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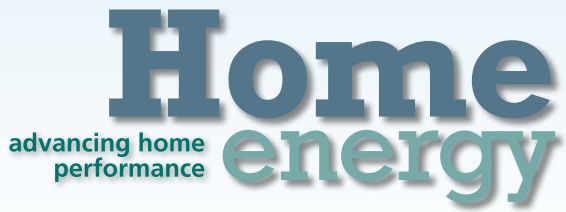
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Consulting Approach to Home Performance Contracting

It seemed fated that I come across Focus on Energy at the 2005 Better Buildings, Better Business conference.

by Mark Furst

After starting my own home inspection business in 2001, I began to realize just how important energy efficiency was to the average homeowner. I also became increasingly focused on coupling my home inspection career with energy evaluation. But while I had the ambition to take risks and learn more about efficiency, I wasn't confident enough to enter the field just yet. It was all well and good to realize that efficiency was important to both home inspector and homeowner, but I was at a loss as to how to proceed.

It seemed fated, then, that I happened to come across Focus on Energy at the 2005 Better Buildings, Better Business conference in Wisconsin Dells. I was there to further my knowledge of buildings and construction, but I did not have a clear goal. That changed after I attended a building science seminar led by Dave Kinyon of Focus on Energy. My eyes were opened to aspects of houses and their systems that I had been aware of before, but not well versed in. Immediately after the seminar, I inquired as to how to involve myself in the program. Mr. Kinyon informed me that training was held annually, and I readily volunteered my information to guarantee me a position at the next training session. It was several months until Focus got back to me, and nearly another year until I attended the consultant training, but the wait was well worth it.

For four weeks, three days a week, 12 of us were trained on the basics of building science-based home performance evaluation: blower doors, combustion safety testing, infrared (IR) camera use, and the REM:Rate software and paperwork that we would be using to report our findings (also known as the fun part). We received hands-on training in the form of two test houses (provided by local customers) where we could apply our new skills. Of course there was a final test to study for in order to become a qualified home performance rater, but the training was quite comprehensive, as might be expected from a four-week program. The only weakness was the lack of informa-

tion detailing exactly how the Focus program is administered. After some rigorous searching, I found the answers.

FOCUS ON ENERGY

Focus on Energy was created in June 2001, thanks to Wisconsin's 1999 state budget bill, which recognized the ridiculousness of Wisconsin's 100% energy importation (nearly \$20 billion per year). Justifying its existence by the cumulative savings of its clients, this public/private agency focuses on "helping eligible Wisconsin residents to install cost-effective energy efficiency and renewable energy projects." Other goals of Focus are to prove

the reliability of energy sources, to help individuals and businesses save money by using less energy, and to assist in the development of efficient and environmentally safe renewable energy sources.

The program is promoted as a one-stop shop for efficiency information, and is divided into three sections: residential programs (for homes, apartments, and condos); business programs (for nonresidential buildings); and the renewable energy program. I work in the residential section, which is divided into two further sections: the Wisconsin Energy Star Homes program and the Home Performance with Energy Star program, of which I am an active part.

Focus is now under the oversight of the Public Service Commission of Wisconsin. Previously, utility com-

panies had been responsible for developing and administering their own energy efficiency programs for their customers, if they even chose to do so.

As a result of the 1999 legislation, all investor-owned utilities in Wisconsin are now required to participate in Focus on Energy. Smaller rural co-ops can also participate on a voluntary basis. Current Wisconsin law dictates that each electric and natural gas utility has to spend at least 1.2% of its annual gross operating revenue on energy efficiency and renewable resource



Mark Furst records data from an energy audit.

GRADING SPACES

programs. The payments that Focus sends out as rewards come from a fund that the utilities pay into. Prior to this development, most utilities were offering their own versions of efficiency programs, as I explained above. These programs were generally unsophisticated. For the most part, they were clipboard audits, in which the auditor (an employee of the utility company) would visually assess the home for the client, usually for no charge. Because it was a purely superficial inspection, it was not as useful to the homeowner as it could have been. Also, there was no incentive for the utilities to make recommendations that, if carried out, would mean that they would sell less of their product. Now the fact that the programs are run by Focus has ensured that the training of consultants is consistent, and the use of testing provides homeowners with specific and useful information—the ultimate result being energy savings.

A PUBLIC/PRIVATE PARTNERSHIP

So what kind of assessment am I responsible for as a Focus on Energy consultant? A basic evaluation consists of the blower door test, IR scanning, combustion safety testing, and visual inspections of the accessible areas of the home. I also speak at length with the homeowner to glean insight into how the home is performing. This can help me to hone in on where to look for issues. After completing the on-site evaluation, I take the information back to my office and put together a detailed report. I send a copy of this report to the homeowner, and another copy to the contractor, if the homeowner has chosen one.

After any work is completed, I return to the home and perform the blower door test again as well as the combustion safety test if there is a natural draft water heater or furnace still in place. If the house has been tightened significantly through effective air sealing work, backdrafting is more likely to occur so this second combustion safety test is critical. Persistent backdrafting can best be “repaired” by replacing the offending unit with a sealed combustion unit. Spill alarms and carbon monoxide alarms are acceptable solutions for appliances that only backdraft under the worst-case pressure conditions that rarely occur.

Unlike the utility companies, I charge for my services. The client can, however, get money back from the state for completing specific recommended measures (that is, \$100 for installing attic insulation to R-50, \$75 for increasing building tightness by 400 CFM, and so on). This is where involvement in the program really aids me in my business. The money that clients receive from the state does not cover the cost of completing the measures, but more often than not, it covers my charge to them. In effect, they are receiving my professional expertise and a detailed report at no charge. After the inspection, the client gets

the customized report and I send Focus the forms it needs to tabulate what measures are being installed by residents statewide. Contractors also receive a reward for increasing airtightness to meet state requirements, as well as a reward for referring clients to the program in the first place.

Focus also helps consultants with promotion and cooperative advertising. The program is promoted locally and statewide on radio, TV, and the Internet. For consultants and qualified contractors, Focus will also match costs for advertising that includes the Focus and Energy Star logos and taglines. These payments increase with the number of completed jobs submitted.

The opportunity to involve myself in such a rewarding and valuable program is invigorating to me. By following a passion of mine, I am able to help people save some of their hard-earned income, reduce the amount of energy being consumed, and help maintain Wisconsin’s lead (along with California, New York, and Colorado) in the development of the nation’s premier energy efficiency programs.

THE HOUSES FOCUS FIXES

On average, Wisconsin homeowners who participate in the program and have proper energy upgrades are seeing energy savings of 15%–20%. Most homes I see have some sort of insulation, are somewhat “weather tight” and have fairly modern mechanicals but will have one or two obvious areas that need work. The work done mostly consists of air sealing and increasing insulation above levels that were the norm in years past. We generally tweak the homes rather than massively change them. Most of the homes in the program are simple-shaped ranch homes from the 1950s to the 1990s. There are many examples of this type of home in this region and they usually will test out quite well due to their simple wall layouts and roof designs. (I often tell the homeowner that it is because there is less opportunity for the builders to screw up!).

Newer homes often incorporate complicated floor and roof-lines, cantilevered floors, bonus rooms, vaulted ceilings, recessed lights, and hollow chimney chases among other desirable architectural features—all potential energy leakers. Newer does not always mean better! Limited access makes fixing the energy leaks very challenging.

At the other end of the spectrum are the 80- to 150-year-old farmhouses and townhouses, of which there are many in this region. There is a growing movement among homeowners to restore older homes. Owners see the value in recycling these venerable structures. Of course, finances will ultimately determine the extent of each renovation, but I go to great lengths to explain

On average, Wisconsin homeowners who participate in the program and have proper energy upgrades are seeing energy savings of 15%–20%.



to a homeowner how incredibly cost effective modern air sealing and insulating work is, encouraging them to do this work ahead of the more fun cosmetic projects.

In a project I was involved in a couple of years ago, the house, a simply shaped large Victorian structure, had severe problems with ice damming and very high heating bills. There was no insulation in the walls and a dusting in the attic. There was a 40-year-old, 65% efficient furnace in the basement. The homeowner opted for a full air-sealing package, wall cavity dense-pack insulation, and R-50 attic insulation. The week after the work was completed, a severe snowstorm came through and the difference in the house from previous winters was immediately obvious. There were no ice dams where there had once been 2-story prizewinners. A year after the retrofit, the client let us know that her heating bill was reduced by 60%, and that was without an upgraded furnace! An unanticipated, but obvious (in hindsight), side benefit was that the house was now much more soundproof due to the wall insulation. The homeowner was very happy with the outcome.

STAYING EFFICIENT

Due to the involvement of the government, a Focus consultant has to fill out a copious amount of paperwork, so it makes good business sense to be as efficient as possible. Making the best use of time on the job means being able to carry in the all the tools you'll need in the minimum of trips from your vehicle. Many of the tools used in the business come in their own cases, but I quickly found that carrying them around in those cases takes up a lot of space, and that it's easy to forget something. (I left my IR camera behind the first time I used it!)

Here are a few things that have made my life easier:

Keep your blower door frame together. Making the frame as small as possible for transport, but without taking the corners apart, really saves time. I drive a pickup, so it is easy to put the frame in the back; this may not work so well in a car. Setting up is much quicker than it would be if you had taken the frame apart, and you can carry the frame over your shoulder while carrying two other items in your hands.

Combine the smaller tools. I purchased a rolling suitcase that looked to be large enough for most of the small tools. I then subdivided it with a truck desk from the Duluth Trading Company that fit nicely inside it. This truck desk comes with movable dividers that I set to approximately fit the instruments. Then I filled



I purchased a rolling suitcase that was large enough for most of the small tools.

contains a drop cloth, a Tyvek suit, a dust mask, a hat or do-rag, kneepads, and a headlamp. I also put my 2-inch hole saw, cordless drill, and hole plugs in the side pocket of the EC bag. I use the hole saw and drill for looking into wall cavities. Veteran Milwaukee consultant Keith Williams showed me the value of having a large Ziploc bag containing a wet rag for catching the dust and debris while drilling. That really saves time on cleanup.

Wear a small tool belt. I have a lightweight belt that holds a small rechargeable flashlight, a chemical smoke puffer, a multi-screwdriver, a couple of pens and pencils, a camera (I take lots of pictures), and spare batteries in an Altoids tin. This last item has probably saved me more time than anything else; I've had the camera juice go south at the far end of an attic more than once.

Compress paperwork. Right now I'm working on reducing the time I'm taking to do the actual paperwork. I've purchased a Motion Computing LE1600 Tablet PC and am intending to port all the forms over to fillable PDF or Word/Excel documents. The nice thing about this particular model is that it has a view anywhere screen for use outdoors. So far it is working well, and now that I have added an external battery, life away from the A/C can last up to six hours.

We'll see. Focus is quite supportive of the move to paperless, so that has made me more motivated to try it. 🏠

Mark Furst has been involved in the construction industry in some capacity for 30 years, beginning as a designer and contractor of structures at Renaissance Festivals all around the country and then moving into more conventional remodeling practice. While nursing an aching back some years ago, he discovered that there was a living to be made looking at and writing about buildings, rather than having to actually build them! In 2000, Grading Spaces was born, at first offering "regular" home inspections (for real estate purchases) but then moving into energy efficiency and home performance testing, which now occupies the bulk of Grading Spaces' business.

For more information:

For more on the Wisconsin Focus on Energy program, go to: www.focusonenergy.org.