

Opportunities in the **Hot** Hydronics Market



IN THIS REPORT:

- **Contractor Profile: A Shift to Hydronics**
- **Do Commercial Opportunities Beckon?**
- **A Vote of Customer Confidence**
- **Hydronics Economic Outlook**

SUPPLEMENT TO
**Contracting
Business**

Contents

2 Message from the Hydronics Institute Division of GAMA

Why this Special Report? To provide guidance and resources to contractors and building professionals who offer – or want to offer – hydronic systems.

5 A Shift to Hydronics

When Andy Stack of Avon, OH, decided to move his forced-air business in a new direction, he began to focus on hydronics only. Today, business is booming.

11 Do Commercial Opportunities Beckon?

Residential contractors who are considering branching out into commercial hydronics need to prepare thoughtfully. Contractors who have already done so share their experiences.

17 A Vote of Customer Confidence

Hydronic comfort systems offer a wealth of benefits including efficiency, flexibility, clean air, and more. Here, several homeowners discuss their satisfaction with their boiler-based designs.

21 Economic Outlook

Is the economy slowing down or not? Opportunities in hydronics do exist – it's all what you make of them.

26 Resources/Manufacturers' Directory

Places to go for more information about hydronic products, components, and training opportunities.

Publishing Offices:

 **Penton**

1300 East 9th Street
Cleveland, OH 44114-1503
216/696-7000
www.contractingbusiness.com

Alex Carney, *Publisher*, Contracting Business

Mike Murphy, *Editor-in-Chief*, Contracting Business

Lisa Murton, *Supplement Editor*

Gwen Hostnik, *Group Marketing Director*, Contracting Business

Lois Walsh, *Production Manager*, Contracting Business

Joe Pulizzi, *Account Manager*, Custom Media Group

Lynn Cole, *Media Services Manager*, Custom Media Group

Pat Lang, *Art Director*, Custom Media Group

Kyle Engle, *Sales Manager*, Contracting Business

This supplement was produced in association with:

Hydronics Institute Division of GAMA
35 Russo Place
Berkeley Hights, NJ 07922
908/464-8200
Fax: 908/464-7818

Cover Image: Seth Carter/SuperStock, Inc.



**Hydronic
Radiant
Heating**



Comfortable Living

Homeowners, installers, and builders appreciate the advantages of Vanguard's Hydronic Radiant Heating – year after year.

- Combines Comfort with Energy Efficiency
- Provides Snow and Ice Melt
- Speeds Installation
- Works with New Construction, Add-Ons, and Retrofits



Our HRH Systems radiate even, comfortable heat and pay for themselves with energy savings up to 40% compared to forced-air. Ease of installation makes our flexible Vanex® PEX tubing ideal for new residential and commercial construction and remodeling...and for heating driveways, sidewalks, and greenhouses.

Call 800-775-5039

To request your copy of our
Hydronic Radiant Heating Brochure

 **Vanguard**
Piping Systems, Inc.

901 N. Vanguard St. • McPherson, KS 67460 • www.vanguardpipe.com

Circle 364 on reader service card.

Making Our Best Even Better

THANKS MEGA-STOR
ARUBA 3
Oil-fired boilers
Tobago

CROWN

For information about the new CROWN boilers

www.CrownBoiler.com

215-535-8900

Circle 365 on reader service card.

Dear Reader:

Over the last few years, we've heard increasingly more about hydronic heating – how comfortable it is, the design flexibility it offers, and how economical it is to run. However, actually getting into the business is another thing.

Installing hydronic systems is not difficult, but it does take an understanding of the basics along with some specialized knowledge. Additionally, you have to identify or create opportunities to reap the rewards of this lucrative business. The latter is covered in detail in this Special Report. The knowledge surrounds us: manufacturers, wholesalers, representatives, independent teachers, and the Hydronics Institute Division of GAMA are all sources of education.

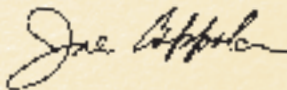
The Hydronics Institute Division of GAMA recently published *Guide 2000*, the most comprehensive resource on selling, designing, installing, and servicing hot water systems available today. It has over 400 pages of text with over 200 color illustrations and diagrams. For more information, contact the Hydronics Institute Division of GAMA at 908/464-8200.

Manufacturers and other members in the comfort community are continually conducting training seminars in hot water heating. Some use independent educators. Even those that use factory personnel stay focused on training rather than sales hype.

There are many successful contractors that primarily sell wet heat – most include air conditioning and still remain competitive. You will read about some of these contractors in this Report. With the resurgence of hot water heating around the country, more homeowners and homebuyers are aware of its benefits and many are asking for a hydronic system. Even if they don't ask for it, they've probably heard about it – all you have to do is cultivate those opportunities.

The chances for increased business and profits await those who seek to take advantage of them.

Sincerely,



Joseph Coppola
Chairman, Education Committee
Hydronics Institute Division of GAMA

PREVIOUS SPECIAL REPORTS ON HYDRONICS supplements to *Contracting Business Magazine*

"Integrated Comfort Systems
Solutions," September 1997

"Building Homes & Profits
With Hydronic Heating,"
July 1998

"Hydronics 101: For Comfort
Contractors," July 1999

"Education Breeds
Hydronics Success,"
July 2000



Is the hydronic market forecast bright or gloomy? It's all what you make of it.

Economic Outlook

We've all heard that statistics can be used to support any position. Looking across the spectrum of information available today to help define where our hydronics future is headed, with data in hand, it's tough to form an opinion. So I'll come right out with it: you fill in the blanks. Yes, we all know the economy's dipped some, and our business is certainly tied to that track. But how closely does it follow that line? Where does it diverge and, in some instances, move in the opposite direction?

Key data support the overall appearance of a flattening hydronics market. Ah, but the experts, contractors, manufacturers, and reps – among others – offer differing views. Why? It seems that where great thinking and vision are

applied, good things happen. Of course, it helps if you're in a great market, though, you'll see, that's not required.

Data alone present just one facet; it's rather straightforward, reflective of industry sales and business, good and bad. Yet there's only so much we can do to influence the numbers over time. We can be passionate about our craft. We can champion hydronic technology and install it to the best of our abilities. It's what's between the lines (and all those numbers) where we get a better look at what's in store. That's where the experts want to take us when asked what they see in the crystal ball.

This Old House celebrity, author, and master plumber Richard Trethewey, a longtime advocate for professionalism in the building

by John Vastyan

trades, says the hydronics industry has, at last, moved back into the consciousness of mainstream America. Not so long ago, it was in peril. "Radiant heat saved the industry from extinction, and the emergence of hydro-air has now added an extra push," he says. "Water is, after all, the ultimate transfer medium. And if fuel prices continue to climb, use of water systems – especially low-temperature radiant – will gain popularity."

Trethewey has concerns too. If the traditional, mostly replacement hydronic business can be seen as a highway, he sees two different roads beyond it where the industry gains speed, then splits. One road veers under the sign "Low-Temperature Zealots." Here, we find exuberance and expertise on tap, with installations characterized by weather-responsive controls and oxygen-barrier tubing with careful attention to heat transfer. The other road, with a sign that reads, "Don't worry, be happy... take it while we can," is strewn with pieces of non-PEX, non-barrier pipe and leads to homes and businesses with no controls or mixing valves where piping is spaced wide, with no transfer medium, and a water heater that's "whacking away at 200 degrees."

Fortunately, there's movement toward synergy between the many hydronics industry players. There is a consensus among many leading experts, installing contractors, wholesalers, reps, and manufacturers that affirms the need for quality. Many are saying, "This is truly our best opportunity. Let's make it work."

A major factor influencing future opportunities in hydronics are energy costs. Last year, oil spiked high. That led to fast-paced gas conversions; then gas responded with much higher prices because of what utilities commonly termed "restricted supply." Many electric utilities followed suit. And the energy crunch isn't improving. With the nation more keenly focused on this issue than it has been for decades, the words "high-efficiency" will be a driving force when new equipment is purchased. Manufacturers are responding by developing and introducing more efficient equipment.

A Look at the Numbers

According to information from the Hydronics Institute Division of GAMA, numbers of residential and light commercial boilers sold still points us in an upward direction, though projections could be moving us toward a cooling-off period.

| | | |
|----------------------|--------|---------|
| Gas-Fired Cast Iron | (1999) | 200,893 |
| Oil-Fired Cast Iron | (1999) | 128,645 |
| Packaged Steel w/Oil | (1999) | 20,405 |
| Gas-Fired Cast Iron | (2000) | 224,317 |
| Oil-Fired Cast Iron | (2000) | 125,380 |
| Packaged Steel w/Oil | (2000) | 18,744 |

Additionally, projections for the future pertain only to residential and light commercial cast iron boilers, both oil and gas, as follows:

| | | | | |
|---------------------|--------|---------------|--------------|--------------|
| Gas-Fired Cast Iron | (2001) | High: 217,000 | Avg: 202,104 | Low: 180,000 |
| Gas-Fired Cast Iron | (2002) | High: 230,000 | Avg: 203,728 | Low: 185,000 |
| Gas-Fired Cast Iron | (2003) | High: 243,000 | Avg: 203,757 | Low: 162,197 |
| Gas-Fired Cast Iron | (2004) | High: 250,000 | Avg: 207,837 | Low: 190,000 |
| Oil-Fired Cast Iron | (2001) | High: 150,000 | Avg: 127,496 | Low: 100,000 |
| Oil-Fired Cast Iron | (2002) | High: 152,000 | Avg: 126,259 | Low: 105,000 |
| Oil-Fired Cast Iron | (2003) | High: 152,000 | Avg: 121,890 | Low: 102,000 |
| Oil-Fired Cast Iron | (2004) | High: 153,000 | Avg: 122,951 | Low: 94,000 |

On the heavier commercial and industrial side of the business, American Boiler Manufacturers Association data (representing 75%-80% of the market) support the impression that we're holding steady, but that year 2000 numbers may be hard to beat. The data below combine the numbers from firetube and watertube boilers sold for high-pressure, low-pressure, and hot water systems:

| | | |
|------|-------------------|--------------|
| 1997 | 6172 units (+9%) | 35404.8 MBTU |
| 1998 | 5656 units (-8%) | 33058.9 MBTU |
| 1999 | 5225 units (-8%) | 31658.8 MBTU |
| 2000 | 5839 units (+12%) | 36437.5 MBTU |

Contracting Business Magazine reported earlier this year, based on McGraw-Hill Construction Group estimates, that total commercial construction activity – up 3% in 2000 – would rise another 1% this year. FMI Corporation analysts reported a higher anticipated climb of 3% in 2001.

According to early 2001 data from FMI, the commercial sectors that are fueling growth (certainly with some hydronic involvement) include education construction/renovation (up a whopping 14% this year), prison construction (+8%), and public buildings (+10%). Office construction, predicted a few months ago at +5%, and manufacturing construction, with early estimates at +9%, are likely to lose points due to dot-com mortality rates.

The Perfect Storm

Don Morin, president of Don Morin Associates, a contracting firm in Laconia, NH, affirms the impact of heightened attention to energy efficiency. Morin, also an officer for Plumbing-Heating-Cooling Council (PHCC) and chairman of the World Plumbing Council, says he's excited about the new technologies being introduced and looks forward to a wave of new, high-efficiency "smart house" equipment with the arrival of the ISHNA show next year.

"Though most of the work we do in our area is replacement business, the use of radiant is growing rapidly as we do retrofit work, additions, and new construction, all fired with higher and higher efficiency boilers," says Morin.

Economic uncertainty and energy woes have made waves for Jerry Katz, president of Long Island-based Advanced Technology Sales, a hydronics-only manufacturer's rep firm. "Energy drives our business, fueling sales of our high-end, high-efficiency systems," he says. "The economy and environmental and energy concerns combine to make the 'perfect storm'." The wake of that storm, says Katz, has been very good for business.

"The drop in the market has people buying smarter," he adds. "We have better, more efficient systems and better recognition of the value of hydronics. We're not quite where Europe is, but if the government gets involved again with tax incentives or rebates or environmental regulations... I won't have time to sleep.

"Business is excellent," adds Katz. His firm does about a 50/50 split with replacement and new, both commercial and residential, but that's hard to pin down. "We just replaced 20 modular boilers in a 5-star hotel with three condensing systems and 20 indirect-fired tanks. Their fuel costs today are just a fraction of what they were. And there's another similar job right around the bend." On the residential front, Katz finds that people are staying in their homes more, so the push is on for com-

fort with home theaters and great rooms, many of which juice radiant heat sales.

Ken Rex of Rex Plumbing & Heating, Kingston, PA, has grown his business by introducing new technology in blue-collar areas of Pennsylvania. His 50-year-old firm does a stable 35%-40% of business in replacement hydronics. For the last decade, he has been successfully selling high-end ductless split systems to owners of hydronically heated homes – to the tune of about 200 per year. His method for success? A unique recipe of selling, marketing, and building customer relationships.

The Radiant Wave

Whether for commercial or residential construction/renovation, one of the hydronic industry's bright spots is radiant heat. Yet, something lurks in the shadows. Over the last decade, there hasn't been a single year without double-digit growth until just very recently. For an industry that's come to expect 15% to 30% increases each year, with substantial impact on hydronic equipment sales and installations, newly reported statistics are cause for concern.

According to the Radiant Panel Association (RPA), U.S. tubing sales topped 150 million lineal feet last year. This is almost 11 million more than in 1999 and 125 million more than 10 years ago. Most manufacturers and suppliers are elated, but data show a tapering-back of growth for the last three years. Yet, RPA questions the data. "We're looking very closely at the quality of reported numbers," says RPA Executive Director Larry Drake. "Perhaps the statistics need to be normalized to reflect sales that drift across calendar lines. We're also keeping a close eye on other factors that may be affecting the actual growth. Time will help us with these questions, though what's perplexing is that many in the industry feel that the data should show more growth."

According to Drake, there are three possible reasons for what may be a slowdown. One is lessening demand, though that's not likely. Second, perhaps the in-

dustry is unable to meet demand, primarily because of insufficient numbers of qualified installers. The third could be that the price for radiant heat is moving beyond the market's threshold. "We believe that price and availability are the key contributors," says Drake. "And yet, it's up to those of us in the industry to explore new methods, technologies, and programs so that a whole new generation can enjoy the comfort of radiant heating."

"We're among those who question the data supplied to the RPA," says Joe Pauley, president of Uponor-Wirsbo. "...Our company data still show robust growth...it leaves us a bit mystified by industry reports. We're not seeing the level of growth we enjoyed in the mid-'90s, but we're still seeing tremendous growth."

Tubing sales – the top barometer – are up. Uponor-Wirsbo also looks at training as another measure of growth. "If things were slow, we'd have trouble filling our training sessions," Pauley says. "We're jammed with high-quality installers.

"Fortunately, we're also seeing many more economically priced radiant jobs," Pauley adds. "Perhaps it's radiant for a kitchen and bath, an addition, or just a basement slab. Radiant is becoming more accessible to people with more modest budgets. And yet, with all of this activity, I'm confident we're still on the ground floor of an industry with much greater potential." Whether for high-end or modest uses, Pauley feels that radiant's future – with its close ties to the hydronic industry – is very promising.

Current Conditions

Hydronics has grown in popularity with consumers who not long ago knew only about forced air. "Wethead" Dan Holohan, industry opinion leader and humorist, says the industry looks healthy, especially at the high end, and particularly where it involves radiant.

Overall, though, Holohan believes we're heading for a slight recession, similar to that we experienced in 1990-91. However, since much of the growth in hydronics is taking place at the upper

end, he doesn't think it will be strongly affected by a downturn. "It appears, from what contractors have been telling me, that there's also a lot of work in the pipeline, so I think we're in for a reasonably good year," he says.

Holohan attributes much of this success to the high visibility of hydronics on popular shows like *This Old House*, the increased availability of information, and the sharing of experiences on the Internet. "I think the information explosion is driving the market and has for the last several years," he says. "People are having a common media experience, and there are so many cable stations with cheap-to-make home shows where the focus is on creature comforts. Consumers watch those shows, get interested, and call contractors for more information. The contractors that are ready for those calls are doing well."

Holohan says that successful hydronic contractors are those that think more like marketers than technicians. "They're closing sales by talking in terms of what these systems do rather than what they are." But, sadly, Holohan believes that only 20% of installers fall into this category. "Most see themselves as technicians, not business professionals," he says. That needs to change.

Holohan sees the biggest challenge currently facing the U.S. as the rolling blackouts in California. "This is the one that's going to hit home with the public," he says. "The factors that caused this shortage are present in most other parts of the U.S.; we're in for some tough times during the next couple of years." Americans must focus on conservation and, he adds, that's where low-temperature hydronics can shine.

In Search of a Hydronics Brain

"The challenge, though, is that our industry has no 'Main Brain' that can make definite statements about energy savings," says Holohan. "There's no documented proof of savings that I've seen,

and most of the claims are coming from manufacturers who, in the minds of consumers, are suspect because they want to make sales. This industry needs funding for research, but I have no idea of where that funding might come from. And when you come right down to it, there is no real 'hydronics industry.' You can't point at it and say, 'There it is – the Hydronics Industry.' It's more an amalgam of individuals, companies, columnists, and websites, each with their own concerns."

Holohan thinks the U.S. should take a close look at Canada's new B214, Installation Code for Hydronic Heating Systems. "Our fellow wetheads to the North worked very hard on that for years. It's a sound standard that provides a good basis for training. At the very least, it's a place where everyone can go to agree on the here's-how aspects of hydronics. As for qualifying installers, this gets quite muddled because we don't have that Main Brain in this industry, so who's to decide who's qualified? It's a tough question with no easy answers."

Manufacturer Viewpoints

Currently 85%-90% of boiler sales – both commercial and residential – are replacement business. "As older homes are torn down in the cities especially, we'd lose opportunities if not for the 'comfort movement' and radiant," says Jeff Alexander, vice president, marketing, Peerless Heater Co. "Upscale construction, with radiant or hybrid systems, seems to be more than replacing that loss."

Bill Herhold, Taco's OEM Div. national sales manager, says the market continues to look healthy from their perspective. "Sure, there've been some confusing signals, but hydronics appears to be holding its own nicely." Residential radiant continues to play well. Commercial sales, and to a lesser extent industrial, are strong, with lines on charts still pointed upward.

At Honeywell, Richard Simons, director of the Residential Oil/Hydronics Busi-

ness Unit, says that though hydronic replacement is still the chief source of business for the industry, he believes that radiant is the future. "It's where the growth is, but the trick is to drive it into the middle and lower segments of the new construction markets. Contractor and consumer interest is happening at the high end."

For hydronics to truly grow, we need to steer it within reach of the common man. According to Simons, this means that contractors need to leverage the value of comfort and efficiency to more effectively compete with such things as higher-end appliances, cabinetry, stone countertops, and tray ceilings.

"Hydronics doesn't have to be stuck at the high end," adds Simons. "I've seen 1,500-sq.ft. single-story starter homes with slab construction, where two persons can live quite comfortably with simple baseboard or one-zone radiant heat and basic air conditioning."

Indeed, baseboard is a popular, attractive option. There is a tremendous amount of baseboard being installed throughout the country, both in newly built and existing homes. Baseboard goes in at a reasonable cost and provides great comfort. Additionally, if you add outdoor reset controls, comfort is further enhanced.

Simons believes that energy costs will stimulate growth for hydronics. "Studies show that hydronic systems are about 15% less costly to operate than forced air heat. Not a huge difference so, again, we come back to comfort. And those of us who have experienced the gorgeous, steady heat that hot water provides will never look back."

John Vastyan is vice president and general manager (Lancaster, PA, office) of Stiegler, Wells, Brunswick & Roth, a B2B marketing communications firm. His 15-year hydronics/HVAC involvement includes long-term work for Burnham, Contractors 2000, Nortec, PHCC, the Radiant Panel Association, Wirsbo, and York International Corp.