



Bigger houses bring energy woes

Efficient materials, appliances have limited cost effects

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SAN FRANCISCO (MarketWatch) -- If you hear a loud sucking sound while home-shopping among the latest evidence of Americans' love affair with square footage, it may be the energy bills.

Despite higher natural gas, electricity and heating oil prices, consumers continue undaunted in their quest for bigger homes with features such as five bedrooms and three-car garages.

But tradeoffs in energy efficiency from new building materials, practices and technologies offer only limited relief from proportionately higher utility costs, housing experts said. It's also unclear how widely homebuilders and contractors incorporate such knowledge in their construction practices.

Research suggests utility costs rank low among homebuyers' priorities. But after a winter of bigger bills, some spring buyers may want to consider the additional long-term energy costs they may incur by going big and look for energy-efficient features.

"I don't think the average homebuyer is considering that," said Marshall Eames, assistant professor of environmental science at DePaul University in Chicago. "They're more worried about does it have a deck or an island in the kitchen."

[See related story on eight ways to rein in your energy costs.](#)

Consumers need to weigh the desire for extra space with the limits of energy-efficient materials, said David Goldberg, spokesman for Smart Growth America, a nonprofit advocacy group in Washington.

"You can do a lot with green building, but it often comes back to the sheer amount of space that you have to heat and cool," he said. "That's going to affect the market for these large homes."

Tougher energy codes and more efficient heating and cooling equipment provide some benefits, said Liza Bowles, general manager of Newport Partners, a housing consulting firm in Davidsonville, Md. "But it's true that the larger the house the more energy it uses."

More space for fewer people

It's a conundrum that has analysts scratching their heads: The average household size has been steadily declining while the average home has been getting more and more supersized.

The size of new homes last year leapt to 2,433 square feet on average from 2,349 square feet in 2004, according to the National Association of Home Builders (NAHB.) That's up from 2,095 square feet in 1995, 1,905 square feet in 1987 and a mere 1,660 in 1973.

Meanwhile, consumers shelled out an average 13.6% more to heat their homes this winter. The typical U.S. household is expected to pay \$892 to heat the house this season, up \$107 from last year, the Energy Department said last week. Due to a warmer than usual January, the bill is expected to come in \$152 less than was projected at the beginning of the season. [See full story.](#)

The housing market typically rewards square footage in the appraisal price while downplaying features such as energy efficiency, putting the focus on first costs as opposed to lifetime costs, Bowles said.

For example, the price of a 4,000 square foot house tends to be based on the fact that it's 4,000 square feet

versus a 3,000 square foot house that's very energy efficient, she said.

But consumers likely will gravitate to smaller homes and more energy-efficient ones in the next three to five years, as the government now does with its military housing stock, she said.

"If energy prices remain high and continue to rise, I think we'll see some gradual market shifts toward more recognition of operation and maintenance costs," Bowles said.

Still, there's a risk that people may forget this year's spike quickly or count on phenomena such as global warming to cut their bills in the future, she said.

"Until they really get socked with the energy bills, maybe they're not going to pay much attention," Bowles said. "It was a relatively mild winter and then you can kind of shrug it off, put it in the back of your mind and decide that wasn't so bad."

Deciding factors

Whether a bigger home can deliver energy efficiency to the point of avoiding large energy bills depends on three things: how old the house is, how it was built and how much upgrading has taken place, said Eric Belsky, executive director of Harvard University's Joint Center for Housing Studies.

"It depends not only when the older homes were built but also the standards to which they were built," he said.

The first wave of government-sponsored energy-efficient building programs happened as a result of the OPEC oil shocks in 1973-74 and 1979-80, said Kevin Bunker, graduate student research assistant at the Joint Center for Housing Studies.

But difficulty in predicting energy prices beyond 18 months, preoccupation with the cost and kind of mortgage a homeowner has and the fact that some people may not plan to keep their homes long enough to recoup the price of upgrade investments may dissuade them from paying much attention to energy costs, he said.

"Heating costs for a house may be 1% to 2% of the whole budget," Bunker said. "They're more worried about the interest rate on their mortgage or things like that."

What's more, people who buy so-called McMansions or build massive additions to their homes likely have enough wealth to absorb energy price shocks, he said. "You've got to think they made a decision they can afford to do that."

But as people become "consumers of more housing," they may find some hidden costs, as drivers of sport utility vehicles did when gasoline prices rose, Bunker said.

"What can happen over time is people can be paying more than they thought they would if prices go up and stay up," he said. "That might make them change. It made me sell my V-8 truck and get a Camry."

Split picture

Experts are puzzled as to why Americans seem to be accepting the extra energy cost burden in exchange for extra space.

Young families may be drawn to the exurban fringe where they can build bigger while baby boomers consider moving to smaller dwellings, albeit with loads of amenities, said Steve Melman, director of economic services for the NAHB.

"There may very well be two trends going at the same time, and it's clearly demand driven," he said. "A large number of households are going to be in the situation where the next home they buy isn't going to be the five-bedroom huge home."

Part of the pattern of building right up to the property line may stem from a compromise people are making to have both bigger and detached homes, Melman said. "Land is expensive. People are trying to maximize and get as much as they can."

When asked how much extra they'd be willing to pay upfront in the purchase price of a home to save \$1,000 every year in utility costs, 62% said cited between \$5,000 to \$10,000, according to NAHB's Consumer Preference Survey 2003-04. Twenty-seven percent said they wouldn't pay more than \$4,999 above the purchase price to save themselves \$1,000 a year.

Homebuyers can spot energy efficiency by looking for appliances or a home rated with the Energy Star label.

Homes that meet Energy Star certification criteria must be built 30% more energy efficient for heating, cooling and water heating than a home built to the energy code, and 15% better than a state code if such a code is in place, according to the U.S. Environmental Protection Agency, which runs the program along with the Department of Energy. Homes must be verified by a third party inspector called a HERS rater, for Home Energy Rating System, to receive the Energy Star seal.

Homes that meet Energy Star qualifications drive estimated average savings of \$250 to \$300 a year per home, the EPA said.

And homeowners looking to improve their homes' energy efficiency can do so fairly easily by installing programmable thermostats and upgrading insulation.

New homes may not incorporate some of the best energy-efficient features because consumer demand is still focused on expanded space and aesthetics, said Eames, who does environmental consulting for several communities outside Chicago.

"I do not see a groundswell of homeowner sentiment toward energy savings," he said. "I don't think you can fault the homebuilders for not providing a product that people don't seem to care about."

Despite the affluence and confidence people are displaying in buying extra large homes, Eames said, he questions whether many have thought through the costs of maintaining such places, especially once they're empty-nesters.

And then there's human energy to consider. Said Eames: "I just want to know who cleans these places!" ■



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