

What Does it Cost to Build Green?

➤ How to educate your customers on building green without breaking the bank.

How much more does it cost to build a green home? This is a very common question that homeowners ask me when they begin designing a new home.

It's sort of like asking a grocery shopper how much they paid for a bag of groceries without seeing the contents. With good planning and smart shopping, we can feed our families a very healthy, well-balanced diet on a reasonable budget. However, it is also easy to splurge on things without much nutritional value and wonder where our hard-earned dollars have gone.

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The same is true in green building: If we spend a lot of time planning and integrating various aspects of the design of our home, then constructing a sustainable home can be achieved on a reasonable budget.

And if we can change from a complete focus on upfront costs to consider the total cost of ownership, then green building looks even better.

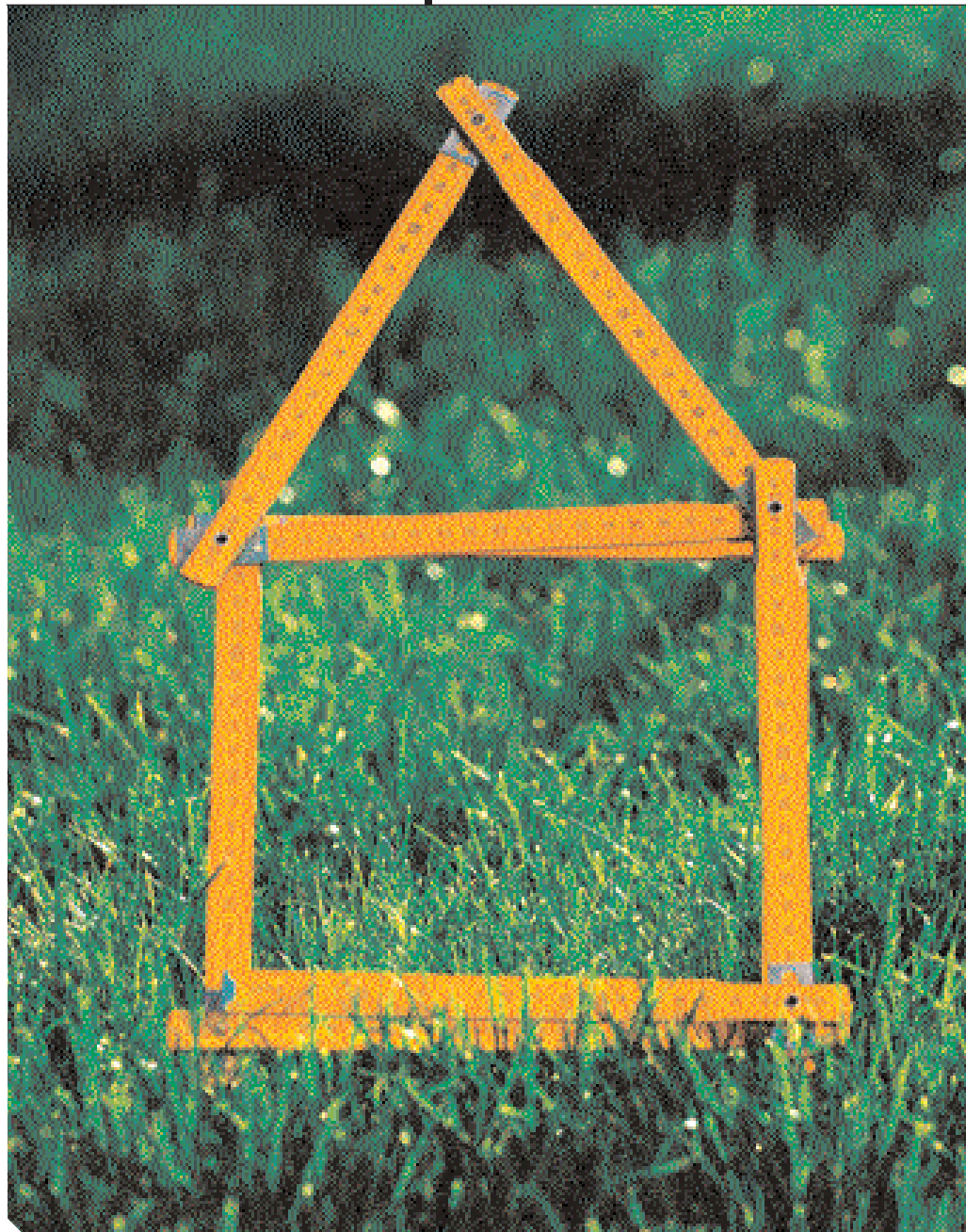
Cost-Effective Green Building

Here's one logical progression to consider when designing a green home that doesn't have to break the budget:

1. It is always cheaper to save energy than to produce it. My philosophy when working with homeowners is always to first focus the design and budget on ways to conserve energy.

2. Right-size the home and focus on

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quality over quantity. You need to consider what the right size home is for your homeowner's needs.

By making the home space efficient and optimizing the square footage, more money can be put toward the green features of the home.

3. Consider passive solar design elements as a low-cost way to significantly enhance the energy efficiency of the home.

4. Maximize the efficiency of the building envelope – the insulation and air-tightness of the shell and the windows. These are details that you are not likely to upgrade or change in the near future, and their impact on the overall efficiency of the home is huge.

5. Explore renewable energy and other areas. Once the energy efficiency of the house has been optimized, the effectiveness of any renewable energy systems will be maximized since the energy use of the house has been reduced.

This is also the time to begin looking at water efficiency, indoor air quality and other priorities and goals that the homeowner has.

Setting Goals for Building Green

With the vast number of green building products now available, it is easy to get caught up in the green marketplace and overwhelm the project budget.

One way to overcome this is by setting goals and priorities early on.

Pick three or four green priorities that are most important to you, and then use these as a decision-making tool during the project.

Examples of some of the many goals within green building are:

- » Energy efficiency
- » Indoor air quality
- » Site selection
- » Native landscaping
- » Interior finishes
- » Local materials
- » Water conservation
- » Renewable energy
- » Durability
- » Outdoor living spaces

- » Material efficiency
- » Reclaimed materials
- » Transportation
- » Permaculture
- » Carbon neutral

For instance, if water conservation is your top priority, then given a choice during construction between upgrading the water efficiency of the toilets and changing countertop materials, the choice will be clear.

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Up-Front Cost vs. Total Cost

The added up-front cost for green buildings is usually on the order of a few percentage points of the project cost, but can be variable depending on how one defines green building and on the goals of each homeowner.

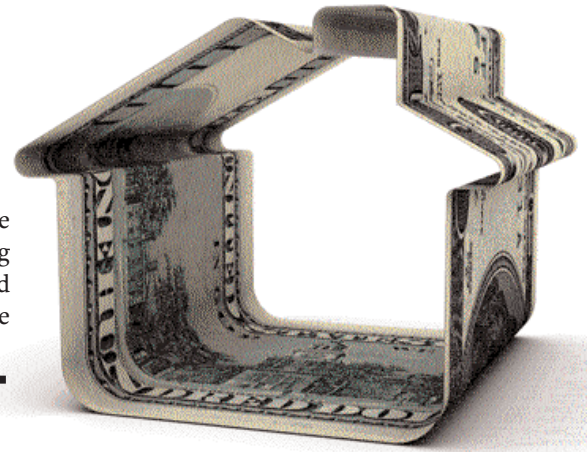
The real value in green building today requires everyone in the market to change our view of “cost.”

Since most homeowners are financing our homes over 30 years, we are paying for our homes over time, not all at once. Let's consider an example of how this can work greatly to our advantage. Let's say that you choose to upgrade the building envelope of a home by adding more and better insulation.

The added cost for these upgrades in this particular example is \$3,200, which works out to an additional \$216 per year on a 30-year mortgage. These particular upgrades are projected to improve the energy efficiency of the house by \$480 per year.

Using simple math, it is easy to see that these upgrades actually save us \$264 a year since our utility bills will be so much less.

Now for the kicker: The additional mortgage cost stays the same each and every year we live in the house. But the



energy savings are going to get better and better as energy prices rise.

If we assume that energy prices will continue to increase about the same as they have over the last 30 years, then the energy savings are likely to be more than \$1,000 10 years from now.

In addition to the yearly savings that energy efficiency options can provide, they also add to the value of the home. The American Institute of Appraisers estimates that the value of a home is increased by about \$20 for every \$1 saved in yearly energy costs.

In this example above, a \$480 yearly energy savings would translate into \$9,600 in additional worth of the home.

Educating homeowners on the benefits of green building has become easier and easier to do as sustainability has come to the forefront of the process of planning a new home.

Overcoming the perception that green building is considerably more expensive can be simple as well when homeowners are guided into setting priorities and looking at the total cost of ownership of their new home.

Steve Linton is the director of sustainable technologies for Deltec Homes, a builder of energy-efficient homes using components produced at its manufacturing plant in Asheville, N.C. A LEED accredited professional and a BPI certified professional, Linton teaches classes on green building. For more information, visit www.deltechomes.com.