

## Despite economy, water heater demands/trends hold solid

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The sagging residential market. The sluggish economy. A bipolar stock market. The ridiculous price of fuel. Owning your own business can be tough. But hold your head high, things could be turning around.

While single-family construction remains flatlined — a 17-year low — the residential market is slowly showing signs of some semblance of life. A welcome surprise boost in housing starts from multi-family homes or

apartments gleams a glimmer of hope.

Additionally, according to the National Kitchen & Bath Association, remodels and renovations are up and money spent on these projects remains healthy. And, let's face it homeowners are always going to need water heating equipment. With "green" slapping you in the face everywhere you turn, higher efficiencies, solar and sustainable building methods are in your best interest.

*Phc News* recently spoke to the leaders in water heating manufacturing to get a pulse of the industry and a peek at

the current water heating trends.

Among the panelists: David Chisolm, A. O. Smith; Mike Lahti, Lochinvar; Jim McGoldrick, Bradford White; Dave Martin, Heat Transfer Products; Tim Merritt, Eternal Hybrid Water Heaters; Tommy Olsen, Rheem; and Bill Riley, Stiebel Eltron.

**Phc News:** *What are the top three trends you see in water heater innovation?*

**Chisolm:** 1) Increased efficiency. Higher thermal efficiency translates to "greener" products and saves the end user money over the life of the unit. 2) Increased performance. Optimize hot water out of a standard footprint.

**McGoldrick:** Solar, tankless and high efficiency commercial gas (tank-type). There is obviously an incredible movement right now in this country to be more environmentally aware and supporting "green friendly" products. There is an ecological concern amongst a number of consumers, but probably most important with the cost of fuel, is an interest in products with an energy-conserving component. All of the technologies previously mentioned have their own unique advantages; however, the one technology or trend that stands apart from the others based on the ecological, environmental and ultimately financial concerns of most consumers is solar.

**Martin:** 1) Introduction of a modulating, as well as condensing water heaters. This is key for the following reasons: A. Super energy efficiency by load matching — only inputting the



The efficiency of Bradford White's eF units translates to a low cost of operation for the end user, and a payback that is almost immediate.

Consumers are asking for more hot water to operate jetted tubs, body spray systems, etc. 3) Increased intelligence/more interactive capabilities. Control of water temperature, performance history, diagnostics, etc., is in demand.

**Lahti:** What may be changing is how consumers are becoming savvier about their use of resources and how to manage the use of water, energy and waste more effectively. Green building in residential home construction will become more popular. As a result, we find more interest in efficiency, renewables and others.

energy necessary to meet the demand. B. Product longevity — imagine starting car with the accelerator pushed to the floor. We wouldn't dream of doing it, but that is what a on/off water heater does every time it cycles.

2) Combined water heating and space heating. More contractors are seeing the value of having one appliance do both space and water heating; this allows for just one gas line, just one vent and saves valuable building space.

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## Efficiency, solar and footprints, oh my!

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3. Solar water heating. Solar water heating, also known as solar thermal, is a “hot” topic with today’s soaring fuel prices. However, the question has always been: How can I make sure I have enough hot water when there is not enough sun? How can I have an economical backup to the sun? The Phoenix Solar mod/con water heater is a solar water heater with an integral high-efficiency (96% TE) gas backup combustion system.

**Merritt:** Easy standard of measuring fuel use efficiency. Consumers had to traditionally distinguish the difference between energy factors, thermal efficiency, AFUE, etc. — for water heating equipment — that is until the finalized Energy Star standard is set up, and that is slated to appear later this year.

Solar. Cost of equipment and main-

tenance problems have been improved since solar’s last renaissance in the 1970s and 80s. It’s a great way to take advantage of the sun’s free energy, and as less obtrusive designs are available, consumers won’t have to sacrifice curb appeal to make their homes more green.

Heat source capability. This greatly improves the structural cost of building. For example, Eternal Hybrid as a single piece of equipment with a centralized point of gas supply can provide heat for multiple applications. This is why manufacturers are racing towards hybrid technology to get the flow capacity and continuity of both tank and tankless units.

**Olsen:** Commercial and residential condensing (ultra high efficiency, or UHE) products. These products typically offer thermal efficiency ratings of between 90% and 98%. This means

for every dollar of fuel, 90 to 98 cents is used to heat the water. In many cases, ultra high efficiency requires lower inputs (that is, fewer Btus per hour) than standard noncondensing products. Later this year, we will also be unveiling a UHE commercial water heater that will deliver up to 515 gallons of hot water per hour at a thermal efficiency of 97%.

Solar is once again gaining popularity. While the U.S. solar market went dormant when tax incentives were eliminated, European technology continued to advance and is beginning to establish a presence in the United States. American manufacturers are quickly incorporating these technologies, and we are seeing a resurgence in solar water heating.

Tankless water heating technology continues to make an impact on the U.S. market and is seeing exceptional

growth, especially in the new construction market. This summer, Rheem will introduce a new direct-vent, gas-fired tankless water heater, the RTG-66DV, that is powerful enough to meet the hot water needs of a two- or three-bathroom residence, yet saves space and sharply cuts installation time and cost.

**Riley:** The solar market is booming. Though a solar system is not inexpensive to purchase and install, many people are deciding to go ahead with it as a hedge against the current and future price volatility in the fossil fuel markets. There are federal and, in most cases, state incentives that can cut the cost of an installed system up to about 40%.

**Phc News:** Is your company involved with “green” building?

**Chisolm:** Absolutely. A. O. Smith is focused on bringing innovative and energy efficient products to market. This clearly can be seen throughout the organization, and is even exemplified in our recent rebranding to a more current and even “green” logo. As manufacturers, we feel like the greatest impact we can have in “green” building is to develop and produce energy efficient products. Since water heating can consume as much as 25% of a home’s energy use, improvements in efficiency can have a huge impact for our customers. Our partnership with the U.S. Department of Energy to bring the Vertex product line to market is a prime example of how we are focused on the green building industry. Whether the topic is LEED, Energy Star or just general energy efficiency, as the leader in the industry, A. O. Smith is in the center of these initiatives to promote the “green” trend.

**Lahti:** To the extent that we promote our energy efficient equipment, promote equipment use in LEED projects with consulting engineers and implement “green” strategies within our company through conservation, recycling and other methods. Green is truly talk today, but building won’t save green unless it is designed; built and utilized accordingly. Small steps can be taken but it requires a change in use and design to really be effective.

**McGoldrick:** We participate through our relationships with various trade partners and trade associations who have made green building a primary focus. Through our involvement with these associations we have been able to get a clearer understanding of its significance and direction. Finally, the education we’ve received through this process also has assisted us in the development of new and innovative products that could be categorized as an eco-friendly, or “green” product.

**Martin:** Yes, it’s all we do — both on the water heating and heating side.



We don't make any standard efficiency equipment. We are pleased to announce that all of our solar water heaters (both single coil and dual coil models, as well as the Phoenix Solar gas backup models) have recently been integral parts of OG-300 certified solar thermal systems. This means that all these products have been tested and certified by SRCC as key components of an effective solar thermal system.

**Merritt:** Absolutely. Grand Hall is a member of the U.S. Green Building Council, and we continually examine our business practices to reduce energy consumption and waste. Our 180,000-square-foot facility in Garland, Texas, for example, utilizes natural lighting throughout, and Eternal packaging is made from recyclable materials.

Consumers want energy efficient products but also don't want to sacrifice high performance and a comfortable lifestyle. There is a balance that many socially conscious consumers are looking for, and our products are designed to help them achieve both goals.

**Olsen:** Rheem water heater manufacturing processes have always been "green." As for the products themselves, all water heaters must meet Department of Energy standards for efficiency.



Lower operating costs due to the increased thermal efficiencies with products like Lochinvar's Knight and Armor are in demand.

Non-CFC foam and minimal packaging helps lessen our impact on the environment.

In addition, NOx emissions have been reduced thanks to legislation in California and Texas. Standard low NOx gas models are available and have been installed nationwide. Rheem Water Heating recently unveiled a complete, 18-model lineup of Ultra Low NOx residential gas water heaters to meet new Southern California requirements. The line features a newly developed and patented stainless steel radiant burner that slashes emissions to 10 nanograms per Joule, a 75% reduction from previous low NOx models. Whether you are talking residential or commercial, the end user wants greater value. These days,

that means higher efficiency and a significantly lower environmental impact.

**Riley:** Yes, as "green" building is becoming increasingly important throughout the nation, Stiebel Eltron is making sure that people are being informed of the energy and space saving benefits that tankless water heaters can provide. Also, our solar thermal systems provide the largest amount of saving, and we encourage people to plan for a solar thermal system if they are designing a new house by setting the piping structure in place now for easy retrofit down the road.

**Phc News:** *What would you consider is your top seller in regard to technology and why?*

**Chisolm:** The A.O. Smith Vertex (residential) and Cyclone Xi (commercial) product lines are very good sellers. Both of these product lines have improved thermal efficiencies (which impacts performance) and have a very intelligent electronic control system with an easy to read LCD screen. These features make these product lines very desirable for those interested in technologically advanced water heating options.

**Lahti:** In the commercial market, we continue to see a demand for "smaller equipment floor-space"; venting flexibility (the Lochinvar Knight and Armor products that vent with PVC are very popular). Lower operating costs due to the increased thermal efficiencies with products like Knight, Armor, Power-Fin and Intellifin are still in high demand.

**McGoldrick:** The Bradford White eF Series is our line of ultra high efficiency commercial gas models, which are condensing units that range in thermal efficiency up to 99.1%. The tremendous efficiency of these units translates to a low cost of operation for the end user, and a payback that is almost immediate.

**Martin:** The Phoenix mod/con gas water heater and its solar version, the Phoenix Solar, have really gained strong market acceptance due to the possibilities it gives — high efficiency and combined space and DHW generation (with solar option), all in one small package that can be vented in PVC.

**Merritt:** Our top seller is the Eternal Hybrid which uses dual activation hybrid technology that ensures consistent hot water delivery, with good pressure and temperature across multiple applications, and continuity to enjoy hot water for as long as the user needs.

**Olsen:** Rheem Guardian Flammable Vapor Ignition Resistant (FVIR), by far, is our top-selling technology. Guardian technology is the only FVIR design on the market that shuts off not only the gas in the event of a flammable vapor incident, but also the air intake.

**Riley:** Stiebel Eltron is continually making improvements to its line of Tempra whole house tankless, electric water heaters. A Tempra upgrade and new Tempra Plus model are coming in 2008. These will include an upgraded basic model that will be capable of heating water to 140 degrees, among other enhancements. Additionally, Stiebel Eltron will present the Tempra Plus models that will automatically adjust the water flow rate in case the unit is not able to maintain the set point temperature. ■