

ARCHITECTURE



Green Building Labels 101: An Inhabitat Guide to Third Party Environmental Certifications

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GREEN BUILDING LABELS 101

an inhabitat guide to 3rd party environmental certifications



If you're reading **Inhabitat**, you're probably interested in **green building**, and if you work in the building and construction industry, it's likely that you strive to build in as environmentally conscious a manner as you can. But how do you measure, compare and make choices about the environmental footprint of different products, **materials** and **building practices**? Over the past few years, you've probably encountered a veritable cacophony of eco labels competing for your attention, stamped on everything from carpeting, appliances and furniture, to **building materials**, windows and roofing, to entire **buildings**. If you're feeling overwhelmed by this onslaught of competing eco labels, fear not. Inhabitat is here to break them down for you and help you decipher what green building labels really mean, and which are the most important ones to pay attention to when it comes to **building green**.

What kind of party?

The first important concept to understand when comparing eco labels is to understand the difference between independent third-party labeling versus second or first-party labeling. The most authentic and trustworthy certifications are those awarded by an independent third-party that has no business or monetary relationship with a product's manufacturer, or a building's contractor, designer or specifier. Third-party certification systems, such as **LEED**, generally have a transparent, open and clear system that standardizes how points are awarded to achieve certification.



3rd Party Certifications vs. 2nd & 1st Party

At the other end of the spectrum are the somewhat dubious first-party labels, which have not been verified or tested by an independent outside source. These first-party labels are often created by companies selling eco-labeled products as a marketing tactic to sell more product or extract a premium price. An example of this is when a company makes their own proprietary green label to put on their "green" products, but the standards for what makes this product green-labeled are not clear, transparent or independently verified. Second-party labels generally fall somewhere in between third-party and first-party in terms of credibility and method—they are more credible than first-party labels because a secondary association has set a standard and verified claims, but they often lack the transparency and independence of a true third-party labeling system, because the second-party frequently has a business relationship/conflict of interest with the first-party (and is therefore not independent), and the criteria that define what counts for "green" is not always transparent or standardized. Quite a few well-respected third-party green building labels such as **C2C** (Cradle to Cradle) and **BIFMA** started out as second-party labeling systems and eventually adopted rigorous third-party standards to meet consumer demand.

Common 3rd Party Green Building Labels:



BUILDING CERTIFICATIONS



BREEAM

The **Building Research Establishment's Environmental Assessment Method** (aka BREEAM) was the first comprehensive **green building** rating system in the U.K. and many consider it to be the first comprehensive green building rating system in the world. **BREEAM** is effectively the British equivalent of **LEED** (even though it is also used and recognized outside of the U.K. as well), and the popular U.S. rating system **LEED** was originally inspired by **BREEAM**. In order to achieve a BREEAM rating, a building must undergo an assessment that measures a number of factors including **energy** and **water use**, the health and well-being of inhabitants, pollution, **transportation** issues, **materials**, waste and ecology and management processes, and compares them to established benchmarks. London's **PriceWaterhouseCooper office tower** achieved a **certification** of BREEAM "outstanding" (the highest level that can be attained) in 2010.



LEED

Probably the best-known of all green building certifications in the United States, **LEED** (or Leadership in Energy and Environmental Design) is a system established by the **U.S. Green Building Council** (USGBC) to measure and rate the environmental performance of buildings, building interiors and even entire neighborhoods. Like its UK counterpart **BREEAM**, the **LEED** system provides third-party verification of the sustainability levels of whole built environments by awarding points for excellence in areas such as **energy usage**, **water efficiency**, use of **recycled materials** and **indoor air quality**, which are totaled to reflect different levels of certification, such as bronze, silver, gold and platinum. Many different types of buildings, from **libraries** to **personal residences**, **hospitals** to **corporate headquarters**, achieve **LEED certifications**.



Since its inception in 1998, the **LEED program** has been phenomenally successful in promoting green building and providing business incentives for extra investment in sustainable building strategies, but like all truly transformative programs, the **LEED system** is a work in progress. The **USGBC** recognized early on that buildings and construction methods are not static, and accordingly, they've worked diligently over the years to increase the robustness of their rating system

and acknowledge new technologies and building innovations. Last fall, the USGBC announced **LEED v4**, an update on the current version of the LEED rating system, **LEED v3**, which was released in 2009.

LEED v4 includes new market sectors, streamlined services and increased technical vigor in areas such as lighting and ongoing building management — areas that were previously not as heavily emphasized in the LEED point system. Substantially reworked is the **Materials & Resources** section of LEED v4. The new version is different from v3 in that it applies lifecycle thinking at the whole-building and product level, rather than just evaluating a single attribute such as recyclability. Previously, a product could have higher than average performance on one attribute but fail to make a mark on another. v4 differs in this regard by encouraging the evaluation of products and materials on a much more comprehensive scale. For example, credits such as the “MRc4 building product disclosure and optimization – material ingredients” encourage the use of products with certifications like **Cradle to Cradle** or disclosures like the **Health Product Declaration**. Additionally, newer proposed credits also reward projects for reusing as much material as possible as well as using less material overall.

Based on USGBC member input, v4 will also boast an improved documentation process, more resources and tools in development, and more solutions for more markets, such as data centers, warehouses, existing schools, existing retail, hospitality and mid-rise residential. LEED v4 was approved on July 2, 2013, by 86 percent of the USGBC membership, and it will go into effect this fall.



Photo: **Capital Health Medical Center – Hopewell** in Pennington, NJ – interior design by **ARRAY Architects**

One example of a **LEED Gold** certified building is the **Capital Health Medical Center at Hopewell** in Pennington, NJ. This building earns big points for water efficient landscaping, water use reduction, the recycling of 90% of its trash and debris from the construction phase, use of regional materials, use of PVC free and low VOC finishes on all its painted surfaces, a preservation of open space that exceeds local zoning requirements by 67%, **light pollution** reduction, and its **C/S Acrovyn** interior wall and door protection.

Living Building Challenge

The **Living Building Challenge performance standard** is regarded by many in the industry to be the most rigorous and difficult green building certification to achieve. The **LBC label** goes several steps beyond **LEED** and other certifications by recognizing projects that operate nearly as efficiently and elegantly as nature's own **architecture** (certainly not an easy task). To be Challenge-certified, a green building or home must meet a series of strict performance requirements that include **net zero energy**, **net zero waste** and **net zero water**. If you need further proof as to how ambitious this standard is, the world's fourth (yes, only the fourth) **Living Building**, **Seattle's Bertschi Elementary School**, was just named this year.





Photo: Seattle's Bertschi Elementary School

Living Building Challenge has recently extended its scope to include products, and just last year, the **International Living Future Institute** launched **Declare**, a building products transparency label program. **Declare** aims to provide manufacturers and builders with a "nutrition label" for products and materials. Accordingly, **Declare** aligns with the **Living Building Challenge**, namely supporting the program's **Red List** and **Appropriate Sourcing Imperatives**. So far, nearly 100 products have been added to the **Declare database** and it continues to grow. By providing a clear ingredients list for building products, the **International Living Future Institute** believes that they will make it much easier for consumers to make conscious, informed decisions, as well as provide a way for manufacturers to demonstrate market leadership and secure a competitive advantage through their ecologically sound products.

National Green Building Standard from the National Association of Homebuilders:

The **National Green Building Standard** is a label created as sort of an alternative to the more rigorous LEED label to demonstrate the sustainability of green homes based on performance **in six key areas**: Site Design, Resource Efficiency, Water Efficiency, Energy Efficiency, Indoor Environmental Quality, and Building Operation & Maintenance.

The NGBS measures homes, renovation projects, apartments and other projects against the requirements of the **ICC 700 National Green Building Standard**, which is the only residential green building rating system approved by **ANSI** as an **American National Standard**. One example of a project designed to achieve **NGBS certification** also happens to be the **first certified active house in North America**.



Building Standards

A building standard is a set of widely accepted guidelines against which **buildings, products** and **materials** can be judged, quantified and labeled. Although they are not the same thing as certifications, **ANSI**, **ASHRAE**, and **ASTM** are three commonly used building standards that are governed by the **International Standards Organization (ISO)**. The **ISO** defines and develops worldwide standards that frequently become law or form the basis of industry norms, including many elements of green building certifications.

To fully understand what a green certification represents, the details of its standards and requirements need to be carefully reviewed. The **ISO** defines different types of labels that can be used for products. Below is an outline of the **ISO**-defined labels and what is being claimed in each type of label. Product certifications available in the U.S. are mostly Type I and Type II labels while Type III labels are now required in **France** and becoming more common in Europe and for those U.S. manufacturers with an international focus.

ISO-defined Types of Green Product Certification Labels

Type	ISO Number	What the label does
Type I	ISO 14024	Seal of approval for multi-attribute requirements
Type II	ISO 14021	Verifiable single-attribute environmental claims for issues such as energy consumption, emissions, or recycled content. Can be first-party, self-declared manufacturer claims. However many manufacturers are beginning to seek third-party verification of those claims in response to industry demand.
Type III	ISO >14025	Comprehensive environmental product disclosure and detailed product information. Similar to an Environmental Product Declaration (EPD)

(chart source: [WBDG website](#)—a great resource for understanding green building labels)



PRODUCT + MATERIAL CERTIFICATIONS



Single versus Multi-Attribute

When it comes to product and material labels, it is important to understand the difference between single-attribute versus multi-attribute. Some certifications only look at one particular criterion, such as: energy consumption (in the case of **Energy Star**), water consumption (in the case of **WaterSense**), or sustainability of forest practices (in the case of **FSC**)—these types of certifications are known as “single-attribute” certifications. Certification systems that assess multiple environmental factors—such as life-cycle, carbon emissions, recyclability, and water use, are known as “multi-attribute certifications”. Examples of multi-attribute certifications include **Cradle to Cradle** (C2C) and **Green Seal**.

SINGLE ATTRIBUTE PRODUCT CERTIFICATIONS:

Energy Star

ENERGY STAR is a program established by the **U.S. Environmental Protection Agency** (EPA) to help consumers recognize energy-efficient electrical products, such as household appliances and consumer electronics. The blue

Energy Star label is an indicator that a product meets higher standards of energy efficiency than others, and can decrease the overall energy usage in your home and save greenhouse gas emissions. **Energy Star-rated products** are widely available but some of the most common examples that you've likely come across include **Energy Star-rated light bulbs, televisions and appliances.**



WaterSense

Also established by the EPA, **WaterSense** is a label that helps consumers identify products and **services** that reduce water usage. In order to earn the **WaterSense label**, candidates must prove that they are at least 20 percent more efficient than other products without sacrificing performance. Inhabitat has featured several **WaterSense-certified products** such as **low-flow toilets and motion-activated faucets.**



FSC (Forest Stewardship Council)

FSC, which stands for **Forest Stewardship Council**, is a third-party certification program established in 1993 with the goal of promoting responsible forestry and certifying resulting wood products, such as building lumber and paper goods. The **FSC** standard is managed by the **Forest Stewardship Council**, while **FSC certification** is awarded by third parties such as the **Rainforest Alliance and Scientific Certification Systems** (see below). There are different standards for different wood products (FSC pure, FSC mixed, and FSC recycled) and different regions.



MULTI-ATTRIBUTE PRODUCT CERTIFICATIONS:

C2C (Cradle to Cradle) Certification from the Cradle to Cradle Innovation Institute

The **Cradle to Cradle Certified^{CM} Products Program** is a continuous improvement quality standard based on the design philosophy outlined in the 2002 book, **Cradle to Cradle: Remaking the Way We Make Things** by **William McDonough** and **Michael Braungart**. The program was developed by **McDonough Braungart Design Chemistry** over fifteen years of work with many of the world's leading brands. By following this publicly available certification standard, designers and manufacturers get on a path of continuous improvement, aiming at **products that are safe, healthy, and designed to be returned to nature or industry after use.** The program evaluates a product across five quality categories: **Material Health, Material Reutilization, Water Stewardship, Social Fairness, and Renewable Energy and Carbon Management.** The program follows from the realization that "the making of



things” is a powerful, undervalued leverage point for systemic change. It directly addresses the harmful impacts that result from the present-day design, manufacture, use, and disposal of everyday products. These impacts include environmental degradation, resource loss, health problems for current and future generations, and social injustice and inequity. The **Cradle to Cradle Products Innovation Institute** is an independent non-profit that provides **third-party verification** in order to bring about a new industrial revolution that turns the making of things into a positive force for society, economy, and the planet.

SCS: Scientific Certification Systems

Scientific Certification Systems, now doing business as **SCS Global Services**, is the granddaddy of third-party environmental, sustainability and food quality certification, auditing, testing and standards development. The **SCS label** is awarded to a wide range of products from textiles to flooring to furniture by **SCS Global Services**, a third-party environmental certification, auditing, testing, and standards development firm. Because **SCS** spans so many different industries, it’s actually an overarching program that includes many **specific labels from SCS-certified pesticide residue free to SCS-certified carbon neutral**, to **SCS certified calCOMPLIANT** (specifically for VOC-free particle-board in California), to **SCS certified Indoor Advantage** (specifically for VOC-free office furniture).



Green Seal

Green Seal is another multi-attribute, multi-industry certification system, that certifies the environmental standards of everything from soaps to adhesives to windows and lamps. Established in 1989, long before the green movement was as widespread as it is today, **Green Seal** was founded as a tool to help consumers find products that were good for the environment, but also for their own health and the wellness of their families. Building products covered by **Green Seal** include **paints**, adhesives, lamps, windows, window coverings, finishes, and occupancy sensors. Green Seal is referenced in **LEED rating systems**, and you can get **LEED points** for using Green Seal products in **LEED for Existing Buildings in Operations and Maintenance**.



BIFMA: Business and Institutional Furniture Manufacturer’s Association

The **Business and Institutional Furniture Manufacturer’s Association** (BIFMA) creates standards for evaluating the safety, durability, ergonomics, toxicity and structural adequacy of contract furniture. Established in 1973, they have become “the voice of the furniture industry”. When evaluating new products, BIFMA takes into account a company’s social actions, energy usage, material selection and human and ecosystem health impacts. The association also sponsors the development of national and international safety and performance policies, provides industry statistics and forecasts, and advocates for regulatory conditions, amongst other issues.



GREENGUARD Label

The **GREENGUARD Label** is administered by a third-party

company (**UL Environment**, a business unit of Underwriters Laboratories) and is focused specifically on emissions, toxicity and indoor air quality, tested in accordance to **CA 01350**.

GREENGUARD certification is a standard that helps architects and contractors find products like paints, flooring, materials and even furniture that have low **VOC (Volatile Organic Compound)** emissions and are safe for indoor air quality.

These GREENGUARD-certified paints are a good example of where you might see this label in practice and how it might be useful to you.



UL Environment

UL Environment, the company that administers the Greenguard label, also administers a variety of other single and **multi-attribute green labels** and certifications – including **BIFMA, Eco-INSTITUT Certification, Ecologo**, as well as **Environment Product Declarations** and **Corporate Sustainability Programs**. In this way, this certification administration company is somewhat similar to **SCS (Scientific Certification Systems)** mentioned above.



CRI Green Label & Green Label Plus

CRI labels are issued by the **Carpet and Rug Institute** to indicate that carpets, carpet backings, cushions and adhesives emit low amounts of **VOCs** (Volatile Organic Compounds). The **Green Label Plus** is given to those carpeting products that exceed the green building requirements **dictated by California schools** which focus on post-consumer content, VOC emissions, the absence of PBDE flame retardant, life cycle assessment and recycling.



Health Product Declaration Collaborative

The **Health Product Declaration (HPD)** is a vehicle for those who work in the industry to report on the product content and health information associated with individual building products and materials. Because of the redundant, overlapping and sometimes conflicting reporting formats for product content and associated health information, **the HPD was created** as a way to increase the transparency and accuracy by ensuring that both content and health information it is reported in a consistent manner wherever it appears. The program operates wholly as an "open standard", non-profit, membership organization and encourages those in the industry to contribute to the development, maintenance and evolution of HPD's scope. While the HPD is used as a disclosure tool, it is not a third party product certification.



Moving Towards Transparency & Simplicity

So now that we've thrown over 2000 words and 21 paragraphs at you about green building labels, we hope this helps to better clarify the meaning and standards of some of the most commonly used certifications. Building green buildings is a complicated, multi-faceted matter, and one unfortunate result of this is that the corresponding green building certifications out there are equally complicated and multifaceted—you almost need a handbook to parse, interpret and understand the myriad of competing labels. In a recent **panel discussion at HKS Green Week**, architect Jason McLennan, founder and creator of the **Living Building Challenge** and CEO of the **International Living Future Institute**, empathized with the challenges faced by architects on deadlines trying to sort through the complex volumes of certifications, standards, material evaluations and possible **greenwashing**:

“The reality of all of this must seem overwhelming to an architect on a deadline – you shouldn’t have to be a toxicologist to specify healthy building products,” said McLennan. “The paradigm is backwards. We shouldn’t have to go out of our way to specify healthy building materials. The opposite should be true.”

— quote from **Metropolis** article 6/8/2013, **It’s Show and Tell Time for Building Product Manufacturers**, by Kirk Teske

The good thing is that designer interest in **green building** is stronger than ever, and consumer demand is pushing a growing momentum towards transparency in green building labels. Many of the most popular green building and product certifications, such as **LEED** and **C2C**, are becoming increasingly rigorous and transparent each year as increasingly sophisticated green-educated architects and designers demand it. And while it may have seemed like we were in a bit of a “Wild West” for unregulated green labels a few years back, economic pressure and consumer demands for simplicity, **transparency** and accountability are slowly pushing towards consolidation in the labeling industry, with a paring down of the lesser-known, less-trusted labels, and increasing clarity and ease-of-use with popular green building rating systems like **LEED** and disclosure tools like the **HPD** (Please note that although HPD is a useful disclosure tool, it is not a third party product certification). In addition to helping prepare professionals to use and understand green building labeling programs, professional certification programs like **LEED-AP** also help design and construction professionals better understand the science and the myriad complex factors associated with green building. We highly encourage anyone interested in green building to consider getting **LEED accredited**, or joining another similar **green builder professional accreditation program** such as **Living Futures Accreditation** (for professionals educated in the standards of the **Living Building Challenge**).



Photo: Interior of the **Bertschi Elementary School** by KMD Architects. The building features specified **C/S Pedigrid** entrance flooring and is **Living Building Challenge** certified

“All fine architectural values are **human values**, else not valuable.”
- **Frank Lloyd Wright**

Do You Agree? ▶



Construction Specialties manufactures and sells specialty architectural products internationally, with over 30 offices and manufacturing facilities worldwide. Its products include interior wall and door protection, entrance flooring, expansion joint covers, louvers, grilles, sun controls, explosion vents, smoke vents, and cubicle track/curtains. The company serves architects and designers, building owners, facility managers and contractors. **Construction Specialties, Inc.** was founded in 1948 and is headquartered in Lebanon, New Jersey.



Featured in the photo above is a kitchen in **Construction Specialties** (C/S) office building in Hughesville, Pennsylvania. **C/S** renovated an existing warehouse building and recycled 97% of construction demolition debris. Speaking about the project, General Manager Howard Williams said: “This facility is a living application of C/S’ commitment not only to create products that will contribute to lowering the environmental impact of the buildings they become a part of but also conduct business in a way that strives to have no negative impact on our environment.” The building is **LEED Silver certified**.