



BUILDING GREEN - AN UPDATE

HOMEOWNER TIP

It's not easy being green!

Fundamentally, it's about:

L-E-S-S

An overview of green building objectives.

Low impact - Work with the site; don't remake it.

Efficient - Conserve energy, water and materials, both on site and by minimizing shipping

Sustainable - Use remanufactured, renewable products instead of grown/organic products.

Small - Build a smaller home.

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FOR MORE INFORMATION

Call our local office or visit our Web site at:

www.criterium-engineers.com

Green building has become a commonplace term in the last few years. It means everything from a comprehensive construction program embracing sustainability and energy efficiency to a promotional “spin” to sell almost anything. To serve our readers, it seems appropriate to take a look at what progress has been made toward green building in the last 2 to 3 years. Where are we?

THE VOCABULARY

LEED (Leadership in Energy and Environmental Design) developed by the U.S. Green Building Council (USGBC) – not a government agency – has developed a wide range of standards for green building. For more info, visit www.usgbc.org.

NGBS (National Green Building Standard) first developed by the National Association of Home Builders (NAHB) as the NAHB Green Home Building Guidelines. The NGBS has recently been issued as an ANSI (American National Standards Institute) approved document ICC-700-2008.

SUSTAINABLE – A common term in the green movement but a difficult one to define. From Wikipedia (01/09/09), a workable definition:

For humans to live sustainably, the Earth's resources must be used at a rate at which they can be replenished...Since the 1980s, the idea of human sustainability has become increasingly associated with the integration of economic, social and environmental spheres to “meet the needs of the present without compromising the ability of future generations to meet their own needs.” (Brundtland Commission report - Our Common Future)

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THE INDUSTRY

*Green is
mainstream!!*

If you visit the Web sites of most of the major building material and component manufacturers and suppliers, you will find a common theme: sustainable, green construction. Here are a few examples.

- **www.buildingresponsibly.com** - The CertainTeed site for green building products.
- **www.usg.com** - The U.S. Gypsum site which now offers a LEED REPORT tool that helps you determine the potential LEED rating for your chosen combination of materials.
- **www.weyerhaeuser.com** - The Weyerhaeuser site – focused on sustainability and responsibility for its products and its whole manufacturing process.
- **www.sherwin-williams.com** - The Sherwin Williams Web site has an extensive section on green solutions, LEED certification and sustainability.
- And it extends to the **corporate world**. Go to **www.walmartstores.com** (the Wal-Mart corporate site) and look at the commitment they are making to sustainability.

THE STANDARDS

A common question we get at seminars is “Which standard should I use?” We don’t have an answer for that except to say that LEED is more recognizable than NGBS at this writing.

Except for a few local building codes that we are aware of, no green building standard has been adopted as mandatory yet.

NAHB (National Association of Home Builders) started with the Green Building Guidelines. In 2007, NAHB partnered with the International Code Council (ICC) to convert the NAHB Green Building Guidelines to a nationally recognized, independently certified standard compatible with ICC building codes. The resulting standard was submitted to ANSI (American National Standards Institute) for independent certification. Early in 2009, ANSI issued ICC 700-2008 National Green Building Standard.

Related to that are:

- Programs to become a verifier of NGBS compliance
- Certified Green Professional designations
- Home NGBS certification programs
- The NGBS scoring tool

For more information, visit www.nahbgreen.org.

The **LEED** (Leadership in Energy and Environmental Design) program, developed by the U.S. Green Building Council (USGBC), is expanding rapidly and getting a lot of visibility. The following are a few national statistics as of this writing. For more information visit www.usgbc.com.

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Current nationwide membership	15,716 organizational members
Total in 2002	2,370 organizational members
LEED Accredited Professionals (AP)	53,341
LEED certified projects	1,540
LEED registered projects	7,400 (not yet certified)
LEED chapters	79

IN THE FIELD

While preparing for a presentation we gave at the 2008 Maryland Governor's Housing Conference, we asked Criterium offices in the mid-Atlantic region what changes they were seeing in the homes being built in their areas in response to the increased focus on green construction. Here is a summary of what they said. These observations likely represent a good overview nationally. Progress is being made in...

But **not** much progress in...

1. We still see mostly the minimum contractor grade, SEER 13 (Seasonal Energy Efficiency Rating), HVAC equipment installed in newer homes even though SEER up to 19+ is available. This is unfortunate because the builder/owner can usually get a utility rebate that will cover part of the cost of the higher SEER.
2. Also, we still see lots of marginal ductwork. There is no apparent concern for sealing it for the long term.
3. We do not see much use of energy-efficient light bulbs, controls, etc. Inexpensive light fixtures and bulbs are still the norm.
4. Windows are generally contractor grade, although some builders are offering high-performance windows as an option.

1. Supply and return air grills (i.e. ductwork) being covered during new construction and remodel projects to improve air quality
2. Construction waste materials being separated for recycling purposes to reduce waste stream
3. Regional materials (either produced or grown) being used when possible
4. Materials being reused when possible on new construction or remodel (e.g., wood, drywall)
5. Non-toxic materials (e.g., final cleaning, mold abatement) being used when possible for new construction and/or remodel
6. Occupant recycling areas being designed into multi-family buildings
7. Water reclamation being designed and incorporated into multi-family projects (e.g., sprinklers, landscaping irrigation)
8. Framing walls with 6" studs and installing R-19 to R-22 insulation in the walls
9. HVAC contractors sealing their ducts with caulk instead of tape, trying to get the duct systems as leak proof as possible
10. More builders having their homes ENERGY STAR-rated. (The public is quickly learning what that means.) Some real estate ads are actually carrying the ENERGY STAR seal.
11. Attics almost always being ventilated with fan-powered vents (i.e., no more natural ventilation alone)
12. Geothermal systems getting more attention
13. More builders understanding house wrap and how to properly flash and seal around windows and doors

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WHAT'S YOUR CARBON FOOTPRINT?



As I am sure you have noticed, another term is becoming popular as part of our shift toward green construction, sustainability and energy efficiency. That term is *carbon footprint*. According to Wikipedia (01/09/09):

*The **carbon footprint** is a “measure of the impact that human activities have on the environment in terms of the amount of greenhouse gases produced, measured in units of carbon dioxide.” These gases are produced by the burning of fossil fuels for our everyday living. For example – heating and electricity; its purpose is for individuals, nations and organizations to conceptualize their personal (or organizational) carbon dioxide contribution. A conceptual tool in response to carbon footprints are carbon offsets, or the mitigation of carbon emissions through the development of alternative projects such as solar or wind energy or reforestation. The concept and name of the carbon footprint originates from the ecological footprint discussion. The carbon footprint is a subset of the ecological footprint, which includes all human demands on the biosphere including the carbon, food and fibre footprint.”*

While this is a somewhat cumbersome definition, the essential point is that by looking at how much carbon dioxide you and your activities contribute to the environment you can determine how “green” your lifestyle is. There are many carbon footprint calculators on the Internet. These take into consideration all of what you do: fuels used, manufacturing requirements of the products you buy, etc. Companies can calculate their own footprint, and many do.

AND A WORD OF CAUTION...

Not everything that claims to be “Green” is green. Some products are offered with claims of green qualities because being “green” sells things, not because they really have green qualities. Always be thorough and cautious when buying green products and services: check the details and be an informed, intelligent buyer, not a “fad” buyer.

At the outset, we asked the question, “Where are we?” We have, indeed, come a long way in just a few years. Green is mainstream. Sustainability drives many decisions. Your carbon footprint should be small. Most of these are changes we should embrace because they will not go away soon, if ever.

For the office
nearest you, call
1-800-242-1969

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