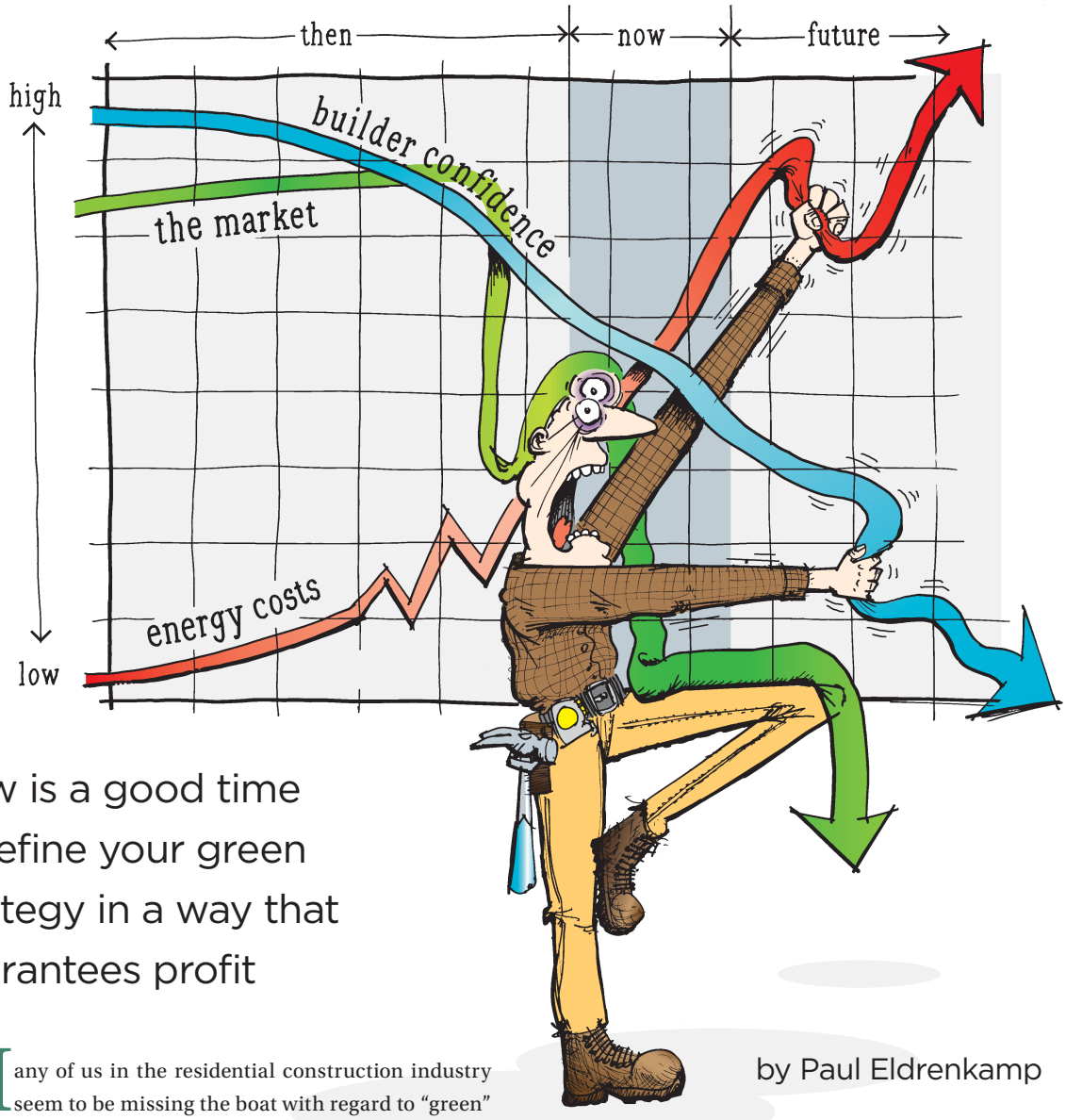
# Making the Best of Rising Energy Costs




Now is a good time to refine your green strategy in a way that guarantees profit

by Paul Eldrenkamp

Many of us in the residential construction industry seem to be missing the boat with regard to "green" building. Or perhaps we've just boarded the wrong one, by defining green in a way that fails to take advantage of its inherent business opportunities.

Despite numerous earnest efforts, "green" is still an ill-defined concept, and until now it's been too easy to pass off window dressing as substance. But the biggest mistake among green advocates has been their failure to put anywhere near enough focus on reducing energy consumption.

As one example, many "green" projects in the Boston area, where I work, still include ground-source heat pumps. Yet energy-conscious builders have known for decades how to build homes with heating and cooling loads so low a ground-source heat pump represents gross overcapacity. These homes may carry a green label, but it's obvious that deep reductions in energy consumption were not a high priority.

If, as is likely, energy costs continue to rise dramatically, consumers will come to understand that many of their so-called green houses are still relative energy hogs. For instance, studies

have shown that Energy Star homes are burning energy at close to the same rate as houses built to code level. Recent studies of LEED buildings have shown better performance — 25 percent to 30 percent less energy than non-LEED buildings — but this difference may prove less significant as energy costs rise, especially given the low bar set by non-LEED buildings to begin with.

I believe our industry should be prepared for a backlash when customers realize we've been paying little more than lip service to significant improvements in energy performance — which should have been the core focus and objective of green construction all along.

On the other hand, the ability to anticipate and prepare for that potential backlash could provide savvy builders with a significant competitive advantage. To that end, here are five ways to turn steeply rising energy costs into an opportunity rather than a premature exit strategy.

## 1 Learn to keep score

As energy prices increase, the cost of energy will loom ever larger in consumers' buying decisions. This means that those builders and remodelers who can most credibly document the energy performance of their projects will have an enormous advantage, and those who have no documentation will be left behind.

My company has begun to track the energy performance of our projects in two ways: first, by calculating the Btu usage per year per square foot of each house, pre- and post-project; and second, by generating a HERS (Home Energy Rating System) index for each major project, again pre- and post-renovation. The Btu-per-square-foot-per-year number is based on actual usage, and the HERS numbers are based on a computer model we use during the planning stage. Both are important tools; neither is perfect, but together they give us valuable information and add credibility to our efforts. In some cases, the very fact that we can give prospective clients these numbers has separated us from some otherwise stiff competition.

Whatever method you settle on, you should develop a quick, easy, focused, and real-world way to quantify the energy-use component of "green." This gives you more than, say, LEED certification can offer — especially since LEED scoring is not applicable to most renovations. Being able to put a number to green in this manner takes it out of the warm-and-fuzzy marketing realm and into the world of long-term competitive advantage.

## 2 Learn to improve your score

Learning to keep score is the first step. Once you start keeping score, however, you may find that you've been able to generate only mediocre energy reductions — if any at all — in the homes you work on. So improving your scores is the necessary second step.

A lot of contractors who try to achieve energy improvements find that the first 10 percent to 20 percent of reductions are relatively easy to achieve, but they get stuck trying to get much beyond that level. A way to gain the competitive advantage here might be to skip a step: Instead of spending a lot of time teaching your crew to make relatively modest energy improvements, jump right into teaching them super-insulation strategies, which are actually not much harder to learn. (Neither, of course, is *easy* to learn, but if you're going to the effort, you might as well set your sights as high as you can.)

We've found that if you're confining your insulation to the existing framing cavities, for instance — as most energy upgrades do — there's a point at which the house starts working against you. The really dramatic performance improvements come only by "thinking outside the box" literally and figuratively — by adding insulation to the outside of the framing. This is simpler to do with new construction, additions, and re-siding projects, obviously, and harder to justify with smaller

> The fact that we can give prospects energy-performance numbers for each of our projects — like Btu per square foot per year — has separated us from some very stiff competition.

renovations. But the sooner you learn how to do exterior insulation retrofits wherever you can, the greater your competitive advantage will be.

If you've been thinking about adopting LEED standards as a business strategy, consider leapfrogging your competition by skipping LEED altogether and going right to the Passive House standard, a European approach to energy-efficient homes. This standard, which sets a very low threshold for the amount of energy a house can consume, will certainly become more visible over the next decade. Learning to comply with its rigorous requirements wouldn't be easy, especially with renovations of existing homes, but if you're serious about building a solid business that survives into the future, the effort could well be worthwhile. (For more information on Passive House standards, go to www.passivehouse.us.)

## 3 Learn how to build with low-embodied-energy materials

"Embodied energy" refers to the total energy represented by building materials that show up on your job site: the energy required to mine or harvest the raw materials, transport them to factories where they're turned into finished goods, truck those finished goods to the local lumberyard, and get them into — or onto — the house. The more energy it takes for the building material to go through this cycle, the more expensive that material will be. One consequence of higher energy costs will be that the price difference between building materials with high and low embodied energies will become much greater.

Wood has a relatively low embodied energy. For the most part, it does not need to be manufactured. It does need to be harvested, milled, and transported, but the energy required for this is a fraction of the energy required to manufacture and transport, say, PVC or fiber cement. Even highly processed wood products like sheathing and engineered lumber tend to have a low embodied energy compared with most alternatives.

A point to remember is that trees — forests — will be a major part of any carbon-management strategy because they absorb carbon dioxide as they grow. So you can count on a steady, reliable supply of trees, wood, and cellulose.

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The upshot is that, as energy prices rise, those who know how to build high-performance, low-maintenance homes with wood framing, wood trim, and wood siding may have a significant cost advantage over those who need to resort to PVC, fiber cement, and other high-embodied-energy products for durability. Also, builders who figure out how to insulate primarily with cellulose may be very well positioned over time. A super-insulated project can easily require 10,000 to 20,000 board feet of insulation. If, because of its fossil-fuel content, foam comes to cost five to 10 times as much per board foot as cellulose, the contractor who can get a high level of performance with mostly cellulose and only a little bit of foam is clearly going to have a nearly insurmountable price advantage over a contractor who can only do it with foam.

## 4 Learn new ways to sell

These new ways of thinking and building will require new sales techniques.

First of all, don't buy — or try to sell — the idea that "green" costs no more than standard construction. Green — defined primarily as a focus on dramatic reductions in a home's energy consumption — costs a lot more than standard construction, and it should.

Lots of things we sell our clients cost more than the alternatives. Many of us have installed custom glass-and-tile showers that cost several times the price of a fiberglass unit, for instance — only one example out of hundreds I could come up with. We all understand that these kinds of remodeling decisions are fundamentally *emotional* decisions, not rational payback decisions.

Face it: If homeowners were completely rational, most of us would be out of business.

But for some reason, when it comes to energy upgrades, we've let it be all about the numbers and the payback. Until now, that is. More and more prospective clients are worried not only about energy costs but also about their carbon footprint and their children's and grandchildren's futures. With the right clients and projects, extremely high-performance renovations can be moved out of the world of numbers and payback and into the emotional realm, right along with so many other choices the client makes. This is an important point to keep in mind as you develop new sales strategies.

You may also need to rethink the advice you give regarding "resale value." For instance, an $80,000 investment to bring a house to net zero energy may someday — soon, even — increase the home's resale value by a much wider margin than the same investment in a luxury kitchen.

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And don't forget that, as energy costs rise, clients will look to us for guidance, just as they always have. So take a stand. Talk people out of things. Refuse to do the addition they don't really need. Require that 25 percent of every remodeling budget go toward efficiency improvements. These sorts of ground rules stand a much better chance of enhancing your business than hurting it, because they give your clients something to hang on to, something to mitigate the fear or anxiety they may have about the future. They may well feel in better hands with someone who knows what to say no to than they would with someone who, out of ignorance or lack of awareness, is inclined to let them do whatever they want regardless of the energy consequences.

Finally, take long-term ownership of your projects — and not just until the end of the warranty period. This could be a critical part of your marketing strategy. The best way to manage the risks posed by new, high-performance construction strategies is to return periodically to make sure the proper maintenance is done and that things are holding up well. Heat-recovery ventilators, for example, will become increasingly common, and they need regular expert attention to perform properly. So don't just sell the construction — sell the maintenance package, too. Not only will this approach bring you profits; it will also provide a valuable service to your clients and reduce your own liability over time.

## 5 Embrace the learning process

Without a doubt, meetings and education will take up a bigger chunk of your time and budget as you learn to work with new systems and building techniques. One unfortunate drawback to LEED certification is that clients sometimes drop out of the program when they realize how much the cost of meetings might add to the overall budget. The same will be true of any project where a lot of the team is dealing with unfamiliar methods and products: Everything will require more time to plan and execute. This is not a reason to avoid such projects — a sure route to eventual business failure — but rather an incentive to make meetings and communication as efficient as possible, and to incorporate "lessons learned" into your systems so that staff members need to learn new methods only once.

As your organization embarks on these unavoidable changes, having an educated, informed, and motivated work force will be a tremendous advantage in any marketplace. So understand that your training and education budget will rise pretty much as fast as energy costs do, and plan accordingly.

### The End Is Near

The last of the world's cheap fuel oil and natural gas may well be used up in our children's lifetime, if not our own, and it's safe to assume that alternative energy sources will become costlier than ever. Those who learn sooner rather than later how to build in ways that outlast the end of cheap energy will have all the business they can handle; those who don't may come to feel like the buggy-whip manufacturers of a century ago.

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