



Building with the Sun

The Future of the Energy Business

by Alex Wilson

Does being in the energy business make much sense anymore? What's the outlook for the newer "alternative energy" firms in particular?

Since the focus of this issue of *New England Builder* is on business, I thought it might be appropriate to take a look at these two questions.

While I don't pretend to have any great skills in market forecasting, having watched the renewable and conventional energy industries for the past decade, I do have some thoughts on the topic.

When I set out to find an answer, I divided the industry into three general (and perhaps somewhat arbitrary) categories in an effort to simplify things: conventional fuel suppliers (electric utilities and producers, wholesalers and dealers of fuel oil and natural gas); conventional heating equipment and contracting businesses; and alternative energy businesses.

It's probably a good idea to first put things in perspective, looking back to where the industry stood during three different periods: in the pre-energy-crisis days, during the energy crisis (roughly defined as 1973 to 1980) and, finally, today.

Before the energy crisis hit in the early 1970s, conventional fuel producers and suppliers were coasting along, making plenty of money and not even considering the possibility of shortages or their ramifications. The same was true of heating equipment and contracting businesses, which also had no idea that their industry would soon be thrown into turmoil. For the most part, of course, alternative-energy firms did not exist.

Then Came the Crisis

Oil producers and dealers were stunned when the Arab oil embargo hit in '73. Their supplies were cut off, and their costs soared.

But the embargo turned out to be good news for the oil companies: The value of their U.S. reserves soared. Even though they sold less oil, they raked in bigger profits.

At the retail end of the market, oil dealers were hard hit. Their customers wouldn't stand for shortages and skyrocketing prices, so they looked elsewhere to meet their heating needs. Demand dropped, and some dealers began diversifying into alternative fuels and insulation.

Heating equipment and contracting firms faced the same scenario, with their customers switching to wood heat and other alternatives. The more astute contractors began specializing in new, higher-efficiency boilers and furnaces, salvaging some business that way. Others began to specialize in cleaning and upgrading existing systems. And some branched out into the alternative-energy field.

Alternative-energy businesses, meanwhile, got their start during this period. Wood-heat companies did extremely well, mushrooming almost overnight into a billion-dollar industry. Similarly, insulation contractors found a booming business.

Most other alternative companies had less dramatic success. As excitement in solar technologies soared, hundreds of solar companies were formed in just a few years.

While public interest in solar was very high, however, purchases were more moderate. And as the government began talking about tax credits to spur the industry, solar purchases actually slowed down for a while—the public held back, waiting for the credits to be enacted before investing.

Despite all the problems plaguing the industry—including low profits, massive research and development expenses, high start-up costs, and mechanical problems with these new, untried technologies—the future looked rosy. Energy prices would continue to rise, the cost of solar systems would drop, and more and more people would join the "Solar Age."

The Situation Today

By the mid-eighties, OPEC had been

deflated, oil was plentiful and the public had gotten used to paying \$1.30 a gallon for heating oil.

Conventional fuel suppliers and producers were pretty much back to normal. Although the value of their product was down on the wholesale end, they managed to keep retail prices—and thus their profits—fairly high.

Business has bounced back as well for heating equipment and contracting firms. In fact, many firms in New England are busier than ever, converting furnaces back to conventional fuels from wood.

Those companies that learned a lesson from the 70s now offer expanded services and a broader line of heating equipment—from condensing furnaces to heat pumps and radiant floors. Some even continue to offer solar systems as a sideline "insurance policy."

The alternative-energy business is where the situation really becomes interesting. Here we have an industry barely 15 years old that was created out of a need—energy costs and shortages—that has largely disappeared (at least for now).

The wood-stove industry has been hit with this fact as much any other. After a tremendous boom in the 70s, business is down dramatically. The only exception is at the top end of the market, where many of the poor-quality wood stoves purchased five to 10 years ago are being replaced with high-quality units, such as those made by Vermont Castings and Jotul.

Likewise, the active-solar industry is way down, with no major turnaround in sight. We can expect a continued "shaking out" of solar-collector and component manufacturers as well as companies specializing in installation. We also are likely to see the continued diver-

insulation and infiltration-control services.

It would not surprise me at all to see many of the specialized energy-conservation companies, which were formed in the 70s, broaden their services to include general non-energy-related house repairs, such as fixing windows and performing general construction work.

These opportunities may not become apparent until we begin to realize the damage caused by improperly installed insulation, vinyl siding and vapor barriers. Some experts say it will take about 10 years for the damage to become evident; others say longer. But when the time comes, I predict that a whole new specialty will open up repairing damage caused by improper conservation retrofits in the 70s.

Sunspaces and solar greenhouses are likely to remain in demand—but not because of their energy-saving potential. Sunspaces are being marketed as add-on rooms and sunny sitting areas where you can create your own tropical houseplant forest—but not as heating systems. Most are still installed on the south side, but not all. And even when they are installed on the south, they are less likely to be thermally isolated from the rest of the house—which often makes them energy consumers rather than contributors.

As far as the photovoltaics (PV) industry is concerned, we can expect continued, albeit slower, growth as the cost of electricity continues to rise and potential shortages loom on the horizon. As a result, both consumers and utilities will be looking for alternatives to generate electricity, and PVs make increasing sense.

Despite their current high cost, PVs are practical for a wide range of applications—from space satellites and navigational aids to call

the "reactive" motivation of buyers is no easy feat. As I see it, then, our alternative-energy businesses have to become conventional energy businesses—part of the mainstream. Until they are viewed as perfectly standard approaches to our heating needs—not "alternatives"—they cannot be stable.

So those of us involved in renewable energy can either sit around waiting for war to break out in the Middle East and thrust our product back into the public's consciousness, or we can focus our efforts on "conventionalizing" our products and services as quickly as possible.

This already is starting to happen with passive-solar heating and super-insulation construction.

Although it's shrinking, the wood-heat industry is finding its own level as governed by market forces. It will emerge after this settling out as a stable, though smaller, industry.

I'm not sure exactly how the active solar industry can find a similar degree of stability. Part of the problem is that the market currently is influenced by unreal market forces—the solar tax credits.

We don't have a sense of how the industry can do on its own. If the credits end, companies at least will be able to see what the market really is for their products, so they'll be able to make projections accordingly.

If the credits continue, I fear that companies will continue muddling along trying to sell tax breaks, not solar—all the while giving the public the message that solar isn't yet viable on its own.

Though the short term may be difficult, I think the active-solar companies will fare better in the long run if the marketplace—not the tax code—establishes the demand for their product.

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sification of these companies into other, even non-energy, areas.

The uncertainty surrounding the extension of solar tax credits has exacerbated this situation. If the credits disappear this year, I would expect short-term scaling back of the industry, and then gradual growth over the long term as the industry establishes itself on its own feet.

There are enough solar systems—especially solar hot-water systems—out there to expect the continued growth of companies specializing in repairs and services. After all, the disappearance of many manufacturers and installation companies means that homeowners have no one else to call on for repairs and yearly maintenance.

Insulation contracting will continue as a viable business, but look for a scaling back to a level closer to pre-energy-crisis days.

The 70s surge in demand for retrofit insulation has now tapered off, and there's not a big enough market to support all the companies that formed over the past dozen years. Many have already disappeared; others will follow! I wouldn't be surprised if most of the insulation contractors remaining by 1990 are those that were around in 1970.

Because the economics are so favorable, specialized "house doctoring" services, which test homes for air tightness and then button them up as needed, may do all right if they market themselves properly. I expect to see these companies gradually merge with insulation contracting businesses to offer complete

boxes along the highways and portable radios. As demand increases, costs will drop, and PVs will become cost-effective for more applications. With or without solar tax credits, I believe that PV businesses have a long and ultimately prosperous future ahead of them.

Meanwhile, despite the general lag in interest in saving energy, low-energy consumption remains high on the priority list of new homebuyers. But they generally want more than low energy bills—they want natural lighting, open spaces and all the amenities. While super-insulation provides mainly low energy bills, passive-solar construction offers this plus the potential for these other benefits.

As a result, passive-solar design and construction is likely to remain on the rise rather than decrease. A specialty in passive solar will continue to be a valuable asset for architects, engineers and builders.

Where Does This Leave Us?

So, does it still make sense to be in the energy business? There's no easy answer to that one.

Houses need to be kept warm just as much as ever, and hot water is still considered a necessity. However, we've gotten used to paying more than a dollar for a gallon of oil and as much as 15 cents for a kilowatt-hour electricity. We've forgotten the long lines at the gas pumps and the fear of not being able to get enough oil to heat us through the winter.

But making it in a business that depends on