



Green Building Standards

*A practical guide to green
product labels and certifications*

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by Weyerhaeuser

About your speaker...

John D. Wagner

- * Author of 10 books (latest book: Green Remodeling)
- * Written more than 1,100 magazine article in leading trade and popular magazines.
- * Green content creator, Certified Green Dealer Program.
- * Green editor *LBM Journal, Qualified Remodeler, Residential Design and Construction*. Founding editor-in-chief, *Green Builder Magazine*



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Before we get into the green rating and certification agencies, let's ask: Is green building a fad or a transformation? Is it really a movement that will endure?

Consumers expect to double their spending on green products and services in [2008], totaling an estimated \$500 billion annually or \$43 billion *per month*...

The research also found that 90% of Americans agree that there are important green issues and problems, and 82% believe it is important for companies to implement environmentally friendly practices.

— The Nation's Building News, NAHB Dec. 17, 2007

Week of December 17, 2007





Consumer trends...

- * Green building will be a \$60 billion market by 2010, representing a huge upsurge of activity in the green sector from the \$7.4 billion spent on green building components in 2006.
- * Green home owners tend to be affluent and well-educated, in their mid-40s and married. But that doesn't mean green has to be expensive. Many low-cost products are very green indeed.
- * In addition to lower operating and maintenance costs, "environmental concerns" and their "family's health" were significant motivating factors for going green, cited by 50% of those surveyed.

Source: McGraw Hill Construction



More consumer trends...

* 85 percent of the green home buyers said they were more satisfied with their new green homes than with their previous, more traditionally built homes.

* 40% of home owners who had recently completed remodeling or renovation work on their properties had used green products or materials.

* 63% of green home owners said that their green purchases were motivated by lower operating and maintenance costs that come with energy- and resource-efficient homes.



With or without a label, what makes a product green? Here are five consensus green features or attributes.



What makes a product green?

A product is green if...

- 1) It *improves* the indoor air quality or reduces chemical exposure within a home, thereby improving the health of the people who live in it or work on it. (This includes all products that reduce mold.)

A product is green if...

2) It lowers pressure on the environment through the use of materials that are renewable and sustainably harvested (harvested in a way that doesn't permanently deplete the source of the material).



What makes a product green?

A product is green if...

3) It reduces the use of water throughout a home, thereby lowering demands on freshwater sources and the energy-intensive infrastructure required to pipe, store, and purify it.

A product is green if...

4) It reduces pressure on the waste stream, by being made from recycled or recycle-able materials. And it should reduce the exposure risks to people working on or living in the home.



What makes a product green?

A product is green if...

5) It reduces the “carbon footprint” of a home. The carbon footprint is the amount CO₂ created by energy burned to heat and cool a structure over its lifetime or from the energy burned to generate power for the home or the energy used to manufacture the home’s components.

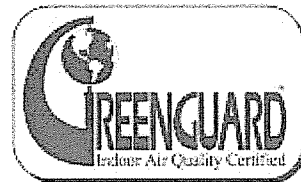
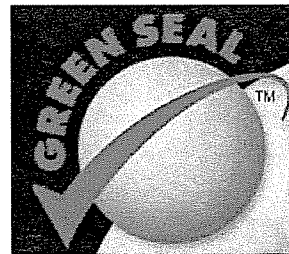
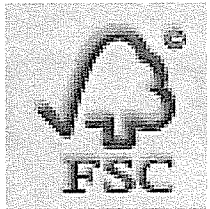
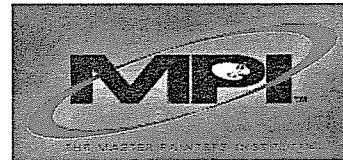


There are three basic kinds of labels or certifications out there.

- 1) Certify Products (including truth-in-labeling verification)
- 2) Certify People
- 3) Certify Houses and Buildings



Overview of popular green product rating agencies

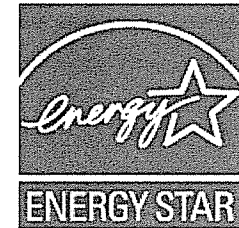




Overview of popular green professional and whole-house rating & certification agencies

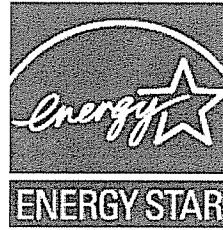
U.S. GREEN BUILDING COUNCIL

LEED





Let's start with Certified Products...



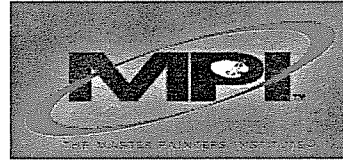
Since 1992, the EPA's Energy Star program has labeled energy-efficient products, and its system now looks at appliances as well as the building envelope, roof types, windows, and air filtration. (Energy Star-qualified homes are independently verified to be at least 30% more energy efficient than homes built to the 1993 national Model Energy Code or 15% more efficient than those built to state energy codes, whichever is more rigorous.) See the guidelines at [Energystar.gov](http://energystar.gov).



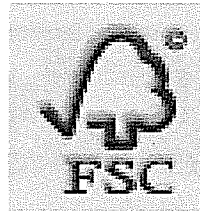
WaterSense, a partnership program sponsored by the U.S. Environmental Protection Agency, “makes it easy for Americans to save water and protect the environment.” WaterSense approved products are generally 20 percent more water-efficient than similar products in the marketplace.



A third-party certifier, Scientific Certification Systems (SCS) certifies a wide range of products for such attributes as recycled content and biodegradability. Their Environmental Claims Certification program is a truth-in-labeling seal. SCS will certify Environmentally Preferable Products (EPP) for their relative environmental impact. SCS also provides audits of forests under FSC guidelines and certifies claims in these categories: biodegradable, indoor air quality performance, poison free/alternative to poison, and material content (recycled, postconsumer, etc.). More info: Scscertified.com.



The Master Painters Institute (MPI) Green Performance Standard examines paint performance and looks at paint content for toxins and VOCs. MPI has established a green standard for paint and it issues a list of products that meet MPI standards. The categories on the list range from exterior oil wood primer to low-VOC interior latex. MPI's standards usually exceed EPA minimums. More info: Specifygreen.com; Paintinfo.com.



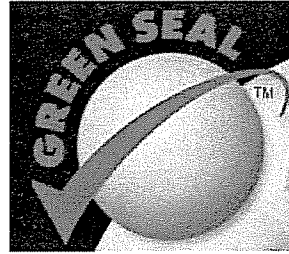
A global organization, the Forest Stewardship Council promotes forest management practices and has stakeholders in a number of categories, including environmental groups, forestry professions, indigenous people's organizations, corporations, and forest certification organizations. FSC sets standards that protect forests, water quality, wildlife habitats, and local communities. FSC also accredits third-party organizations to verify those standards. There are two FSC certificates: Forest Management Certificate (an inspection for compliance with FSC Principles of Responsible Forest Management) and a Chain of Custody Certificate (a guarantee of all successive stages of processing and distribution.) More info: Fsc.org.



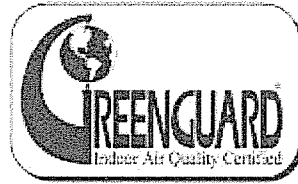
The Carpet and Rug Institute (CRI) is a carpet and rug industry trade association. It created the Green Label. Through independent testing by Air Quality Sciences, carpet is tested using ASTM methods. A product can use the CRI Green Label if the test results do not exceed CRI's emission criteria. A more strict CRI standard, Green Label Plus, claims that the carpet complies with California's stricter Section 01350. More info: Carpet-rug.com.



The American Forest & Paper Association developed the Sustainable Forestry Initiative (SFI) Program to reconcile the economic benefits of forest management with environmental protection. SFI certifies producers of wood products and the product itself. The SFI guidelines are governed by the Sustainable Forestry Board (SFB), a multi-stakeholder organization made up of representatives from environmental nonprofits, the forest products industry, and the broader forestry community. More info: Aboutsfi.org.



Green Seal is a third-party organization that offers environmental testing and certification for building products like paints, windows, and doors. Green Seal evaluations can examine a product's entire life cycle, from raw material to disposal. Applicants pay an assessment fee to be appraised. Green Seal publishes Choose Green Reports, which reviews a wide range of products. All Green Seal products have undergone third-party verification. More info: Greenseal.org.



Greenguard Certification Program tests and certifies a product's emissions (including VOCs and formaldehyde). Greenguard certifies a wide range of products, from adhesives and flooring to paints, floor finishes. Testing follows ASTM, EPA, and state standards. Greenguard also offers the Greenguard for Children and Schools Program for products used in schools. They also offer the Greenguard Mold Protection Program to appraise mold risk and they even certify design and construction. More info: Greenguard.org.



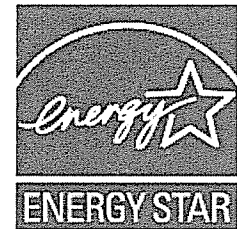
Now let's focus on the green
professional and whole-house
rating agencies...

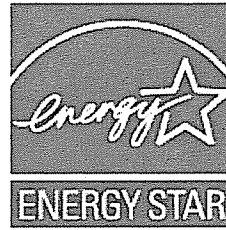


Overview of popular green professional and whole-house rating agencies

U.S. GREEN BUILDING COUNCIL

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To qualify as Energy Star home, the home must meet baseline criteria in the building envelope, ductwork, and with Energy Star-rated products. The home must be field-tested through the Residential Energy Services Network (RESNET)-accredited provider network. Energy Star-qualified homes are verified to be at least 30% more energy efficient than homes built to the 1993 national Model Energy Code or 15% more efficient than those built to state energy codes, whichever is more rigorous. More info: [Energystar.gov](http://energystar.gov).



Created in 1999, EarthCraft House is a residential green building program of the Greater Atlanta Home Builders Association in partnership with Southface. This program has served as a blueprint for energy- and resource -efficient homes.



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LEED Professional Accreditation distinguishes building professionals with the knowledge and skills to successfully steward the LEED certification process. LEED Accredited Professionals (LEED APs) have demonstrated a thorough understanding of green building practices and principles and the LEED Rating System. More than 43,000 people have earned the credential since the Professional Accreditation program was launched in 2001. In 2008, administration of the Professional Accreditation program transitioned to the Green Building Certification Institute (GBCI).



U.S. GREEN BUILDING COUNCIL

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U.S. Green Building Council (USGBC) program is Leadership in Energy and Environmental Design (LEED). Released in 2000, LEED is a voluntary program that certifies buildings based on earned points in these categories: sustainable sites, water efficiency, energy and atmosphere, materials and resources, indoor environmental quality, design. The points are verified by a third party. There are four tiers of LEED certification. Basic LEED; LEED Silver; LEED Gold; and LEED Platinum. The new LEED for Homes (LEED-H) program is now rolling out nationwide. More info: Usgbc.org.



NAHB has just rolled out a Certified Green Professional Program, which requires that building professionals (builders, remodelers, and developers) take a two-day NAHB course, and 12 hours of continuing education every three years.

Builders, remodelers, and developers must have at least two years of building industry experience and be involved in the construction of at least one home in the past 24 months to apply. More info: NAHB.com



The new National Green Building Standard is a joint project of NAHB and the International Code Council, which promulgates model building codes. (It will soon go to the American National Standards Institute for approval.)

Using a web tool to navigate the Standard, homes seeking certification will be tested and scored by a national network of verification experts--whom the NAHB will certify and train but remain independent from. The levels are bronze, silver and gold. More info: NAHB.com



The Certified Green Dealer™ Program is a Web-based “distance learning” program that certifies the nation’s lumberyards and building material dealer locations as sources of information on green building and green products through online training and printed resource material. More info:
CertifiedGreenDealer.com

- Green is here to stay; it's a mainstream movement
- You can “do good” by “doing well,” and profiting from green
- Green products are *not* exotic species
- Green products are widely available
- Not all new products are green...
 - Not all green products are new
- Many traditional products are considered green
- Green is not difficult to learn. Just a few hours of training can bring you up to speed on green products
- For starters, look for and learn about green certification systems.



Q&A

***“The only silly question
is one that is unasked.”***



“My Favorite Things”

Resources



Resources...

BuildingGreen, Inc.

www.buildinggreen.com

BuildingGreen is an independent company that provides accurate, unbiased, and timely information about green design and products. BuildingGreen brings this research to you – partially free, partially for a subscription fee – through its publications: *Environmental Building News*, the *GreenSpec* directory of green products, and the *BuildingGreen Suite* for online research.

California Air Resources Board (CARB)

www.carb.ca.gov

CARB is the California state agency that regulates air quality. Its policies often have national implications.

Carpet and Rug Institute/Green Label

www.carpetrug.com

CRI performs independent testing of carpets and rugs to check for chemical emissions.



The Cool Roof Rating Council (CRRC) www.coolroofs.org

CRRC is an independent organization that rates roofing products for their ability to reflect or emit heat.

Department of Energy (DOE) www.doe.gov

DOE promotes America's energy security through reliable, clean, and affordable energy. DOE's website has an expansive offering of free material focused on energy consumption and energy efficiency.

US DOE Energy Efficiency and Renewable Energy (EERE)
www.eere.energy.gov

This site offers authoritative information on energy efficiency and renewable energy.



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Resources...

EarthCraft

www.earthcrafthouse.com

This residential building guideline, originally focused on homes in the Atlanta region, has served as a national model for well-built green homes.

Environmental Home Center a.k.a ecohaus

www.environmentalhomecenter.com

A catalog source for green building products.

Environmental Protection Agency (EPA)

www.epa.gov

EPA's website provides a wealth of free information, including lists and sources of products that are in compliance with EPA's various programs.



Resources...

Forest Stewardship Council (FSC)

www.fsc.org

FSC is an international not-for-profit membership-based organization created to reward good forest management.

Green Building Blocks

www.greenbuildingblocks.com

Green Building Blocks is an online resource for green design and product information.

Green Building Supply

www.greenbuildingsupply.com

A catalog source for green building products.



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Resources...

Green California

www.green.ca.gov

The State of California's green building standards are outlined here, and they offer good guidance to homes built anywhere.

Greenguard

www.greenguard.org

The Greenguard Certification Program (run by the Greenguard Environmental Institute) certifies low-emitting products for indoor air quality.

Green Seal

www.greenseal.org

Green Seal provides environmental testing and certification for a wide range of materials, including building materials.

The Interlocking Concrete Pavement Institute www.icpi.org

A helpful website that offers excellent resources, installation tips, and material sources for concrete pavers.



Resources...

National Association of Home Builders

www.nahb.org

NAHB is a national trade association for home builders. It is also the purveyor of the National Green Building Standard, the dominant green building standard and a good source for green building practices.

National Fenestration Rating Council (NFRC)

www.nfrc.org

NFRC is an industry group that purveys standardized information about window performance.

Oikos

www.oikos.com

Oikos is an organization devoted to serving professionals whose work promotes sustainable design and construction.



Resources...

Oak Ridge National Laboratories

www.ornl.gov

Oak Ridge National Laboratory is a science and technology laboratory managed for the U.S. DOE and its website is a superb source of basic scientific information about green products and practices.

SmartWood

www.rainforest-alliance.org

SmartWood is a program of the Rainforest Alliance and accredited by the FSC. SmartWood certifies all types of forests for FSC programs.

Southface

www.southface.org

Southface promotes sustainable homes through education, research, advocacy and technical assistance.



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Sustainable Forest Initiative (SFI)

www.sfiprogram.org

SFI conducts site visits and chain-of-custody audits to ensure that SFI-certified lumber companies are in compliance with SFI harvesting standards.

U.S. Green Building Council

www.USGBC.org

This organization created and oversees the LEED standard for homes and commercial buildings.