

Going Green Means Contractor Commitment and Opportunities

by Joanna Turpin

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The Boyle residence on Martha's Vineyard will be the island's first wind turbine powered net zero building. Annual operating costs will be zero, the carbon footprint will be zero, and the only energy imported will be propane for the kitchen stove.

The overall housing market might be a little depressing these days, but the green residential market is a bright spot amidst the gloom. This is according to recent surveys by McGraw-Hill Construction, which note that among green home buyers and owners who have undertaken remodeling jobs, there are not enough green builders out there, and demand is exceeding the homes available.

The National Association of Home Builders (NAHB) agrees, noting that as the cost of energy remains high and prospective buyers are worried about how they will heat and cool their homes, surveys show that buyers are willing to spend a little more to improve energy efficiency. This can mean a greater demand for high-efficiency heating and cooling equipment, as well as other options such as duct sealing and properly sized and vented exhaust fans.

Contractors need to be ready to seize these opportunities if they want to stay competitive in a marketplace that is turning greener every day. "Becoming a green contractor is not so much approaching a profitable niche as it is ensuring survival," said Tom Meyer, executive director, Green Mechanical Council. "If contractors do not become focused on — and proficient at — energy efficiency and high performance, they will become extinct."

GREEN OR BUST

While a green building may imply new construction (e.g., a building conceived, designed, and built to be green), there are two other circumstances in which an HVAC contractor may become involved with high-performance systems beyond new construction: renovation or retrofit and servicing existing systems.

"New construction is like a blank piece of paper, anything is possible," said Meyer. "When we get into renovation or retrofit, things become more restrictive. To some extent you have to deal with existing restraints, such as available space for new mechanical systems, expense, accessibility, ratio of renovation costs versus value of structure, and myriad other problems that don't exist with new construction. Servicing existing systems is where a contractor can make the biggest impact on energy costs, performance, and greening the building by tuning up the system and making it the best it can

be. The impact can be inexpensive and immediate.”

To become educated in the proper approach to green new construction, retrofit, and service, contractors should learn as much as possible about green techniques, tools, and equipment. Organizations such as the Green Mechanical Council, LEED, or Energy Star all have information that can help contractors learn more about green construction, as well as the various ratings programs that are available.

“I have heard the excuse, ‘My customers aren’t asking me for that.’ A contractor cannot wait until a customer comes to him and says, ‘I want to build a LEED building’ or ‘I want to be green.’ There just isn’t enough time to get up to speed. This customer will find someone who is ready to serve him now,” said Meyer. “Can any contractor afford not to be prepared?”

One contractor who is definitely prepared for the green movement is Brian Nelson, co-owner of Nelson Mechanical Design Inc., Martha’s Vineyard, Mass. For the last four years, he and his business partner, David Sprague, have aggressively positioned themselves as Martha’s Vineyard’s green mechanical contractor, getting the word out through the Website (www.nmdgreen.com), print ads, and client base.

“Green mechanical contracting is vitally important for so many reasons,” said Nelson. “It’s important for the future of our country, for the health of our environment, and for the health of my business. Like they say, ‘Go green or go out of business.’”

GREEN EDUCATION

When customers ask Nelson what it means to “go green,” he uses the opportunity to educate them by describing all of the services his company offers. These services include the installation of geothermal heat pumps, solar hot water systems, and high-efficiency propane furnaces or boilers, to name just a few. He has found that taking the time to educate customers about all the possible upgrades and alternatives often leads to additional work.

“We have a very highly educated client base that does a lot of Internet surfing in order to learn more about renewable energy, green building, and reducing their carbon footprint,” said Nelson. “But more often than not, they have no realistic idea of how these different concepts will work with their project, how much they will cost, or how effective they will be. Our job as educators is to be a reality filter to help our clients understand what green technologies make sense for their specific project and why. Many times, we have to dissuade them from the more crazy schemes they find on the Internet and show them what will be more successful.”

Tackling the role of green educator is a huge responsibility for Nelson Mechanical, and it’s one it takes very seriously. Many hours are dedicated to

researching emerging green technologies and discerning which ones will work in the real world (see sidebar) because, as Nelson noted, his clients are very perceptive and can quickly determine whether or not he's done his research.

In addition to education, an essential part of being a green mechanical contractor is the ability to be absolutely honest, said Nelson. "We always refuse to experiment with a green approach or new technology that we don't feel will be successful. We know — and we make a point of reminding our customers — that it is better to aim for reliability and good savings than to try something new that has the potential for great savings in a less reliable way. A 2 a.m. no-heat call in winter is something no one wants."

Another aspect of green mechanical contracting is the need to promote new technologies through pilot projects, which usually means a significant investment in time and money in the learning curve, commissioning, and publicizing of new green systems. Nelson said that these pilot projects are essential because they provide prospective clients with examples of real-world installations and satisfied customer referrals. Basically, it gives them the confidence to go for a more green system.

"All of these components — client education, honesty about new technology, and pilot projects — become great ways for us to establish a new niche in our market," said Nelson. "They justify our higher rates, they provide us with essential newspaper coverage that brings in new customers, and they inspire our existing customers to become more green with their current system."

There are definitely no shortcuts to going green the right way — it is a big investment in time, money, and effort. It also takes a big commitment to stay on top of all the new green technologies that are constantly being introduced.

But as Nelson noted, the benefits far outweigh the disadvantages. "Green mechanical contracting means better jobs, more visibility, and a lot of satisfaction."

Sidebar: Promising Green

Brian Nelson does a lot of research on new and emerging green technologies. He often surfs European and Japanese Websites, as many energy-efficient innovations come from these parts of the world, due to their high fuel costs. Nelson said technologies often migrate from Japan to Europe, then eventually to the United States. "It is astounding how backwards we are; our relentless focus on first cost is crippling our efforts to save energy through investment in more efficient technology. Many times, it takes more money to save energy, and we won't do it as a nation until fuel prices are much higher."

One near-term green technology that Nelson is very excited about is the variable-speed compressor in heat pumps. As Nelson stated, "It is very interesting to see the success that Daikin and others have had with this approach, which makes absolute sense. I see American geothermal manufacturers eventually bringing this concept to market here in an effort to raise efficiency."

Another near-term green technology he is watching is the use of air-source heat pumps to heat water for radiant systems and domestic hot-water preheat. Nelson said that Daikin has just released this in Europe and Buderus has a heat pump/radiant model under development.

A far-term green technology that will be absolutely revolutionary, according to Nelson, is the Japanese Eco Cute CO2 heat pump. "Over the past 10 years, Japan has spent billions to develop air-source heat pumps using CO2 as the refrigerant. They have sold over a million in Japan alone and have begun to market them in Europe. What is amazing is that they have a COP of 5 and a hot water output of 190°F. Can you imagine the retrofit market in this country? All of the existing buildings with boilers and hot water systems could suddenly be retrofitted with no change to the delivery side — just cut out the boiler, connect the heat pump, and you have cut operating costs by more than 50 percent!"

There are definitely some exciting new technologies on the horizon, and green contractors should be keeping on top of these breakthroughs in order to provide the best alternatives to their customers.

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