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Green Products and Practices for the Home

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What Does "Green" Mean?

Green building is one of the most important and exciting developments in home building in the past three decades. It's been a quiet revolution in the way that new homes and communities are planned and built. The changes are environmentally friendly, and the movement has carried over into various new green products for home interiors and furnishings.

Green building involves many aspects of the home building process – planning, site design, preservation of natural features, selection of materials, construction features, and more. With careful selection and use, even small changes can result in sizeable conservation of resources from these high-performance buildings.

Green building is uniquely local because climates, customs, and preferences vary greatly. Guidelines that are needed in some areas may not be at all suitable for others. Local materials are also used whenever possible to reduce energy costs related to transportation.

Why is It Important to "Think Green"?

New green-built homes use products and techniques that show a commitment from builders and consumers toward conserving and making better use of our resources. These homes have additional insulation, use recycled and nontoxic materials, emphasize energy-efficient and ENERGY STAR® products and appliances, make better use of natural and local materials, use water-conserving fixtures, and more. Consumers are rewarded with more comfortable homes, healthier indoor environments, greater savings on utility costs, and the satisfaction of helping conserve resources for future generations.

What is a Green Product?

Buying and living green does not require sacrificing convenience, comfort, or style. It's not all space-age design and technologies. Although green-built homes are resource efficient, they are visually attractive and indistinguishable from other homes.

Green products and finishing materials are nontoxic, energy efficient, and durable. They may be made from local materials, recycled, or rapidly renewable materials. They're often able to be recycled or reused.

What about the Cost?

While most green materials and technologies do cost more, people have found that some green strategies and technologies cost the same and some even cost less than traditional "not-so-green" technologies.

Often the key to cost-effective green building, site design, and interior products is how the parts work together as a whole. Related costs and performance trade-offs between the different building systems must also be taken into account. For example, the use of high-performance windows and window frames increases the first cost of the building envelope or framework. However, these windows allow for a reduction in the size and cost of the heating and cooling system. This more than offsets the added cost of the better window glazing system. The result of more energy-saving features is a building that has:

- A similar or even lower first cost
- A similar or improved comfort level
- Lower energy use or an improved efficiency
- Lower energy bills and operating cost for the life of the building

We shape our buildings; thereafter they shape us."

- Sir Winston Churchill

Embodied energy *tells how much energy goes into a product, including the energy required to harvest or mine the material, manufacture the finished product, install the product, and transport the material between all of these phases. Green materials have low embodied energy.*

Selecting and Using Green Products in the Home

Traditionally, materials for the home have been selected according to their quality, performance, and cost. To use materials that reduce environmental impact and promote a healthy home, you must consider additional technical criteria as well.

Start by exploring product options. Many points are similar to those for green building. Keep in mind that you probably won't find the ideal product, one that meets all criteria. However, many good products are available. Select those products that meet the criteria that are most important to you. Ask questions to learn all you can about the products:

- What type of long-life, durable products and materials will work?
- Are there recycled, reclaimed, or salvaged products or materials that you can use?
- Are the products made from rapidly renewable materials, such as wood or bamboo that is often used for flooring?
- Are the products low or nontoxic?
- Are there durable materials that are manufactured with less energy?
- What local materials can you use?
- How does the cost compare with other materials that are not as green?

Dos and Don'ts for Thinking Green

Here are suggestions to consider when planning homes and selecting home products. These suggestions are not intended to be comprehensive, nor are they necessarily the most critical. Add your own discoveries to the list as you search for green products.

- Smaller is better. The smaller the house, the fewer materials required to build it and the less energy required to operate it.
- Design your house so that it can easily be adapted to the needs of your family as it changes.
- Renovate an existing house instead of building new. This may save large quantities of energy and raw materials. Use the best in technology, such as low radiant emissive (Low E) windows, improved insulation and infiltration, and energy-saving appliances and air conditioning.
- Use durable products and materials that stand up to harsh weather and conditions. A product that lasts longer or requires less maintenance will save energy and resources over its lifetime.
- Use building materials made from recycled materials, such as cellulose insulation and engineered (recycled) wood.
- Save energy and resources by designing your home to use standard dimension materials. "Value engineer" or "life cycle cost" everything that goes into your house. (Value engineering is a careful life cycle cost analysis which takes all costs such as maintenance and utilities into consideration.)
- Use building materials, adhesives, sealants, surface finishes, and furnishings that contain, produce, or release the lowest amount of particulate or gas contaminants, including volatile organic compounds (VOCs).
- Make your home harmonious with its environment – blending in with the community, the building styles, scale, and materials around it. Use colors and textures of natural materials and natural dyes, paints, and stains to create a therapeutic color environment.
- Use the latest technology to eliminate mold and mildew from your home.
- Use high-performance ENERGY STAR windows for significant energy savings throughout the year.
- Consider insulated double glazing, triple glazing, or double pane glazing with a suspended Low E film. Selective window coatings offer optimal light transmittance with a minimum of heat transmission. Window frames, sashes, and curtain wall systems should also be designed for best energy performance, including the use of multiple thermal breaks to help reduce energy use.

Simple Math *Adds Up for Green!*
Embodied energy + operating energy
+ maintenance energy = total energy used.

Bau-Biologie *- German word meaning building biology.*
"The holistic interaction between man-made structures and the health of all life and all living environments."

- Appreciate and make the most of natural daylight. Create designs that will give the greatest amount of natural daylight to interior spaces.
- Provide shades or other daylight controls for windows where needed.
- Carefully check products that often emit VOC or formaldehyde fumes, including carpeting, particleboard, solvent-based finishes, and vinyl products. Select low-fume, nontoxic products whenever possible.
- Use ENERGY STAR and energy-efficient lighting inside and outside the home.
- Convert incandescent lighting to CFL (compact fluorescent lamps) when possible for energy savings and fewer replacement costs.

Summary

A green building or product is good quality, energy efficient, and respectful of the environment. It contributes to the healthiest living environment while representing the most efficient and least disruptive use of land, water, energy, and resources.

There is a rapidly growing interest in green home products. A greater number of green products are becoming available. It's up to you, the consumer, to decide which options are most important to you and to make wise decisions in purchasing, using, and disposing of these items.

Our homes can be supportive to our health and to the environment or they can be harmful to both. It's important that we choose to surround ourselves with buildings that are healthy and life-giving.

For More Information:

Your County Extension office

Kentucky Division of Energy
www.energy.ky.gov/dnrdoe.html

United States Green Building Council
90 Montgomery Street
Ste. 1001
San Francisco, CA 94105
Phone: (415) 543-3001
www.usgbc.org/

LEED (Leadership in Energy and Environmental Design)
Green Building Rating System™
US Green Building Council
1015 18th Street, NW
Suite 805
Washington, DC 20036
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Partnership for Advancing Technology in Housing (PATH)
451 7th Street SW
Room 8134
Washington, DC 20410-0001
(800) 245-2691
www.pathnet.org/

American Society of Interior Design
(Guidelines for designing green)
www.asid.org/green.asp

Homes Across America
(Green resources and houses)
www.homes-across-america.org/

Green Seal
(Product Standards, recommendations)
www.greenseal.org/index.html

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