Are Stimulus Funds Really Helping the HVACR Industry?
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A resource for HVACR contractors and technicians, AHRI Trends is published in May and September prior to the annual cooling and heating seasons. Visit us online at www.AHRInet.org and www.AHRIdirectory.org.

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6 Are stimulus funds really helping the HVACR industry?
As we perhaps reluctantly say goodbye to summer, we can look back on an interesting year for our industry. The economy, which was bad when the year began, has not appreciably improved. We had a cooler summer than normal throughout most of the country, and our shipments are still down. Only a small percentage of the stimulus funding that was supposed to help jump start the economy has been distributed; however, as you will read in these pages, the tax credits offered for HVACR products have made a difference in installations so far this year, and their full positive effect has yet to be felt.

Even so, as I write this housing starts are up and economists see glimmers of hope on the economic horizon.

As our thoughts turn to autumn and cooler temperatures, we spotlight the state of technology for two classes of heating products: infrared heaters and water heaters.

Infrared heaters help efficiently heat spaces for which traditional heating options would not be sufficient. Most of us, for example, have eaten in the outdoor area of a restaurant on a cool evening, the chill being kept away by radiant patio heaters.

In this issue, you will also read about advances in water heater technology that have occurred over the past few years. Consumers have more choices than ever for a comfort product they literally cannot do without.

The stimulus bill passed by Congress earlier this year is designed to revive economic growth by spurring spending, manufacturing and job creation.

We asked representatives from several sectors of our industry whether the bill is already working to stimulate our industry or if additional time is needed. Some of their responses might surprise you.

And speaking of Congress, energy and climate change are very much on their minds, and our industry is in the cross hairs of some potentially very damaging proposals. You can read about it in Legislative Watch.

This magazine is for you. We are committed to providing you information that you can use in your everyday jobs. Please let us know how we’re doing, and thanks for reading!

Keith Coursin
AHRI Chairman
WHICH TUBING SIZE OPTIMIZES R-410A REFRIGERANT? Today, you can choose from several HVAC brands that offer different sizes of condenser coil tubing. But which one optimizes the heat transfer properties of R-410A refrigerant… and your profitability? Introducing SmartCoil™, our 5mm copper tube, aluminum fin condenser coil. Our engineers are convinced that the thermo-physical properties of R-410A refrigerant match exceedingly well with regard to the heat transfer characteristics of 5mm copper tubing. We have several patent applications pending on it so we must have discovered another smart idea for our dealers. Think SMALL and look to Goodman for BIG profits. For complete product and warranty information, contact us at www.goodmanmfg.com or call us at 1-877-GOODMAN.

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Card Check Bill Update
Progress on the Employee Free Choice Act, which would make it easier for unions to organize factories and workplaces, has stalled in Congress, which is good news for our industry. Discussions are now underway to consider dropping the controversial “card check” provision and replace it with elections that would occur only days after the required number of authorization cards are submitted.

Discussions also are focusing on how to revise the bill’s arbitration provisions. Some senators have proposed that federal arbitration be employed if an agreement between the union and employer cannot be reached within the time allowed. The federal arbitrator would accept the “last and best” offer proposed by either party and that offer would then become binding.

When Democrats gained the presidency and strengthened their control of Congress, the “card check” bill was considered a top priority, partly as a reward for unions’ support of the Democratic ticket. Strong opposition from the U.S. Chamber of Commerce and from the National Association of Manufacturers succeeded in at least temporarily delaying passage, and very likely will result in either significant changes or in the bill’s being dropped for this session.

AHRI Participates in China’s HCFC Phaseout Meeting
AHRI President Stephen Yurek and AHRI Vice President of Product Section Services Henry Hwong spoke at a conference in June in China on the U.S. industry’s experience with the HCFC phaseout and expressed AHRI’s commitment to work with China to ensure future refrigerant choices.

AHRI VP of Product Section Services Henry Hwong (L) and President Stephen Yurek (C) met with Chinese officials in June.

China’s Ministry of Environmental Protection (MEP) is tasked with drafting a preliminary set of refrigerant alternatives by the end of 2009 and has obtained the assistance of the China Refrigeration and Air-Conditioning Industry Association (CRAA) to solicit and coordinate input from the HVACR industry. CRAA has assembled a team of Chinese experts and foreign consultants to study and consider the viable alternatives that will help ensure safe, efficient and economically feasible refrigerant choices for the HVACR industry.

During a meeting with the MEP, AHRI provided a copy of the study, evaluation forms and criteria used by current climate change discussions. While alternatives to high GWP HFCs exist for certain niche applications, the search for the ideal alternative continues. This puts China in a position of having to make decisions without a clear picture of the future, and leaves AHRI with the knowledge that decisions made without adequate information could be detrimental to our industry in China. Hasty decisions at the expense of efficiency or safety considerations are also of great concern to the Chinese HVACR industry.

China is the largest HCFC-22 producer and consumer in the world, making the phaseout of the refrigerant there a daunting task. While developed countries some time ago transitioned to using HFCs as replacements for HCFCs in most air-conditioning applications, the high global warming potential (GWP) of current HFCs have elevated their status in the
Yurek Addresses Industry Issues at UN Conference in Milan

In remarks to attendees at a United Nations Environment Program conference in Milan in June, AHRI President Stephen Yurek addressed the role of the HVACR industry in energy and environmental policy. He reminded his audience of the vital role of HVACR products in the health, comfort, safety and productivity of the world’s citizens, while noting that “not every product, not every process can have a zero-sum environmental outcome.”

Addressing the need for a cautious approach regarding refrigerant use, Yurek warned that if the industry is not successful in communicating with policymakers, we could end up in a situation where well-meaning regulations are promulgated in Europe, the United States and other places that could have unintended, even dangerous consequences for our industry and our customers.

“While HFCs are a very important part of the global refrigerant mix, AHRI believes that manufacturers must, at least for the foreseeable future, have access to a variety of refrigerants and that they should be free to use the proper refrigerant for the appropriate application. There are many other available refrigerants but, like HFCs, each has its advantages and its drawbacks.”

Yurek went on to explain those advantages and drawbacks, drawing the conclusion that “while alternatives to HFCs are available and indeed are in use in some applications, refrigerant choice must be maintained if we are to have an appropriate mix of available refrigerants for the number of applications for which they are needed.”

Industry must simultaneously work to maintain refrigerant choice – including HFCs – while preparing for a potential phasedown of those refrigerants. He said that “we must ensure that in the event HFCs are to be phased down, the transition is orderly and incentives are provided for the development of new refrigerants that have both a low GWP and high energy efficiency…” which he acknowledged is not an easy task.

He concluded his remarks with a call for a government–industry research partnership to explore alternative refrigerants for the future.
Are Stimulus Funds Really Helping the HVACR Industry?

Stimulus Roundtable
is the $787 billion stimulus package, known as the American Recovery and Reinvestment Act of 2009 (ARRA), truly helping the HVACR industry? What benefits are contractors, distributors and manufacturers seeing? What about consumers? Are there any potential roadblocks? What could have been done differently? These are the types of questions AHRI Trends posed recently to representatives from various sectors of the industry.

On one side of the spectrum, the ARRA will constructively boost the HVACR industry in the immediate term by injecting billions of dollars into the economy through energy-efficiency incentives (tax credits, grants, etc.), state aid that will fund public infrastructure modernization and federal facility renovations. These monies being injected into the U.S. and global economies will lead to more employment, manufacturing and service for almost all industries including the HVACR industry.

On the other side of the spectrum, the ARRA stimulus spending, given its enormity, may potentially lead to an economic decline in the long term. Such a sizable injection of capital into the economy can be dangerous as an increase in the supply of money reduces the marginal utility of the dollar, thus initiating inflationary pressures. Furthermore, the ARRA requires our government to increase the federal budget deficit, which will have a negative effect on long-term economic growth. As an individual who studied economic theory in college, budget deficits typically have a financial impact on future taxation, decrease national savings and reduce domestic investments.

In conclusion, the intent of the ARRA serves a fiscal means to lessen the duration and weakness of our current economic condition. Although I believe the ARRA will achieve its objectives to quickly stimulate the economy, the extent of its potential long-term negative impacts will depend on how resourcefully we use the money (i.e., return on investment). As an example, if a new “green economy” is truly formed from the ARRA monies, and millions of new American jobs are created along with new green energy technologies, energy infrastructures and sustainable national energy standards, then the resources will result with a positive long-term return on investment and on the HVACR industry.

—Chris Manthous

Chris Manthous
Harrington Engineering
The $787 billion stimulus bill will be used as an instrument to push the nation out of an historically long recession. The ways in which it will affect the HVACR industry are similar to the ways that it will affect all other industries, both good and bad.

At Mark E. Meacham, we’ve capitalized on stimulus provisions and are helping our customers create their own stimulus packages. We started early this year with a very aggressive campaign modeled around the stimulus package and a series of articles in the Wall Street Journal on getting everyone committed to pledge to make a difference. Statistically, only five percent of the world’s population lives in the United States, but we consume 25 percent of the earth’s natural resources – we need to make changes. We believe that we are in an energy crisis in this country and are very passionate about our message.

Sue Meacham
Mark E. Meacham, Inc.
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We have specialized in energy efficiency since 1986 and are excited about the fact that you cannot put money in the bank or the stock market today and get the kind of financial return that you can get from investing in energy-efficient equipment that is sized and installed according to ACCA’s ANSI-approved Quality Installation Standard. Over the life of the equipment, the consumer not only gets increased comfort and energy savings, the carbon footprint is reduced significantly. It’s a win-win situation. On top of that, we explain to our customers the federal tax credits, manufacturer rebates and utility rebates. In Massachusetts, both the electric and gas utilities have very aggressive programs to help consumers make energy improvements and upgrades. With the combined programs, we are helping our customers save on average 25 percent of the replacement costs.

In addition to the consumer programs available, the U.S. Small Business Administration (SBA) has stimulus money to provide short-term relief for small businesses struggling to pay off debt. SBA’s America’s Recovery Capital (ARC) Loan Program can provide up to $35,000. For more information, go to www.sba.gov. — Sue Meacham

Robert Munch
Munch’s Supply Co.
We have seen a definite shift in product mix from lower-efficiency products to higher-efficiency products as a result of the stimulus programs. Most contractors in our market are pushing the stimulus as a sales incentive to sell high-efficiency furnaces, and we are seeing sales of that product reflecting the efforts.

On the air-conditioning side, the results are disappointing. The high SEER/EER requirements are too strict, and most manufacturers are having difficulty meeting these requirements with their current evaporator coils. We saw some contractors promoting air conditioners under the stimulus with the help of third-party coils to achieve higher SEER/EER, but recent changes in the AHRI process for rating condenser coil combinations will reduce the number of qualifying systems that meet the stimulus requirements.

The biggest roadblock to selling more products under the stimulus program appears to be the lack of financing available to homeowners. Not only are there fewer homeowners who qualify for financing, the financing requirements have increased, and many finance companies have exited the market.

The ARRA would be a stronger program if it were expanded to the commercial market (including rental and commercial properties) by helping businesses upgrade their systems to higher-efficiency products. There also would be a benefit to reducing the high requirements on the air conditioners and heat pumps.

With millions of dollars of ARRA money earmarked for weatherization programs, we need that funding to be released in order to see the benefits result in actual systems sold and installed. Once the funding is in place, spending the money will present another set of challenges for the municipalities involved. The funding represents a substantial increase in volume over their current programs, and will present difficulties in both finding eligible participants and in finding contractors capable of handling the tremendous volume increase. If the municipalities can meet these challenges, then the benefits to our industry can be significant. — Robert Munch

Chris Nelson
Carrier Corp.
The ARRA has the potential to have a significant impact on the HVACR industry. The federal tax credit enables a consumer to consider replacing their existing equipment with new, high-efficiency equipment when they may have initially only planned to repair their older, less-efficient equipment. Dealers are now offering their customers equipment that will qualify for the tax credit, then showing them how — with the combination of local and state rebates, utility rebates and manufacturer rebates — the payback period, based on the reduced operating costs, is dramatically decreased.

In addition, with the removal of lifetime caps, consumers who purchased equipment in previous years using tax credits available then, will now be able to upgrade or add on to their systems and still take advantage of this new tax credit. This provides greater flexibility to consumers and additional sales opportunities for contractors. — Chris Nelson
Rheem remains cautiously optimistic that the stimulus plan will be successful, although the true results will not be seen for several more months or longer, depending on the speed of the overall economic recovery. Clearly, the federal tax credits combined with available utility incentives and manufacturers’ sales and financing promotions provide consumers with greater purchasing power, all of which are designed to help encourage the purchase of energy-saving, high-efficiency products. Many Rheem contractors have already seen an increase in the demand for high-efficiency equipment since the stimulus bill was passed.

More specifically, the tax credits have provided our contractor partners with an excellent tool to encourage homeowners to lower their energy costs and increase their comfort while being better stewards of the Earth’s resources. The indirect result of the stimulus package may also impact consumer spending across a variety of fronts, including home improvements or home purchases.

The replacement or installation of a new furnace, boiler, central air conditioner, water heater or heat pump can be an expensive proposition. The tax credits combined with rebates and local utility incentives help mitigate the initial costs and allow homeowners to realize a quicker return on investment. Since nearly 70 percent of these products are financed in some way, the very attractive consumer financing rates now available assist homeowners with what are often unplanned, big-ticket purchases. The challenge remains the availability of credit for many that wish to take advantage of these incentives.

Even with the stimulus and financing plans in place, many homeowners are opting to postpone purchasing new comfort appliances in favor of doing a short-term repair. Our Replacement Parts group is focused on ensuring quick response and order fulfillment to ensure contractors are able to effectively and efficiently serve customers who have opted to repair their current appliances.
Energy/Climate Change Bill Passes House; Senate Up Next

By a margin of 219 to 212, the U.S. House of Representatives recently passed a landmark bill that would establish a federal cap-and-trade program for reducing greenhouse gas emissions. The cap-and-trade program provision includes a separate control regime for the restriction of production and consumption of HFCs. This section of the legislation establishes an initial cap and then a reduction schedule that results in a phasedown, not a phaseout, of HFC use.

The House bill also includes appliance and efficiency provisions that would establish:

Building Codes to Further Energy Efficiency — The legislation directs the Department of Energy (DOE) to support updates to national model building energy codes, and state and local adoption and implementation of those codes, effectively implementing a federal takeover of building codes. The bill specifies that the model building code include, “a 30 percent reduction in energy use relative to a comparable building constructed in compliance with the baseline code.” That percentage would rise to 50 percent for residential buildings in January 2014 and for commercial buildings in January 2015, with additional five percent increases every three years thereafter, beginning January 1, 2017, for residential buildings and January 1, 2018, for commercial buildings.

Multiple Metrics — The bill authorizes the DOE to prescribe more than one energy performance standard and also authorizes DOE to prescribe one or more design requirements for covered residential products, including residential HVACR equipment and water heaters.

Carbon Consideration — The bill adds additional factors for DOE to consider in determining whether adoption of an amended standard would be economically justified. These would include the estimated value of carbon dioxide or other greenhouse gas emissions reductions.

Payback Periods — The proposal also changes the economic justification payback period from three years to five years.

Information Transfer — The legislation would require DOE to establish new reporting requirements for manufacturers, which could include submitting additional information that the DOE determines it needs to establish and revise standards, test procedures and labeling rules, or to ensure compliance with these standards.

Preemption Waivers — The bill would ease the burden of proof on a state petitioning DOE for a waiver of federal preemption. A state would not be denied a waiver if they are unable to produce “confidential” information maintained by manufacturers, distributors or their respective associations that states have no legal right to obtain.

Carbon Labeling — The bill requires appliance Energy Guide labels to show carbon output along with the other information already included on the label.

The legislation will now be sent to the Senate, where it will be reviewed in contrast to the Senate’s own energy bill, S. 1462, the American Clean Energy Leadership Act of 2009 (ACELA), which was approved by the Senate Energy and Natural Resources Committee on June 17 and, at this writing, was pending consideration on the Senate floor.

The Senate bill does not contain a cap-and-trade provision for carbon emissions. The Senate Environment and Public Works Committee has held numerous hearings on climate change and cap-and-trade this summer, but at press time, provisions had not yet been crafted. Most experts believe there will be significant differences between the final House and Senate bills.

Two additional energy-related bills of interest to our industry are now pending in the Senate:

S. 1639, the Expanding Industrial Energy Efficiency Incentives Act of 2009, includes a provision that would provide a tax credit for the replacement of operational chillers using CFC refrigerants installed after 1980 and before 1993. This bill would provide a tax credit of $150/ton based on the tonnage of the CFC unit being replaced, provided that the system replacing it meets the applicable standards found in ASHRAE 90.1-2010. If enacted, this bill would help to dramatically improve the energy efficiency of many existing commercial buildings while also removing environmentally harmful refrigerants from service.

S. 1637, the Expanding Building Efficiency Incentive Act of 2009, provides a major improvement to the existing Energy Efficient Commercial Buildings tax credit. The tax credit was increased from $1.80/sq. ft to $3.00/sq. ft. A new tier was added to the New Energy Efficient Home Credit. The credit value ranges from $1,500 to $5,000 and requires an "annual heating and cooling energy consumption which is at least 50 percent below the annual level of a comparable 2003 IECC structure."
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For more information as well as pricing and delivery information call us at 612-827-1117. To see literature, owner’s manual and view the video, visit our website at www.energyconservatory.com.
Higher-efficiency water heaters have been available for some time, but their popularity is increasing thanks to recent ENERGY STAR® labeling; various federal, state and local incentives; and the general trend of homeowners looking for ways to save energy to reduce their utility bills and help the environment.

“I'm getting numerous inquiries from homeowners every week, especially about the higher-efficiency versions,” says Phil Gauthier, manager of the Water Heater Product Section and Certification Program at the Air-Conditioning, Heating, and Refrigeration Institute (AHRI).

Historically, consumers haven't thought much about replacing their hot water tanks until they stopped working; Gauthier estimates that at least 90 percent of all water heater replacements are of an emergency nature. However, various stakeholders including the U.S. Department of Energy (DOE), along with proactive manufacturers and contractors, are working to change that by educating consumers about how much they can save by replacing older water heaters before they kick the bucket, so to speak.

According to DOE, water heating can account for 14 percent to 25 percent of the energy consumed in a home. DOE's Web site recommends...
that homeowners consider a newer model if the existing unit is more than seven years old. How much energy a consumer will save depends on numerous factors, such as the type of new unit they select, local fuel costs and options, quality of the installation, consumption and the size of the home.

Most homes in the United States currently have conventional tank storage units to provide for their water heating needs. Storage units are often touted as the most economical choice in terms of upfront costs, and today’s higher-efficiency storage models have more efficient burners than their predecessors. In addition, they feature better insulation, produce fewer emissions and have faster recovery periods.

Although they cost more to install, tankless units can in some cases save homeowners more money on their utility bills over the long run. Tankless manufacturers say their products can shave 10 percent to 15 percent off a homeowner’s annual energy costs. These same manufacturers estimate that the current American market share for tankless units (both gas and electric combined) is about five percent. That number is expected to double over the next five years as a result of increasing customer awareness of tankless options.

It costs less to install a gas tankless unit in new construction than to replace a storage unit with a tankless unit. The higher costs associated with a retrofit are incurred because a larger gas supply line is required, as is Category III stainless steel venting material (one way to avoid that, however, is to locate the unit outdoors). The price can go higher if the homeowner wants to relocate water lines and/or hide piping behind walls or underground.

Although there are no additional costs required for supply lines and venting with an electric tankless retrofit, these installations do require an upgrade in the electric infrastructure (e.g., going from 30 to 40 amps to 80 to 120 amps) and could change the customer’s billing rate with the local utility. Once installed, however, the units only consume energy on demand. Tankless electric units are typically installed in buildings that lack access to natural gas.

To the chagrin of numerous manufacturers, DOE excluded oil-fired and electric water heating units from the ENERGY STAR® labeling program. The industry, however, continues to work with DOE to broaden the scope, and according to one source, it appears likely electric units will be included in the future. In addition, electric units are not eligible for federal tax credits, but they can be used to accrue LEED® points on projects that may be eligible for tax rebates.

**Solar Hot Water Heaters**

According to DOE, a typical residential solar-water-heating system reduces the need for conventional water heating by about two-thirds. Collectors capture the sun’s energy and the heated water is held in a storage tank, with a conventional system providing additional heating as necessary. The tank can be a modified standard water heater, but it is usually larger and very well insulated. Solar water heating systems can be active or passive, with active systems being most common. To take advantage of solar heating, an unshaded, south-facing location is necessary.

While the upfront costs for a solar system are higher than conventional gas or electric systems, the American Council for an Energy Efficient Economy (ACEEE) estimates that under favorable conditions, they can pay for themselves in energy savings within four to 10 years; DOE says it...
can take about 10 years. Payback, however, depends on numerous factors and remains a subject of debate. To offset the higher costs of installation, consumers can take advantage of tax credits and utility rebates. Solar systems are not subject to the $1,500 maximum federal tax credit available up through 2010; rather, the homeowner can claim 30 percent of the total cost of a solar installation.

Innovations Due Later This Year

Heat pump water heaters, which use heat from the air or water as a heat source, have been popular in Japan (and to a lesser extent in Europe), but have not seen widespread application in the United States. One of the barriers has been high initial cost without an increase in product longevity. However, that may soon change. On its ENERGY STAR® Web site, DOE is advising consumers that new ENERGY STAR®-qualified heat pump water heaters will be available later this year. For consumers "who can wait" and plan for replacement, DOE estimates these units will be able to cut electric water heating costs by half.

DOE has announced that new ENERGY STAR®-qualified gas condensing water heaters also will be available later this year and that these units will enable homeowners to cut their water heater energy use by 30 percent.

Preparing Your Business

Having consumers adopt a planned-replacement mentality for residential water heaters represents a tremendous business opportunity for contractors. Prepare now by educating your team about the many residential water heating options that are currently available, as well as those that will be coming soon. Training on how to properly select and install these units will be of the essence. Contractors looking to offer newer types of equipment will need to form strong relationships with distributors and manufacturers to ensure successful market penetration, installations and satisfied customers.

TAX CREDIT GUIDANCE

Homeowners who make certain energy-efficient improvements in their homes are eligible for tax credits up to $1,500 for improvements made between February 17, 2009, and December 31, 2010. Installations of geothermal heat pumps, solar water heaters and solar panels are not subject to the $1,500 cap; customers can receive a tax credit worth 30 percent of the total cost of those improvements.

To be eligible for the tax credits, the new equipment must meet specific efficiency guidelines. For more information about qualifying units, go to www.ahrinet.org/Content/FederalTaxCredits_896.aspx. There you will also find information about energy-efficiency tax deductions for commercial buildings and tax credits for homebuilders who build energy-efficient homes.

To find if there are additional utility rebates and other incentives available in your area, consult the Database of State Incentives for Renewables & Efficiency at www.dsireusa.org.
What gives you **maximum performance** in all three speeds?

The three-speed family of wet rotor circulators from Bell & Gossett.
The addition of the new NRF-25 gives you an even wider range of hydraulic capabilities for residential and light commercial heating systems. The complete line of maintenance-free circulators includes cast iron, bronze and stainless steel models, with variable speed and zone controls. The new NRF-25 features:

- High starting torque provides years of trouble-free start-ups
- Unique DuraGlide™ Bearing System assures whisper-quiet operation
- Closed impeller design improves operating efficiency
- Optional high-temperature check valve
- A 3-year warranty and the support of B&G’s excellent service reputation

For more information contact your Bell & Gossett Representative or visit www.bellgossett.com.
Infrared Heaters: Efficiency for Many Applications

A practical solution for building owners looking to reduce their utility bills.

Infrared heaters work like the sun, radiating heat to warm rooms, equipment, objects and occupants. So even if the air is cold, the objects and people stay warm.

The 2008 ASHRAE Handbook — HVAC Systems and Equipment notes that gas-fired infrared heaters can reduce the required heat (heat load) needed to maintain a comfortable temperature in a building by as much as 15 percent. These heaters can achieve such savings by providing focused warmth rather than needing energy to warm the air in the entire space. For example, in a warehouse, an infrared heater can efficiently provide warmth to workers concentrated in an area, without consuming energy to heat the air in the entire building.

Infrared heaters also work efficiently to heat areas where doors are opened and closed often, like a loading dock.

In these types of spaces, the warm air in the space will quickly escape to the outside, but an infrared heater will continue to provide comfort heating. The reason is that the floor absorbs and stores the radiant heat directed down from a heater above, and loses little of it when a door is opened.

Infrared heaters are effective for both spot heating and for large, whole-building heating. Some of the more common applications include:

- Warehouses
- Factories
- Aircraft hangars
- Mechanic garages
- Sports arenas
- Carwashes
- Showrooms
- Agricultural facilities
- Outdoor areas of restaurants

Many other creative applications exist as well, including golf driving ranges, animal quarters and outdoor entertainment venues.

Manufacturers offer several types of infrared heaters, in both electric and gas-fired versions.

**Low-intensity tube heaters.**

Sometimes referred to as positive/negative pressure heaters, tube heaters, radiant heaters, stick heaters, tube brooders or pipe heaters.

- In gas-fired versions, hot exhaust gases travel through the inside of the tube, resulting in tube surface temperatures commonly in the 800°F to 1,100°F temperature range, which is considered low intensity.
- Generally these heaters are vented — although they don’t always have to be — and have the capability to use outside air for combustion.

**High-intensity ceramic heaters.**

Sometimes referred to as box heaters, spot heaters, luminous heaters, radiant heaters or plaque heaters.

- In gas-fired versions, combustion takes place on a ceramic tile surface, with surface temperatures reaching approximately 1,800°F. Direct-fired operation releases products of combustion into a properly ventilated heated space.
- Often used in high-bay or high-air-change applications.

**INFRARED HEATER SAFETY COUNCIL**

Several years ago, manufacturers of gas-fired infrared heaters joined together to form the Infrared Heater Safety Council (IRSC). The goal is to enhance user safety through education of building inspectors, fire authorities and end-users on safe practices.

For more information and to download the IRSC-produced brochure “Heating Safety with Gas-fired Infrared Heaters,” go to [www.irsafetycouncil.org](http://www.irsafetycouncil.org).

Photos courtesy of Detroit Radiant Products Co.
Patio heaters. Sometimes referred to as suspended, radiant, mushroom-style, free-standing or decorative patio heaters.
- Ceramic or stainless steel radiant emitters. Designed to heat a specific outdoor area.
- Permanent or portable products that may be deck-mounted or suspended.

Construction heaters. Sometimes referred to as spot heaters or portable construction heaters. Heat turns a ceramic or stainless steel emitter red-hot.
- Used in spot-heat applications and/or as warm-up stations.
- While commonly used in outdoor applications, units also may be used in industrial applications or temporarily used inside buildings under construction or repair, provided proper ventilation exists.

One Size Does Not Fit All
Sizing and placement of infrared heaters are crucial. Simply installing one large unit to warm a space may not be as effective or efficient as strategically locating two or more smaller units to cover the entire space.

Zoning with multiple units will result in a more comfortable and balanced environment. In a warehouse, for example, an area with a high concentration of people can be controlled at 70°F; a storage area elsewhere in the building could be kept at 55°F or even turned off completely.

Clearance to Combustibles
Every manufacturer publishes its own clearance-to-combustibles data for each model manufactured. This is the distance that the heater must be kept away from any combustible (e.g., cardboard, paper, wood, cloth).

High-intensity heaters generally require greater clearance to combustibles due to the higher temperatures produced by this equipment.

The Infrared Heater Safety Council (IRSC), an entity created by the Infrared Heaters Section of AHRI, recommends the following safety guidelines:
- Maintain clearances from heat-sensitive material, equipment and workstations.
- Maintain clearances from heat-sensing devices, such as sprinkler systems, and make sure these devices are not overheated.
- Maintain clearances from vehicles parked below the heater.
- Maintain clearances from swinging and overhead doors, overhead cranes, vehicle lifts, partitions, storage racks, hoists, building construction, etc.
- Hang heater in accordance with the manufacturer’s suspension requirements.
- Do not run gas pipe or conduit in the area of exhaust discharge of flue products or in the clearance zone.

Also, as is the case with all fuel-fired appliances, keep gasoline or other combustible materials, including flammable objects, liquids, dust or vapors, away from the heater.

Energy Efficiency
When properly applied, installed and maintained, gas-fired infrared heaters can achieve significant fuel savings versus heating.

Manufacturers say they certainly see the market growing. Low fuel consumption and easy installation are among the top benefits cited. A particularly appealing market right now for contractors could be building change-outs. As one manufacturer points out: "There are a lot of foreclosed buildings now being purchased that need new heating systems. Because they are efficient, effective, and fast and easy to install, infrared heaters provide an attractive solution."

Another market opportunity exists with LEED® buildings. The application of infrared heaters can contribute up to 22 points in three LEED® categories.¹

Numerous gas companies offer infrared heating equipment rebates (e.g., NSTAR in Massachusetts offers a $500 rebate for each low-intensity infrared heating unit installed).

For more information, check with your local natural gas supplier.


CONTRACTOR SUCCESS
Over the past 15 years, John Polster’s company has installed approximately 1,500 infrared heaters. “We have absolutely seen an increase in demand for infrared heaters over the past two or three years,” says Polster, owner of Action Air Conditioning in Redford, Mich.

A good percentage of Polster’s business comes from commercial real estate owners. He recently showed the new owner of an existing 50,000 sq.ft. warehouse how infrared heaters could pay for themselves in two years. “I always show my customers the load calculations and the energy savings. Payback is so quick, and the units themselves are very dependable.”

Polster turns to his infrared supplier for design assistance with large projects. “Proper sizing, placement, control and maintenance are important to ensure the success of any job,” he says.
Leveraging Resources:
Partnering Makes Our Industry Stronger... and More Influential

Say it’s January 2009. A new President has taken up residence in the White House, a new Congress is enconced in the Capitol, new cabinet heads are learning their way around the halls of their massive government buildings, and eager-beaver staff at both ends of Pennsylvania Avenue are burning the midnight oil trying to figure out how much they can change in the shortest amount of time. “Change,” in this case, meaning tighter controls on energy and greatly increased government regulations for the purpose of environmental protection.

In the cross hairs: our industry, which produces products that require large amounts of energy in homes and businesses, and some of which use refrigerants that, if not properly handled, can harm the environment.

Even with an enhanced lobbying staff brought about by our recent merger, educating the new leaders and staff about the importance of our industry, what we’ve already done to improve energy efficiency and protect the environment, and what we have in the pipeline to bring about further improvements would be a herculean task.

That’s why we regularly partner with other associations, both trade associations and membership societies, to leverage our resources and improve our ability to succeed.

AHRI’s collaboration with other organizations is nowhere more evident than in public policy. In Washington, we work very closely with organizations such as the Air Conditioning Contractors of America (ACCA); the Association of Home Appliance Manufacturers (AHAM); American Society of Heating, Refrigerating and Air Conditioning Engineers (ASHRAE); the Heating, Airconditioning and Refrigeration Distributors International (HARDI); and with North American Technician Excellence (NATE).

By collaborating with these organizations, AHRI has been able to greatly increase our influence on Capitol Hill in such areas as energy and environmental policy, tax policy and education issues. A good example of that collaboration was the creation last year of the Congressional Green Buildings Caucus, chaired by Reps. Judy Biggert (R-IL) and Russ Carnahan (D-MO). The partnering organizations work closely with members of the Caucus through a parallel organization, the Congressional Green Buildings Caucus Coalition. The coalition sponsors briefings on Capitol Hill for congressional staff and works to ensure that members of Congress are aware of our industry’s commitment to sustainable energy policy in the built environment.

But public policy is not the only area of collaboration. For example, AHRI members and staff participate domestically on standards committees of, among others, ASHRAE; the American National Standards Institute (ANSI); the International Code Council (ICC); the American Society of Mechanical Engineers (ASME); and ASTM International. It is through relationships such as these that we can help head off, for example, challenges to the use of vent-free products, and also protect the interests of our members with regard to efficiency, performance and safety standards set by national groups.

Other areas of collaboration involve specific pieces of legislation where more than one organization has a similar stake in the outcome. For example, the energy bill recently considered by Congress had provisions that would impact not only our members’ products, but also the distributors (HARDI), contractors and installers (ACCA) of those products. In addition, the bill would affect producers of products covered by AHAM. Accordingly, our lobbyists worked together on that bill and continue to try to modify some of the more ominous House bill provisions as Senate consideration of energy legislation continues.

In addition to like-minded trade associations, AHRI is a member of, and has good working relationships with, industry umbrella groups such as the National Association of Manufacturers (NAM) and the U.S. Chamber of Commerce. Those organizations, to which many of our member companies belong, have considerable clout on Capitol Hill and can be very influential in either providing support for a positive industry initiative or in heading off an onerous one.

We also put these partnerships to work at the state level, where we enlist the resources available to us through the National Conference of State Legislatures, on whose Board we have membership; the Council of State Governments; and the staff working group known as the State Government Affairs Council.

When everyone is aware of others’ efforts, we avoid duplication and can more efficiently educate policymakers of the strength of our industry, and our ideas.
See You Next Year in Orlando

International Air-Conditioning • Heating • Refrigerating Exposition

January 25-27, 2010
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For information on attending visit our Website: www.ahrexpo.com

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As we prepare for the upcoming heating season, I think we can look back on this year so far with appreciation for all we’ve been able to accomplish.

We began the year with a new President and a new Congress, both of whom campaigned on promises of reducing energy use and increasing environmental regulations. The economy was still – is still – in the doldrums, and we had a refrigerant phaseout deadline looming. And yet, we’ve been successful as an industry in many ways this year, despite some obstacles. Let’s take a look at some of the things we’ve done:

- We succeeded in having tax credits for HVACR products included in the stimulus bill passed by Congress in February, and as you have read in this magazine, the credits are having an effect.

- We worked with counterparts in China to implement a 2008 agreement on harmonization of certification programs.

- We began implementing a new, unified certification mark, with a phase-in schedule over three years for former ARI, GAMA and IBR certification programs.

- We held our fourth Energy Efficiency Summit, during which we agreed to collaborate with efficiency advocates on a strategy to replace CFC-based chillers through incentives, and a strategy for promoting manufacturers’ tax credits as an alternative to mandating higher product energy efficiency standards.

- We forged an agreement with counterpart organizations in India to develop harmonized standards based on AHRI standards.

- Public Affairs created a Web site (www.phaseoutfacts.org) on the January 1, 2010, deadline for discontinuing use of virgin R-22 in new equipment.

- More than 50 representatives from AHRI member companies attended the AHRI 8th annual Public Policy Symposium, held March 18–19 in Washington, D.C. A breakfast briefing drew five U.S. Representatives who provided members with a firsthand glimpse of the new legislative session and how it might affect our industry.

- We launched a new online statistical database, STARS, making it easier for members to input data and receive rollup reports.

- We provided the benefit of our R-22 refrigerant phaseout experience with the Chinese, who are just beginning their phaseout effort.

Finally, members and others should keep an eye out for a major announcement in the near future regarding AHRI and efficiency advocates working together to move the ball forward on reducing energy use and enhancing environmental stewardship.

We are proud to represent such a dynamic, innovative industry – one that is absolutely essential for the health, productivity and comfort of people all over the world.

Sincerely,

Stephen R. Yurek
President
They aren’t just getting a tax credit. They’re also getting a Trane.

Every manufacturer, it seems, is trying to sell tax credit eligible systems. But the one thing nobody else can offer is the durability and reliability of a market leader. Now your customers can have it all with Trane XR15 split heating and cooling systems that offer efficiency as high as 17 SEER. Since they’re built to Trane’s exacting standards, they’ll give your customers the features and legendary durability they expect from a market leader. Your local Trane distributor can give you the whole story.
Introducing Strategos™ rooftop units, designed for fast, easy installation and maintenance helping you save time and decrease operating costs. The most energy-efficient rooftop unit of its kind, Strategos units are designed to cut energy usage, lower operating costs and reduce environmental impact. Strategos units can be customized for specific climates and specifications, with very little labor required for start-up. With easy-access components and push-button troubleshooting through an Integrated Modular Controller, no unit is easier or quicker to service and maintain.

For more information on how Strategos translates into less time and more money, contact the experts at Lennox.

*Claim pertains to 14.3 EER rating for the SCAO36H4B 3-ton unit, based on comparison of publicly available information regarding steady-state efficiency (EER) for single packaged rooftop units, 3- to 20-ton, C/E, E/E or cooling only, 3-phase voltage. Established through internal review of competitive literature, January 2008.