Home audits in high demand as fuel costs rise

By Terri Hallenbeck
Free Press Staff Writer

SHELBURNE - Scott Gardner pulls out a pencil-like stick that creates theatrical smoke and holds it up to a light switch in Jim White and Joy Congdon's house. The smoke swirls, and immediately Gardner knows the attic needs more insulation.

"It tells you the attic's not properly sealed, which is fairly typical," Gardner says. "Your attic is going to want to get re-insulated. Theatrical smoke was one of the tools Gardner used during a two-hour audit to test the energy efficiency of the couple's 1960s-era ranch house. The goal: to help them use less heating oil.

With the price of heating oil sizzling at \$4.50 a gallon - and fears that it could be higher by winter - plenty of Vermonters are joining White and Congdon in the search for ways to use less. The focus on heating costs doesn't usually come before summer even has a chance to settle in, but this year is different.

"More and more people have been calling," Gardner said. "The price of oil really has kicked up interest in audits." "You can already hear panic from people," said Elizabeth Chant, weatherization director at the Champlain Valley Office for Economic Opportunity, where requests for free weatherization help from qualifying low-income residents are running 33 percent higher than this time last year. "This is normally a slow time of year."

At the Central Vermont Community Action Council, commercial audits for those who don't qualify for the low-income weatherization program are booked into September, said Paul Zabriskie, program director. Gardner, who's been in the construction industry for 27 years and was trained to conduct audits by the state's Efficiency Vermont program, said too few contractors are trained to do audits or insulate homes.

The scramble for help has caught the attention of state officials, as Gov. Jim Douglas recently announced plans to train more people to
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conduct energy audits and offer no- and low-income



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Contractor Scott Gardner does an energy audit of Jim White and Joy Congdon's home in Shelburne on Tuesday. Gardner seals the house before doing a pressure test to measure how tight the structure is.

Sources for saving energy

EFFICIENCYVERMONT:
Provides information on ways to save energy and a list of those who conduct certified home energy audits. Visit www.encyvermont.com and click on Home Performance with Energy Star, or call toll-free 888-921-5990.

VERMONTGAS SYSTEMS:
The natural gas provider offers free energy

audits to customers who qualify based on gas use. Visit www.vermontgas.com and click on efficiency programs, or call 863-4511, ext. 321.

LOW INCOME WEATHERIZATION:
Low-income Vermonters may receive free assistance in making their homes more energy efficient. Visit www.dcf.state.vt.us/oeo/weatherization, or call (800) 545-1084 in Chittenden County.

ENERGY: Demand rises for efficiency audits

loans to middle income Vermonters to pay for

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weatherizing their homes.

The programs will start later this year, with an information hot line coming July 1. This week, the Legislature's Joint Fiscal Committee will convene to brainstorm ideas for softening the blow of the price increase.

Homeowners have a lot to think about, said Blair Hamilton, managing director of the state's electric efficiency utility, Efficiency Vermont. He's worried that some will be tempted to increase their reliance on electricity for heat and hot water. Vermont's electric rates will likely increase in a few years when utility contracts are renewed, making dependence on electricity a shaky proposition.

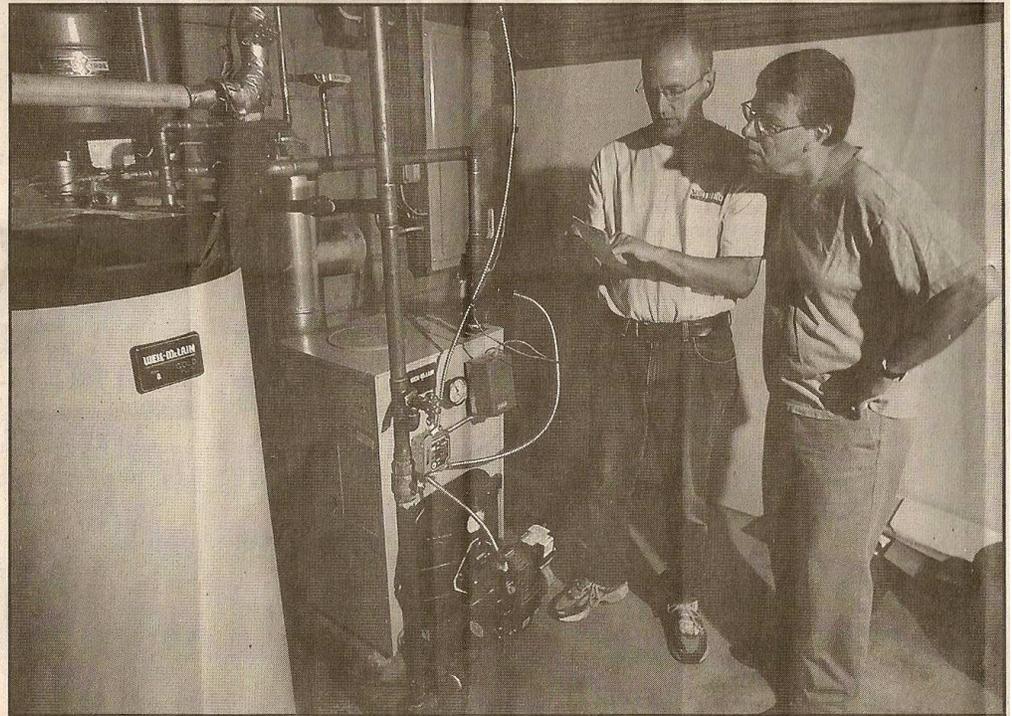
"We need to do some communication about choices," Hamilton said.

Even though they have a relatively efficient home, White and Congdon are studying their alternatives. They've inquired about solar power for their electricity (the price was prohibitive) and adding a wood or pellet stove to augment their oil heat (which they are still considering). Switching to natural gas is an option for them, but White said he'd prefer a heating source that allows him more independence from volatile markets.

Scott Harrington of Vermont Gas Co. said his company has had a flurry of homeowners making the switch to cheaper natural gas. White and Congdon sought the energy audit to arm themselves with information about tweaks they could make to the house.

The audit

Gardner, who owns Northeast Construction and Building Energy in Williston, said he enjoys doing home energy audits because they encourage people to make good decisions. "I like getting people to



GLENN RUSSELL, Free Press
Contractor Scott Gardner (left) performs an energy audit on Jim White's home in Shelburne on Tuesday. They reviewed the efficiency of White's water heater during an inspection of the house.

act," he said. White and Congdon want to make their home more efficient not just to save money but because they think it's the right thing to do. "Part of our motivation is just our value system," White said. "We're systematically thinking about everything we can do to reduce our carbon footprint. Focusing on efficiency seems like a no-brainer."

The audit is designed to list options, with estimates of how much each item will cost and what it might save. Gardner prioritizes the lowest-hanging fruit. Typically, there is not a one-shot solution, but a menu of possibilities that include workman-like repairs such as caulking and sealing. Gardner charges \$220 for an audit, money he says homeowners will make back in energy savings. "I haven't seen a structure yet that I haven't been able to save them the price of the audit," he said. "I think I'll get the money back in peace of mind," White said. White said he likely would not go into debt to have the work done, but instead will chip away at projects over time. "What I'm thinking is I can do a certain

amount of it myself," he said.

The price of heat is a powerful incentive for making changes. White and Congdon had a favorable pre-buy rate of \$2.59 a gallon for oil last year. Their fuel company is offering pre-buys this year at \$3.90 a gallon. They haven't decided whether to take it or take a chance on the market.

Before Gardner pulled up to the door, White had some homework to do. He'd amassed details about how much oil and electricity the house used last year. At 540 gallons of oil, the couple's consumption was on the low side. Their electric bill had doubled in the past month, though, and they couldn't figure out why.

Gardner recommended White obtain a device from Efficiency Vermont that would allow him to measure the drain from appliances that might be the culprits.

To perform the audit, Gardner hauled out a carload of equipment. A drum-like blower used to depressurize the home and cases full of measuring devices

made it look as though a rock band had arrived for a rare morning gig.

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The equipment would help determine where the house leaked heat and whether the furnace was operating efficiently.

Surveying the yellow vinyl sided house inside and out, Gardner noted that the cold-water pipes on the basement furnace were not insulated and were radiating heat an easy thing to fix that would be free if a certified contractor did other recommended work. Gardner warned against using duct tape, saying it doesn't hold up.

The insulation around the home's foundation was especially well done, Gardner said, something he doesn't typically find. The insulation beneath the vinyl siding, however, was not as thick as it should be, he said. The solution: Take the siding off and attach new layers of rigid foam. That sounded daunting to White, and Gardner warned it would be expensive.

When Gardner returned to his office and ran the software that helps him determine the cost benefit of each job, he estimated insulating under the siding would cost \$10,400 for a 13 percent savings on heat. With that price tag, the measure didn't make Gardner's list of priority items.

Other projects Gardner recommended didn't cost as much. Gardner closed all the windows and doors in the house and fit a device on the front door that allows him to reduce the air pressure in the home. That means air will flow in from any gaps in the house, telling Gardner where the leaks are.

He pointed out window casings that could use caulking on the outside. That work would cost \$500 and save 4 percent on heat, Gardner estimated. He emphasized that the heat savings are intentionally conservative.

Most of the evidence of

heat loss pointed to the attic. When Gardner climbed a ladder to look up there, he confirmed that the insulation didn't extend all the way to the eaves. He recommended installing 2 inches of insulation in the eaves and adding 8 inches of blown cellulose insulation to the existing layer of fiberglass elsewhere. The cost: \$4,315. It would be less if White donned a Tyvek suit and sprayed the insulation himself, which he said he will probably do. The projected savings on heat: 12 percent.

Gardner also recommended more insulation on the concrete basement walls and in the garage. Adding insulation in the garage should be no problem, White said, but he worried that putting the recommended rigid foam insulation on a visible basement wall would be unattractive.

All told, White's house is in unusually good shape, Gardner said, adding that he typically has more extensive recommendations to offer. At a recent audit on a farm house in New Haven, for instance, he found gaps in the insulation and, recommended reinsulating the house, along with weather stripping and sealing.

White had an audit done on his previous home in Burlington's Old North End that pointed to similarly extensive needs, he said. "We got amazing payback almost immediately," he said.

He's not surprised the recommendations for his Shelburne home were more modest. The audit was still worthwhile, he said. Now they know more about their house, and if they sell it, they'll have paperwork to prove its efficiency. White has a sense that issue will be on the minds of future buyers.

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