

HOMEOWNER TIP

To save energy and resources:

- Turn down (turn up, if air-conditioning) the thermostat 2 degrees; adapt to the new temperature.
- Add “draft enders” (seals) to all outlets and switches on exterior walls.
- Keep the garage doors closed if you have an attached garage.
- Take showers instead of baths.
- Take short showers.
- Be conscious about energy use and resource consumption.

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GETTING TO GREEN!

GREEN BUILDING - You’ve probably heard about it, but do you really know what it means? It’s definitely not about the color of your home! You may have heard that it has something to do with the environment and energy conservation. That’s correct, but the Green Building program does not stop there. The goals are quite far-reaching. The following is intended to give you a better understanding of the intent, motivation and objectives of the Green Building program in the United States.

Before we do that, however, it’s worth noting that there are at least twenty different organizations that are developing guidelines for a Green Building program. Each is somewhat different in their priorities and implementation protocol. The essential objectives, however, are quite similar. Two groups that seem to be emerging as the leaders are the U.S. Green Buildings Council (USGBC) and the National Association of Home Builders (NAHB). For the purposes of this discussion, we have chosen the USGBC as our reference.

The stated objective of the USGBC is to “actively promote the transformation of the mainstream building industry toward more sustainable practices.” That’s a mouthful! It is well intended, but a complex process.

For comparison, excerpts from the stated objectives of the NAHB program are:

1. To “work toward minimizing environmental impact.”
2. “...to highlight ways in which a mainstream home builder can effectively and holistically weave environmental concerns into a new home...”

Certainly point 2 from the NAHB program proves that government councils aren’t the only ones capable of esoteric objectives.

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Ultimately, we believe that the Green Building program can be a win-win-win: for the builder (a more profitable product), for the homebuyer (a more efficient, environmentally sensitive home) and for the environment (less demand, more sustainability).

How did we get to where we are now? In the early 1980s, a few designers started paying attention to sustainable architecture, and 20 years later, “green” buildings are becoming mainstream. Major conferences are devoting significant time to the subject. The USGBC has developed the Leadership in Energy & Environmental Design (LEED) rating system for existing buildings. It has issued LEED standards for pilot programs for a variety of building types including commercial projects, renovations, residences and others. The one that matters to homebuilders is LEED-H (for homes). You can download the entire draft standard from their Web site, www.usgbc.org. The pilot program is intended to run from 2005 through 2007, after which more permanent standards will be established. At this time, building a home that complies with LEED-H is VOLUNTARY.

Green building, or sustainable design, is easy to understand as a concept. As a measurable standard, however, it is much more difficult. It embodies use of the site, the materials employed, the systems designed and installed . . . even how the home is maintained and operated. In any integrated system, there are always trade-offs – evaluating the benefits of one approach over another becomes extremely complicated. Nevertheless, it is important to begin the journey.

The performance categories identified by the USGBC for homes in LEED-H include site selection, indoor air quality, energy efficiency, water efficiency, recycling, efficient use of materials and homeowner awareness. The categories are:

- Location and Linkages
- Sustainable Sites
- Water Efficiency
- Indoor Environmental Quality
- Materials and Resources
- Energy and Atmosphere
- Homeowner Awareness
- Innovation and Design Process

LEED-H Performance Rating	Minimum Points Required
Certified	30 of 108
Silver	50 of 108
Gold	70 of 108
Platinum	90 of 108

The pilot program addresses these categories and assigns a maximum number of points possible for each. As a participant in the pilot program, you will get scored in each category. In all of these categories, there is a maximum of 108 points that can be awarded. The point total will determine the GREEN rating for your home, certified, silver, gold or platinum. See table to the left.

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Note: “Certified,” a term usually denoting quality, in the GREEN building is actually the lowest level attainable.

The highlights of each of the categories by which your home will be evaluated are summarized briefly below.

Location and Linkages

Another standard, LEED-ND, explores Neighborhood Developments, projects that promote effective use of developable land and discourage sprawl. More points are awarded for access to public utilities and transportation.

Sustainable Sites

The goal in this category is to have minimum impact on the site both during and after construction. Reduce site disturbance by minimizing paved areas and restoring natural green spaces. Reduce storm water runoff and install treatment systems for the effluent that remains. Reduce heat “islands” through plantings, water features, colors and materials, and design characteristics. Limit light pollution and the impact on nocturnal environments.

Water Efficiency

Water usage has become a critical concern. Use recycled water for irrigation. Minimize wastewater. Reduce consumption of potable water – low-flow devices are already part of many codes. Filtering systems, re-use of wastewater and rainwater and other approaches are all important.

Indoor Environmental Quality

With buildings being buttoned up (insulated and well sealed) more tightly and more synthetic materials being used, indoor air quality has become a major concern. Some manufacturers are now providing data about health-related concerns with their products. For example, current concerns about mold always originate with a moisture problem. Water intrusion must be controlled. Humidity control and ventilation are high priorities for a good rating in this category.

Material and Resources

Material selection and use are important, but very complicated to evaluate. The factors to determine whether a product is appropriately green include the environmental effects of production, shipping, application, use and, ultimately, disposal – in other words the life cycle impact, not just the immediate benefit, needs to be considered. The use of recycled and reused materials scores high here, as do components that are easy to recycle. Also, materials produced relatively close to the building site will score well.

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Building a house with fewer square feet than the national average will gain points in this category, too. A smaller house means fewer materials used, assuming good material management and waste control.

Energy and Atmosphere

Limiting energy use is the high priority in this category. The LEED-H standards focus on heating and air-conditioning (HVAC) systems, American Society of Heating, Refrigerating and Air Conditioning Engineers (ASHRAE) standards and Energy Star products and standards. Energy-reducing technologies include conservation measures, high-efficiency equipment, solar and day lighting strategies, green operating procedures and innovative airflow and recirculation systems. Geothermal energy, other renewable sources of energy, and co-generation are encouraged. Sustainability, minimal demand on the environment and natural resources are the goals.

Homeowner Awareness

A sustainable home requires proper use and maintenance. The builder of your home will gain points here for having effective homeowner training programs and materials. A GREEN home is a conscious experience for the homeowner; it means active ownership, not passive.

Innovation and Design Process

Effective and innovative design that demonstrates a commitment to the preceding objectives will score well in this category.

WHERE DO
WE GO FROM
HERE?

The LEED-H Pilot Rating system is a 138-page document. It defines the rating system in great detail and identifies the qualifications needed to rate your home and how that information is to be verified. While only a pilot program, it is well developed and thorough. Being a pilot program, it is theoretical. How well it will work in practice remains to be seen.

However, the essential objective, to build more efficient, environmentally sensitive homes using sustainable practices and renewable resources makes sense.

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