Energy assessments cost little, can save homeowners a lot

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As the owners of a drafty late 1800s Victorian, Rudy and Peggy Marconi paid $5,407 for heating oil and electricity last year. If it's a similar winter, they expect those bills to be down about 7% for the coming year.

After an energy assessment that included repair of air leaks to reduce heat loss, their Ridgefield home's estimated energy bill for the coming year is $5,029.

"On an annualized basis, we will save about $400 a year," Mr. Marconi said. "I can tell you right now, both Peggy and I could feel the difference."

"We clearly felt certain areas that were very drafty," Peggy Marconi said. "Since they caulked them, we definitely felt a difference."

"In this economy," Mr. Marconi added, "$400 is a lot of money to most people."

The service, valued at $750, is available to people for $75.

As fall gave way to winter in late 2010, Andrea Hutter of the Ridgefield environmental firm We Green was at the Marconi house, overseeing the energy assessment by certified energy technicians Val and Vitalie Siretsanou, brothers working for New England Smart Energy of Fairfield.

"We're going to assess where the trouble spots are, and they're going to fix a lot of them," Ms. Hutter said.

"They'll be fixing them with caulk, expansion foam, weatherstripping, door sweeps, and lock adjustment."

The $400 in savings are a projection, an estimate, but they're not a rough guess.

The figure is based on detailed information Mr. Marconi provided about his home's energy use and costs, and on the assessment done with a pressure blower system to measure the air flow, identify the leaks, and measure again after sealing them.

"I gave them everything: What I pay for oil, which is $3.09, and what I pay for electricity — 18 cents per kilowatt hour," Mr. Marconi said.

"We used last year 1,039 gallons of oil. And in electricity I used 12,204 kilowatts. So they estimated my annual energy costs at $5,407."

Then comes the blower test, repair of leaks, and the retest.

"They measure the cubic feet per minute that are going through the fan, at a constant speed, before they do it and after they do it. And based on the caulking and sealing that was done, my estimated bill now is $5,029," Mr. Marconi said. "So, it's roughly $400 a year, just by that one thing.

"They then go through a list of additional items that they would recommend that they found during the assessment."

After tightening the house to reduce heat loss, the team of technicians from New England Smart Energy Group — one of several participating vendors — also put in energy efficient light bulbs, and provided Mr. and Mrs. Marconi with a list of recommendations for energy-efficiency investments they could make in their home, with estimated savings and pay-back periods.

"They recommended that I increase the R value in my attic" with more insulation, Mr. Marconi said. "Do more insulation in the

walls, which would have to be blown in. They recommended a new washer and dryer, which made Peggy happy."

These efficiency improvements would cut the Marconis' annual energy bill more.

"If I did all of that, I would reduce it further by another approximately $200," he said.

Their recommendations included tips on rebates, low-interest financing and tax credits available, and calculated the payback period for each investment.

"On the recommendations, it looks like it will have a payback of about three years," Mr. Marconi said.

"Ceiling insulation, 1,200 square feet, the initial cost would be $1,500 to do that, but I qualify for rebates of $850 from the state and federal governments, so the final cost would be $650, so the payback would be approximately three and a third years, based on estimated savings of $196 per year."

To avoid making a home too weather tight, the energy assessment calculates the "optimum air flow" for the house.

"That keeps it from getting mold and toxic build-up. Every house needs a little air flow," Ms. Hutter said.

"When mine was done, my optimal air flow, which is what the house is best at, was 1,438 cubic feet per minute — and my actual was two and half times that. They reduced it 38%."

The energy assessments are being promoted by the Neighbor to Neighbor Energy Challenge, a community program that seeks a 20% reduction in energy waste in 10% of households in 14 participating Connecticut towns, including Ridgefield.

It's financed by a $4.17-million Energy Efficiency and Conservation Block Grant from the U.S. Department of Energy, funded by Congress through the American Recovery and Reinvestment Act, the 2009 stimulus package.

Because Mr. Marconi is the first selectman, The Ridgefield Action Committee for the Environment (RACE) documented his home's energy assessment using Ridgefield videographer Spencer Hinds of Video Ventures. RACE will use the video to promote the energy assessments and get more homeowners to sign up. The video will also be used by the Neighbor to Neighbor Challenge to spark interest in the 13 other towns.

Energy waste in buildings is low hanging fruit in the national effort to limit energy consumption, cut oil imports, and reduce the carbon released to the atmosphere.

Cutting energy waste in homes also saves families money, leaving them more to spend in the local economy. If the energy assessments lead families to put in more insulation, new windows, or buy a freezer, that helps create jobs.

RACE hopes others will do energy assessments. "Not only will it benefit their pocketbook, but it will benefit Ridgefield in the long run," said Gretchen Bishop of RACE.

"Let's say 900 homes, 10% of the homes in Ridgefield, all are spending less money on electricity and heating oil. That means there's more money that's available in our community," she said.

"If I have more money I can go shop in Ridgefield."

The program is administered by Connecticut Light and Power and financed by the Connecticut Clean Energy Fund, which takes a portion of money from utility ratepayers and invests it in energy efficiency. People may find out more about the Home Energy Solutions program by going to the Web site: ctenergyinfo.com and following the "residential resources" link.

They may register for the program at ctenergychallenge.com and, once signed up, will be contacted about setting up a home energy assessment.

People may also sign up for assessments directly with contractors. There are 18 in the state and RACE recommends three local firms:

- New England Smart Energy, from Fairfield, which did the Marconis' home (telephone 203-292-8088);
- New England Conservation Services, from Woodbridge (203-389-3342); and
- Green Star Energy, from Brookfield (203-744-1144 ext. 12).

“We are hoping that our community will be prompted to follow the Marconis’ example and get a home energy assessment,” Ms. Bishop said.

Dwayne Escola of RACE and Assistant Town Engineer Jake Mueller did a carbon emissions inventory of the town last year.

“What they found is residences are by far the greatest consumers of energy,” Ms. Bishop said. “Businesses are the next, Municipal buildings and schools — percentagewise, when you talk about the whole town, they’re really a very small percentage... Everybody talks about their tax dollars going to fuel the schools, but they spend more by far fueling their own homes.”

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