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Homeowners conserve cash with energy audits

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David Fein crouched over a heating vent in Victor Nardulli's West Harrison home and snaked a 4-foot-long rubber line into the duct.

A tiny video camera on the end of the line fed photos to a screen on a device Fein held in his hand. Nardulli hovered over Fein to get a look at the screen.

"Wow, what is that?" Nardulli asked, referring to the debris in the duct.

Fein, an energy specialist with Comfort Save Solutions LLC of Elmsford, told him the pictures showed chunks of drywall, tile and other construction materials in the passageway. The debris, along with dust, could restrict the flow of heat and diminish the air quality in the house, Fein explained to Nardulli and his wife, Mary Ellen Nardulli.

The Nardullis hired Comfort Save, a subsidiary of Robison Oil Corp., to examine their 4,200-square-foot home in the hope of cutting their energy usage. The Nardullis, who live in the house with their two teen children, used about 1,200 gallons of oil last winter at a cost of nearly \$4,000.

But Victor Nardulli, 45, said he and his family usually need about 1,400 gallons to get through a winter. They got a break last year because the winter was unusually warm.

Their costs could be higher this year. Their dealer (not Robison) recently told them they would pay a fixed price of \$3.49 a gallon this winter. If their usage returned to its norm, they would spend \$4,886 to stay warm between now and spring 2009.

But they hope their proactive stance will reduce those costs.

Victor Nardulli, who manages car washes in Queens, said he and Mary Ellen, who runs a business selling window coverings, decided to have an energy audit performed after a discussion about their energy bills. Mary Ellen Nardulli discovered Comfort Save while surfing the Web, he said.

Robison, one of the largest oil dealers in Westchester County, started Comfort Save last year to help people improve their indoor air quality and find ways to reduce their energy consumption, said David Singer, president of Robison. But the company quickly found that saving money on energy was consumers' top priority, he said.

The energy audits, which cost \$69.99, have caught on fast, Singer said. Comfort Save, which started with one home assessor, now has five, he said. Each one conducts about 10 audits a week, he said.

"We're actually having a difficult time keeping up with the demand," Singer said. "We're working with the Westchester County Association (a business organization based in White Plains) and some other resources to continue to recruit and train and hire assessors."

Each assessor goes through a 40-hour training course and three weeks of field training, Singer said.

Business opportunity

High energy prices, while a burden on homeowners, drivers and businesses, have provided an opportunity for savvy entrepreneurs who are able to help people find ways to save.

Peter Bell and two partners started Hudson Valley Energy Consultants Inc. in Mamaroneck nine months ago to perform audits of homes and businesses.

"We're quite busy," Bell said. "We get phone calls every day, and whenever something happens in the news (that indicates energy prices could head higher) we get a spike in phone calls."

He said his company, which touts its accreditation from the Building Performance Institute, uses high-technology equipment such as thermal imaging cameras, which detect where heat is leaving a building due to a lack of insulation, leaky doors or windows or any other deficiency.

The company also performs what it calls a "blower door test." With all the windows and doors closed, the inspector places a fan in a door opening, causing the outside air to be pulled inside. That lets the inspector determine how much heat is being lost through cracks and holes in the house.

An audit costs \$450, but the company does not sell products.

The company provides each customer with a list of energy-saving improvements and can refer the customer to companies that can provide the improvements.

Bell said he thinks that approach gives his company an advantage because customers cannot suspect that inspectors are exaggerating the deficiencies in their properties just to pump up product sales.

The fee Comfort Save collects for an audit basically covers the wages of the assessor. Comfort Save makes its money if the homeowner buys products the assessor recommends.

Among the recommendations Fein made to the Nardullis was a microprocessor that fits on the boiler. He quoted a price of \$950, but the installation costs can vary, driving the price as high as \$1,250 in some homes.

The microprocessor, made by IntelliDyne LLC, gauges the temperature of the water as it leaves and then re-enters the boiler. It calculates the difference in those temperatures and signals the boiler whether it can run at a lower intensity.

The manufacturer guarantees it will cut 10 percent off the homeowner's energy use, though Singer said there's evidence it can cut 20 percent. A 10 percent cut would mean the Nardullis - who bought the microprocessor - would recoup their money in less than three years.

But Robison does not sell all the products its assessors recommend, and Singer insisted the company does not push products that customers do not need.

"We're not salespeople in technicians' clothing," he said.

Indeed, during Fein's two-hour examination of the Nardullis' home he suggested a number of products, such as insulation on the boiler piping, caulking near a door and seals for electrical sockets, that are available at retail stores.

Singer said the assessors have found that about 65 percent of the homes they examine could benefit from some sort of energy-saving improvements. About half of those customers end up buying products from the company, he said. Though it's not unusual for customers to spend up to \$4,000, the average is probably about \$1,500, he said.

High-energy audit

For nearly two hours, Fein, carrying his equipment in a backpack, was in near-constant motion while examining the nooks and crannies of the Nardullis' home. He was barely in the front door before he noticed the family was not using energy-saving compact fluorescent light bulbs.

The U.S. Department of Energy says the bulbs use 75 percent less energy than standard incandescent bulbs and last up to 10 times longer. The government says a single bulb can save \$30 in energy costs over its lifetime.

Then it was down to the boiler room just off the family's finished basement. A visitor to the home remarked that the temperature in the boiler room was comfortably toasty.

"Yeah, and that means there's an energy loss," Fein said, noticing the lack of insulation on the piping.

Fein stuck a probe in a hole on an exhaust pipe to sample combustion gas and gauge how efficiently the system turns oil into heat. His gauge showed a reading of 80.6 percent.

He said new, efficient boilers should show a reading of 82 percent to 85 percent. Older boilers are usually in the mid-70s, he said.

Fein used another device to measure the number of particles - tiny pieces of dust, dust mites and mold spores - in the air. He also measured the humidity in the area. Both readings were within acceptable ranges.

Before leaving the boiler room, Fein pointed out a gap between the ceiling and a part of the wall. He suggested the Nardullis buy a form of insulation and stuff it into the space to prevent heat loss.

By the time his visit was finished, Fein had peeked under the refrigerator to ensure the coils were clean, climbed into the attic to check the insulation and examined the Nardullis' fireplace. He advised the Nardullis to buy a "bladder" to block off the fireplace chimney and keep heat from shooting outside.

He told Victor Nardulli that his entertainment appliances, which included a super-sized television, a DVD player, a CD player and an amplifier, used electricity even when they were off. Plug all the appliances into a single power strip and turn the strip off when the appliances are not in use, he advised.

By the time the audit was finished, Victor Nardulli had filled a page with notes on Fein's recommendations. He said the next day he was pleased with the audit.

"Absolutely, we got a lot of new information," he said. "We already started ordering a few of the items."
