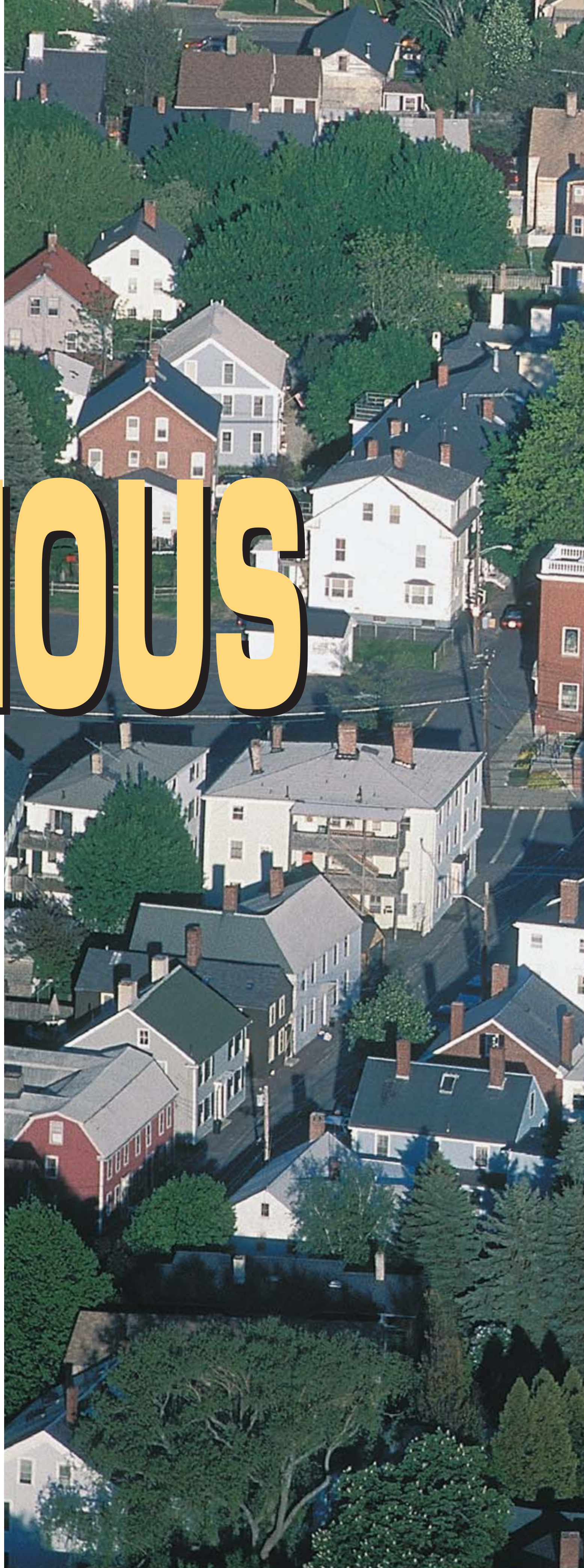
by James E. Houck and Carter Keithley

The market for hearth products is huge, and mainly untapped. With the help of the EPA, the time may be right to dramatically increase the level of hearth product sales.

ENORMOUS *Opportunity*



The marketplace is wide open. Other than the ubiquitous fireplace, the majority of households in the U.S. don't have a hearth product. Of those that do, most households with freestanding wood stoves and fireplace inserts still have the old uncertified models that could be updated with new appliances.

Many households with fireplaces could have inserts or log sets installed. The sale of chimneys and other accessories, of course, goes hand and hand with appliance ownership. Why are most home occupants satisfied with the status quo? What would make them interested in purchasing new hearth products?

RIGHT: Aerial view of Newburyport, Massachusetts. New England has the highest per capita wood stove ownership in the U.S.

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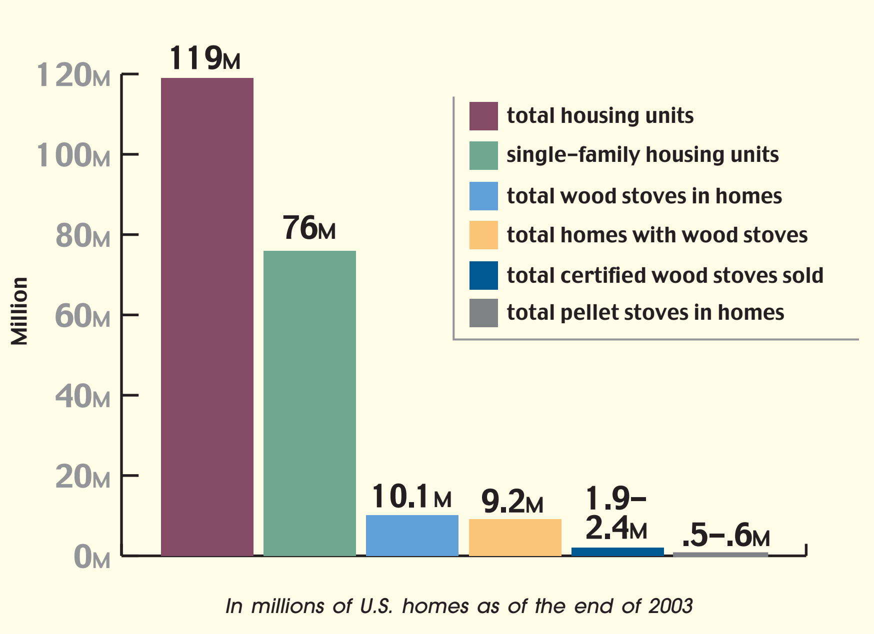
Wood Stove Market



In millions of U.S. homes as of the end of 2003

The Market

The market is huge. Surveys and studies done by government agencies, the hearth industry and marketing firms come up with large numbers. As of the end of 2003 there were 119 million housing units in the U. S.; 76 million were single-family units. Only 10.1 million wood stoves (freestanding cordwood stoves) are currently in homes and, because of multiple wood stove ownership in some wood-burning homes, this corresponds to only slightly more than nine million households with wood stoves.

More important, based on industry data, there have been only an estimated 1.9 to 2.4 million certified freestanding cordwood stoves sold since the U.S. EPA's requirement that all wood stoves sold in the United States after July 1, 1990 be certified. In addition, there have been only an estimated 0.5 to 0.6 million freestanding pellet stoves sold since they came into being in the late 80's.

The size of the market for wood heaters, both cordwood stoves and pellet stoves, is enormous. Most households don't have a wood heater and, of those that do, most do not have a newer U.S. EPA-certified unit or a new generation pellet stove.

As with freestanding wood stoves and pellet stoves, the potential market for fireplace inserts is very large. Because a fireplace is necessary for the installation of an insert, the potential market for fireplace inserts is not defined by the number of households, but rather by the number of households that have one or more fireplaces. Simply put, to install a cordwood insert, a pellet insert, a gas insert or gas log set there needs to be a place to put it.

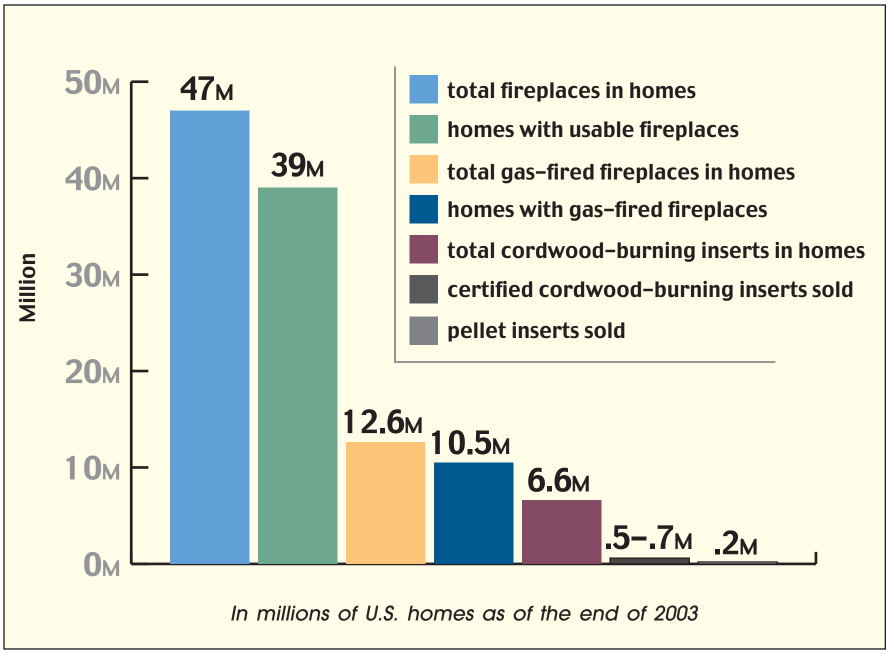
Most fireplaces are installed at the time of home construction. As of the end of 2003 there were 39 million households with fireplaces. Due to more than one fireplace in some homes, this corresponds to about 47 million fireplaces in total.

Unfortunately for assessing market potential, the 47 million fireplace number includes fireplaces of all kinds – site-built masonry fireplaces, factory-built installed fireplaces, gas fireplaces and fireplaces with inserts or log sets already installed. However, an estimate of the number of total fireplaces that don't already have an insert or a log set installed, or that were not originally gas-fired, yields 28 million – leaving a very large market for future insert or gas log set installation.

The story of fireplace inserts is complicated. It appears that the majority of cordwood inserts were installed in the '80s, largely during the period of heightened energy concern, which was prior to the EPA's 1990 certification requirement. Consequently, of the 6.6 million solid fuel-burning fireplace inserts in homes, according to industry numbers about a tenth of them (0.5-0.7 million) are certified.

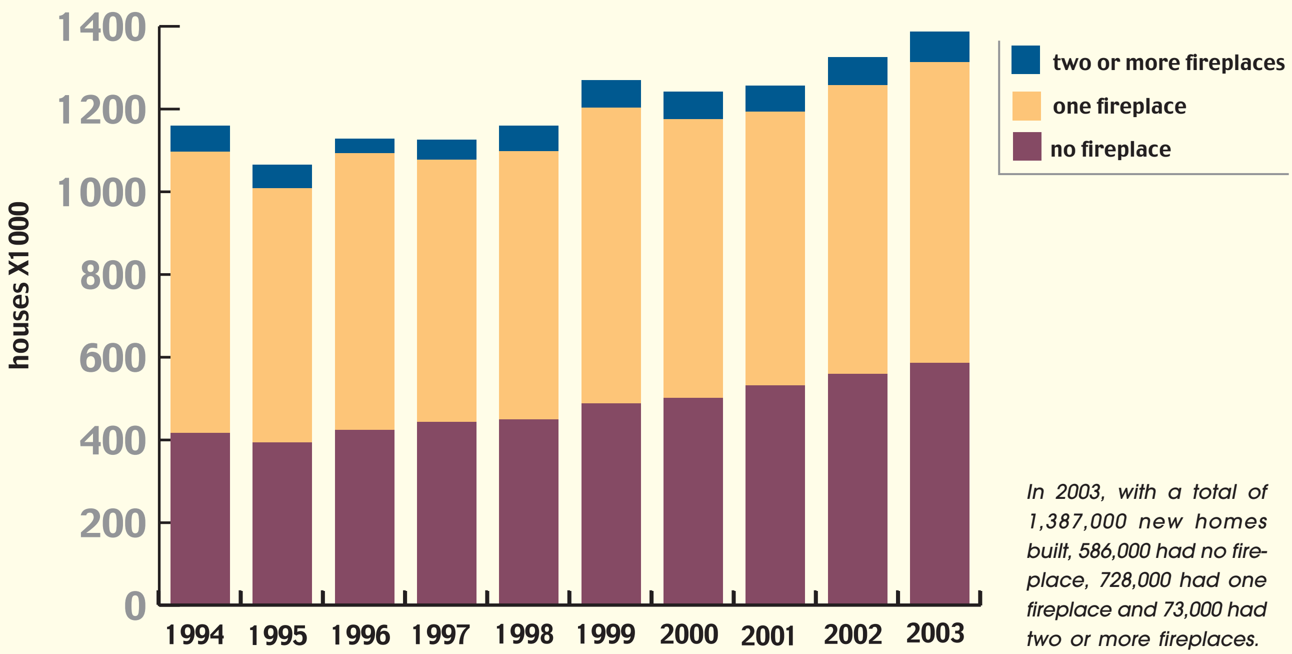
Only about 0.2 million of the solid fuel-burning inserts are pellet inserts. Gas-fueled fireplaces, which include gas inserts, gas log sets and gas fire-

Fireplace Insert Market



In millions of U.S. homes as of the end of 2003

Fireplaces in New One-Family Houses



In 2003, with a total of 1,387,000 new homes built, 586,000 had no fireplace, 728,000 had one fireplace and 73,000 had two or more fireplaces.

places themselves, have become more and more popular since the late ’80s, and it is estimated about 27 percent of the fireplaces now in use are gas-fueled.

The bottom line with the fireplace insert market is that the majority of fireplaces do not have a solid fuel insert, nor are they gas-fueled, and almost 90 percent of the cordwood inserts are older, uncertified models.

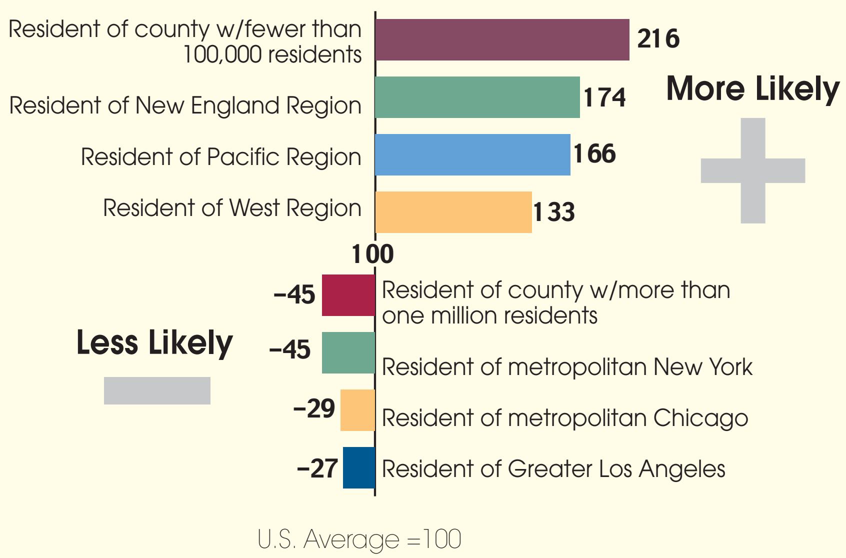
The Census Bureau’s “American Housing Survey” tracks the number of new fireplaces that are installed each year in new home construction. Over the 10-year period from 1994 to 2003, the average number of new fireplaces installed in new homes was approximately 800,000 per year. The market for inserts continues to grow along with the installation of fireplaces.

The Wood-burning Appliance Owner

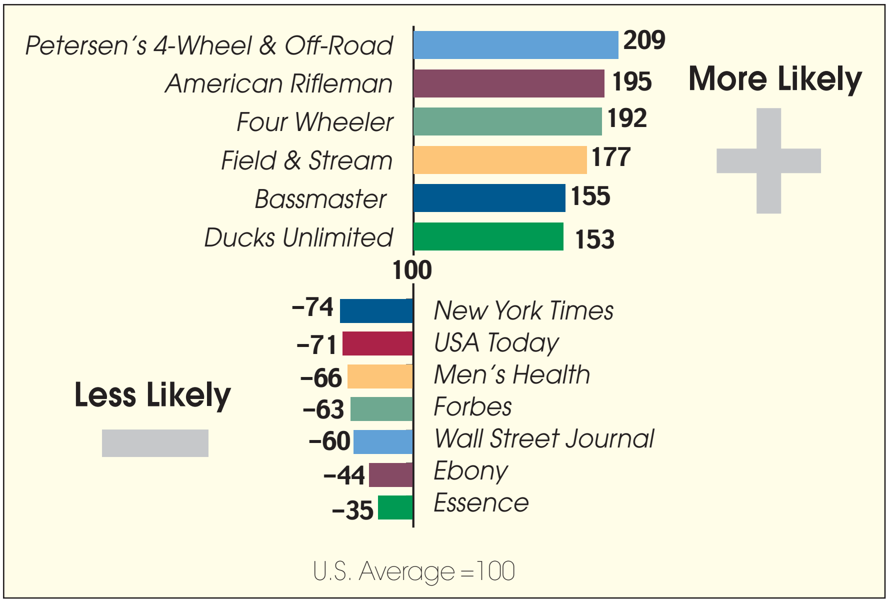
Knowing the potential customer is one of the most important tenets in designing a product for successful sale. Additionally, in the development of a marketing strategy there are traditionally three questions – Who? Where? When? There has been a tremendous amount of information gathered about wood heater owners. To evaluate this information a term called a “marketing index” is useful.

Marketing index indicates the likelihood compared to the total population of two specified conditions to be met. This sounds complicated but it is actually quite easy to understand with an example. Suppose we are studying the ownership of red cars by age. First, the average ownership of all age groups in the U.S. of red cars is reflected by an index of 100. Further, suppose we found that an individual in the 18 to 24 age group is 2.75 times more likely to own a red car than the U.S. popu-

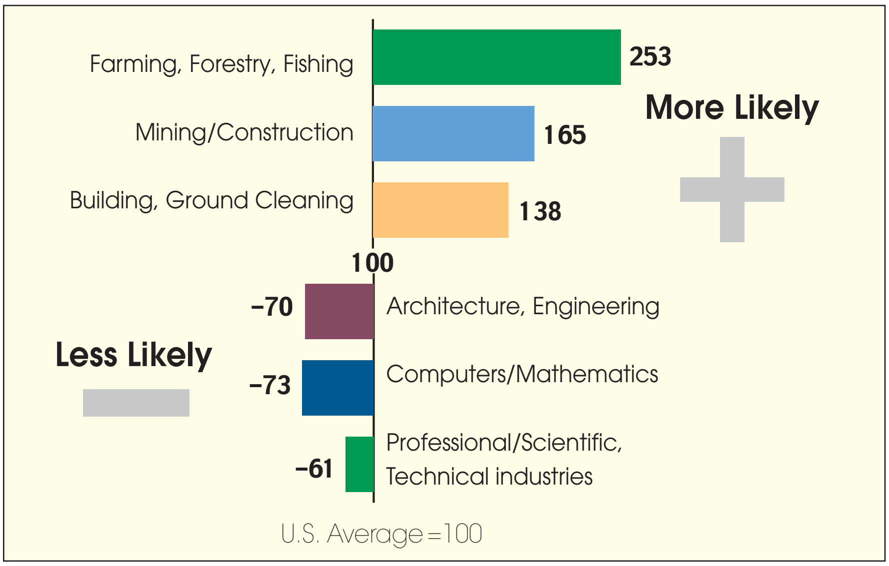
Wood Stove Owners Lifestyle Index



Wood Stove Owners Publications Read Index



Wood Stove Owners Employment Index



lation on average, and that an individual in the 70 to 90 age group is 0.35 times less likely to own a red car than the U.S. population on average. The index for the 18 to 24 age group owning a red car would be 275, and the index for the 70 to 90 age group owning a red car would be 35. By reviewing marketing indices for wood stove ownership, some of the strongest wood stove owner "whos" and "wheres"are obvious.

Wood stove owners are more likely to have a rural lifestyle, live in either New England or the West, be employed in a blue-collar job and be an outdoors person. Strong factors that correspond to lower wood stove ownership are an urban lifestyle, being a member of a minority, being employed in a technical field, and reading major newspapers and business magazines.

These are just some of the most obvious correlations. Many, many other consumer attributes have been compiled by national marketing research firms such as the Simmons Marketing Research Bureau and Mediamark Research, and it would benefit those charged with the design and sale of wood heaters to become familiar with them.

If, for example, the replacement of existing wood stoves with new certified ones is the target market, then a strategy known in advertising as a "defensive" strategy, i.e., advertising in known solid markets, might be selected. In this case, running an advertisement in *American Rifleman* magazine with an index of 195 for wood stove ownership would arguably be a better choice compared to running an ad in *Forbes* magazine with an index of 65.

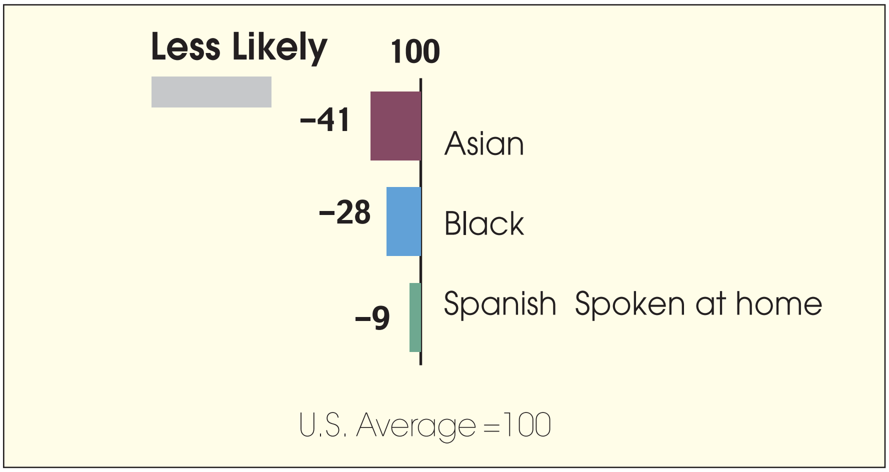
However, many factors need to be taken into consideration in developing marketing strategies. For example, a strategy of advertising in markets where sales have been traditionally low to introduce the product to potentially new customers might be intentionally chosen. This is referred to in advertising as an "offensive strategy." If the sale of a wood stove to a household that never previously owned a wood heater is the target market, a good offensive marketing strategy might be to advertise in minority-oriented magazines. Whatever the strategy, the old adage "knowledge is power" comes to mind.

Two final observations on the difference between the "whos" and "wheres" of wood stove and fireplace insert markets are worth noting. Unlike with wood stoves, there is not a strong increase in per capita fireplace insert ownership in lower population areas. This is because the trends for more residential wood burning for heat in lower population areas tends to cancel out the trend for more fireplaces in more populated areas, particularly in the suburbs. Similarly, because there has been a large growth in fireplace numbers in the South with new home construction, the per capita fireplace insert ownership is highest in that region and is, in fact, higher than the wood stove ownership. In contrast, New England has the lowest per capita fireplace insert ownership while having the highest wood stove ownership.

Incentives

The major benefits usually extolled by members of the hearth industry to potential customers for the replacement of an old wood stove with a new certified model are aesthetics, increased efficiency and cleaner burning. Newer models certainly can have a higher aesthetic appeal with various color enameled sur-

Wood Stove Owners Minority Index



faces, brass trim, large air-washed glass doors and various facade designs.

Increases in efficiency from the 50 to 60 percent range for older models to the 70 to 80 percent range for certified models has been well-documented, contributing to the convenience of requiring less wood, thus saving money. Cleaner burning is part and parcel of the certification process; it means less frequent chimney sweeping, increased safety (i.e., a lower likelihood of a chimney fire), and, by putting less emissions into the air, happier neighbors and feeling good about oneself for doing the green "thing."

The key arguments for installing a new wood stove in a home previously without one include partial energy independence, the comfort of radiant heat and the economy of room heating in lieu of heating an entire home with a furnace or boiler. Energy independence from utilities strikes both emotional and practical chords with some consumers. Increased sales of wood stoves after major power-outage events are well known, as is the general displeasure many harbor for the "big" utilities.

The enhanced perception of warmth associated with radiant heat from wood stoves compared to convection heat from forced air furnaces is generally acknowledged. The appreciation of radiant heat from a wood fire is older than civilization itself.

Finally, not only is there an obvious economy of heating only one room if that is all that is necessary, rather than an entire house, but studies have shown considerable energy loss in furnace duct work and boiler plumbing.

The arguments for installing a fireplace insert are essentially the same as for installing a new wood stove into a home, with a notable addition. The efficiency of a fireplace without an insert can actually be negative from drawing cold air into the home, while the efficiency of an insert is close to that of a freestanding stove. It is also usually emphasized that pellet and gas appliances are simply cleaner and more convenient that cordwood appliances.

All these claims, arguments and extolled benefits associated with new cordwood, pellet and gas appliances are true and they are of merit. So why have so few new appliances been sold compared to the size of the market? In part no one is to blame in that the purchase of a new stove or insert is not a minor purchase for most households, and there is an understandable reluctance for expenditures of that size. On the other hand, while the hearth industry is not "Madison Avenue," a lot can be done to honorably promote hearth products.

The Environmental Marketplace

There is potentially a new ally in the sale of heath products – the United States Environmental Protection Agency. While the hearth industry has been aware of the various environmental pluses of new hearth products, and has been active in disseminating this information, the EPA's new interest in these positive environmental effects offers great promise.

This new interest on the part of EPA is in large part due to the recently promulgated national ambient air quality standard (NAAQS) for fine particles, known as $PM_{2.5}$. Many locations in the eastern part of the nation are, or will be, in non-attainment for this federal standard, and the EPA faces a tough challenge to mitigate the problem. It is recognized that a measurable part of the current problem is air emissions from wood burning; it is also recognized that the replacement of old solid-fuel appliances with new certified cordwood appliances, or with pellet- or gas-fueled appliances, will result in a reduction in ambient $PM_{2.5}$ levels.

Adding to the picture is the success of the various small wood stove change-out programs conducted in the past by the HPBA. These were done in coordination with state and local governmental agencies, and the results are compelling. In fact, the EPA is planning to work with the HPBA on a new change-out program and, if successful, it could be the prototype for many more.

Change-out programs are just one of several approaches being considered to reduce $PM_{2.5}$ from wood burning. Other approaches under consideration as part of the proposed Wood Stove/Fireplace Smoke Reduction Initiative by the EPA are a fireplace/wood stove Web site, a media outreach package, and a wood stove green label program (see *Hearth & Home*, March 2004). Each of these approaches would increase consumer awareness of the environmental advantages of new appliances and should enhance sales.

Lessons from History

It is certainly no surprise to dealers that motivating wood stove owners to replace their old dirty burner is difficult despite the inherent benefits. The hearth industry's most successful change-out campaign was in Crested Butte, Colorado, in 1990. Nearly all of the wood stoves in that small town with a population of about 400 were changed out in one summer and, as a result, the air quality in winter improved dramatically.

But the residents of Crested Butte had a powerful incentive to change out their old stoves. The Town Council in Crested Butte, recognizing that poor air quality was hurting the skiing business at nearby Mount Crested Butte, imposed a $30 per month tax on any homeowner who elected to keep an old stove. Now that's motivation! Absent that incentive, however, it would have been impossible to achieve the change-outs needed to make a meaningful difference in air quality. Unfortunately, few, if any, other communities are likely to be so bold.

In Crested Butte, as with all of the change-out campaigns, the active support of federal, state and local air quality authorities was essential for success. These authorities have credibility, clout and access to local press and media that enhances visibility for change-out campaigns. They can effectively communicate the benefits of stove replacement without sounding like they are making a sales pitch.

Newspaper articles and television news spots informing local residents about the need to replace old stoves are invaluable in getting the word out to the community, and this PR is free. Dealers need only advertise their participation in the campaign and promote the "special deals" they are offering in support of this important public purpose.

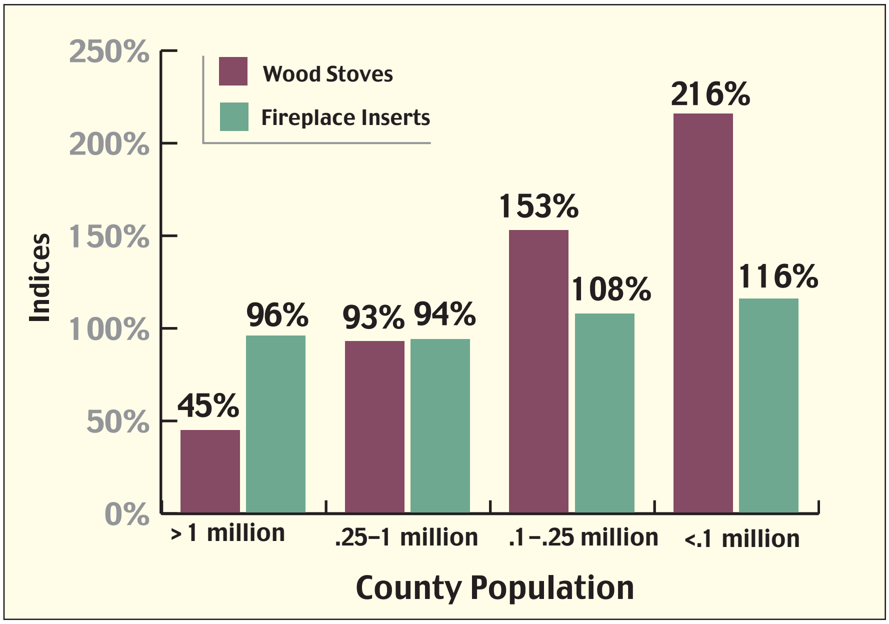
The EPA's new air quality standards will force many local authorities to find ways to reduce wood smoke emissions, and the agency's support for change-out campaigns will legitimize that reduction strategy and encourage local authorities to embrace them. But local authorities have a lot of other things on their agenda, and they are unfamiliar with the mechanics and potential of a change-out campaign. So dealers will have to search out the appropriate people in their area, inform them about how a campaign can be organized, and make them feel comfortable about providing their support.

Based upon prior experience, as well as a new pilot project that is expected to begin in 2004-05, HPBA will prepare a manual on how to conduct a successful stove change-out campaign. Regional affiliate associations will provide invaluable support for members in these campaigns. The success of the Great Lakes Change-out Campaign, which won an EPA Clean Air Excellence Award, was due in large measure to the tremendous efforts of the North Central HPBA.

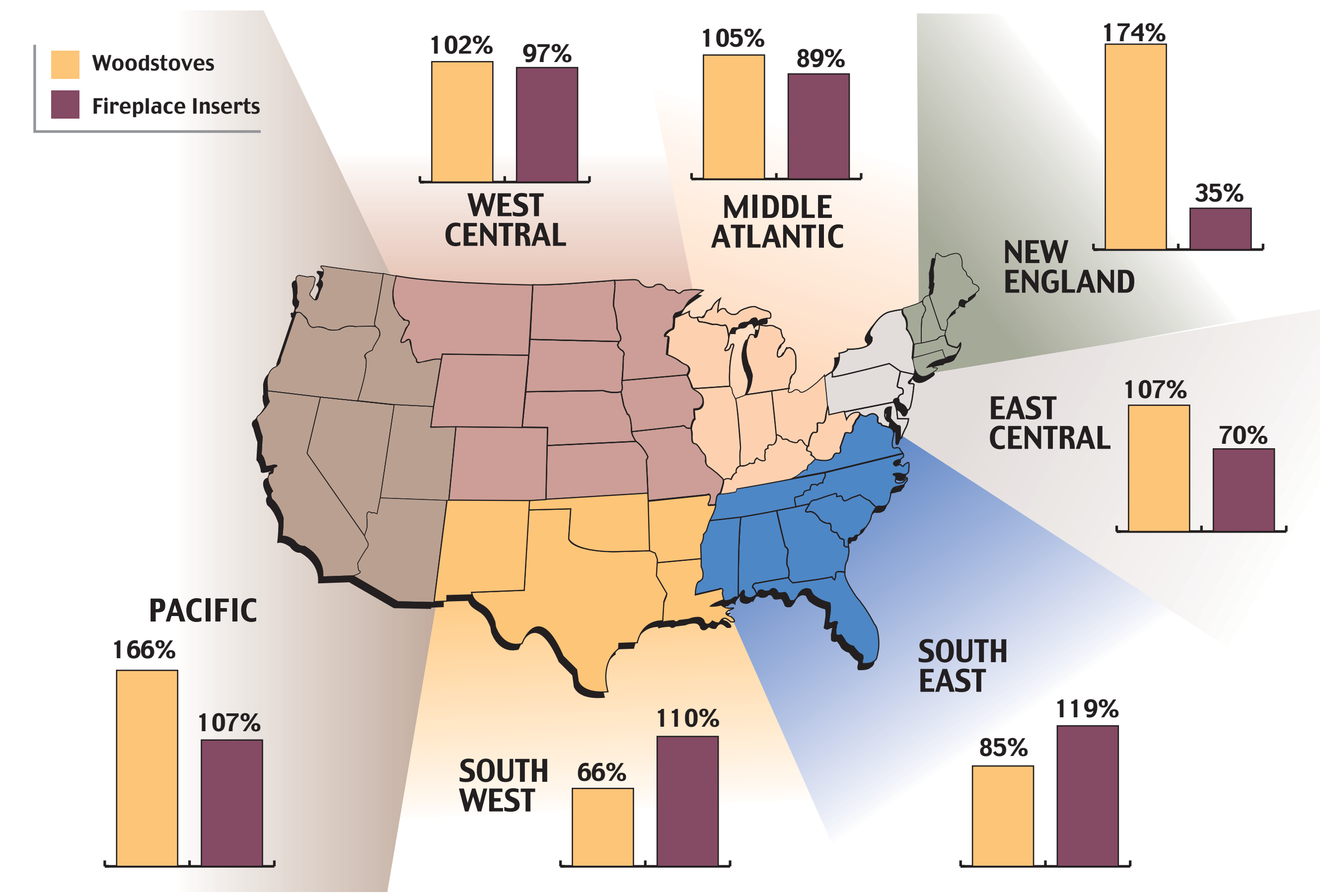
The industry is currently installing freestanding wood, gas and pellet stoves and fireplace inserts at the rate of about 300,000 units per year. At that rate, if all new installations replace old units, it would take 45 years to change out all the existing dirty burners. With the support of air quality authorities for change-out campaigns throughout the nation, the potential exists to double, triple or even further increase sales of hearth products every year just to meet replacement needs.

Most likely manufacturers could crank up production to provide the appliances, but that volume would greatly stress the industry's installation capacity. Dealers would do well to get their

Fireplace Insert Market



Relative Per Capita Wood Stove and Fireplace Insert Ownership as Revealed by Marketing Indices



Map shows Nielsen territories; metro Los Angeles, Chicago and New York are not included

installers certified by NFI now, so that they can have at least one qualified technician on each installation crew.

Here are some other valuable practical lessons HPBA has learned in conducting change-out campaigns:

- Meaningful discounts must be offered to consumers to help motivate them to "do the right thing" and replace their old dirty burner. Consequently, campaigns should be launched after January to avoid discounting appliances in the high season.

- Installation safety is of paramount importance, including replacement of any unsafe chimney and chimney connectors, and use of insulated floor protectors. Improved safety is another important motivator to encourage replacement sales.

- "Tent sales" or "stove fair" events can be organized jointly by dealers in an area with the support and cooperation of appliance manufacturers.

- Disposal of old appliances is an important and not inexpensive consideration. Landfills may not be an option, and metal recycling may not be available locally. Typically, a certificate is required confirming that an old appliance has been removed and destroyed in order for the purchaser to qualify for the replacement discount.

- Operator training on a new stove is also important to assure that the clean-burning benefits of certified appliances are achieved. Dealers can also provide help to homeowners in finding sources of good, clean, seasoned firewood to optimize performance.

There is also a practical potential for campaigns to reduce wood smoke emissions from traditional fireplaces. While fireplaces are only used periodically and present much less of an emissions problem, nevertheless, some major metropolitan areas, including Phoenix and Denver, concluded years ago that the concentrated use of cordwood fireplaces on holiday weekends presents a very real air quality problem.

Just think of the potential for encouraging homeowners to ensure that they can have a warm, cozy and clean-burning fire at Thanksgiving and Christmas simply by installing a gas log or certified wood or pellet insert. And with the work that the HPBA Government Affairs Committee is doing, there is the potential in the future to offer the building and remodeling industries a clean wood- burning fireplace.

The environmental bottom line is that many parts of the nation have poor air quality, and the improvement of this air quality is mandated by federal statute. New hearth products can contribute to that improvement.