

What Makes a Building Material Green?



IT SAVES ENERGY.

- Products that either reduce heating and cooling loads, such as building orientation, high-quality windows, and insulation.
- Products that use less energy, such as Energy Star-rated appliances, efficient heating and cooling systems and florescent lamps.
- Products that produce energy, such as solar electricity generation systems.



IT CONSERVES WATER.

- Products that conserve water above and beyond what is required by law, such as dual-flush toilets and under-sink flow restrictors
- Products that consume less water, such as native landscaping and drought-tolerant plantings.



IT CONTRIBUTES TO A SAFE, HEALTHY INDOOR ENVIRONMENT.

- Products that don't release significant pollutants into the building, such as no-VOC paints, formaldehyde-free cabinets, and non-toxic caulks, sealers and adhesives, CRI Green Label carpets and pad.
- Products that block the spread of or remove indoor pollutants, such as duct mastic, effective ventilation equipment, and air and water filters.
- Products that warn occupants of health hazards, such as CO detectors and humidity sensors.



IT PROTECTS NATURAL RESOURCES.

- Products with recycled content, such as carpet, tile, wallboard, and wood replacements made from polystyrene.
- Products made from agricultural waste material, such as wheat straw, sunflower stalks, and rice hulls.
- Products that reduce material use, such as drywall clips and concrete pigments that turn concrete slabs into finished floors.
- Products made from rapidly renewable materials, such as bamboo flooring, natural linoleum, cork and textiles made from wool, sisal, hemp and organic cotton.
- Wood Products from sustainably managed forests and certified according to the principles of the Forest Stewardship Council (FSC).
- Salvaged products, such as bricks, lumber and plumbing fixtures.



IT REDUCES BUILDINGS' IMPACT ON THE COMMUNITY.

- Products that mitigate the effects of stormwater runoff, such as permeable pavers, green roofs and cisterns.
- Products that provide easy access to alternative modes of transportation such as bike racks and storage units.
- Products that do not need chemical pesticides or treatment, such as plastic lumber, physical termite barriers and native vegetation.
- Products that contain no dioxin-producing polyvinylchloride (PVC) or ozone-depleting HCFCs.

What Makes a Building Material Green?

Green products and materials, such as those found in Global Green USA's Green Building Resource Center, save energy, conserve water, protect natural resources, contribute to a healthy indoor environment, and reduce buildings' impact on the community.

Because each project is different and each person's reasons for building green are different, priorities need to be set when selecting specific products.

It is important to carefully compare the characteristics when selecting green products. The choices you make will be the result of these comparisons and often priorities differ depending on the specific environmental issues in your community. For example, in one place the most pressing concern might be overflowing landfills while in another it could be contaminated stormwater runoff. For children and some individuals, limiting exposure to toxic chemicals in the home is a major priority. Understanding these differing priorities is key in determining what green material is right for your project.

Green building is as much about design strategy as about selecting green materials.

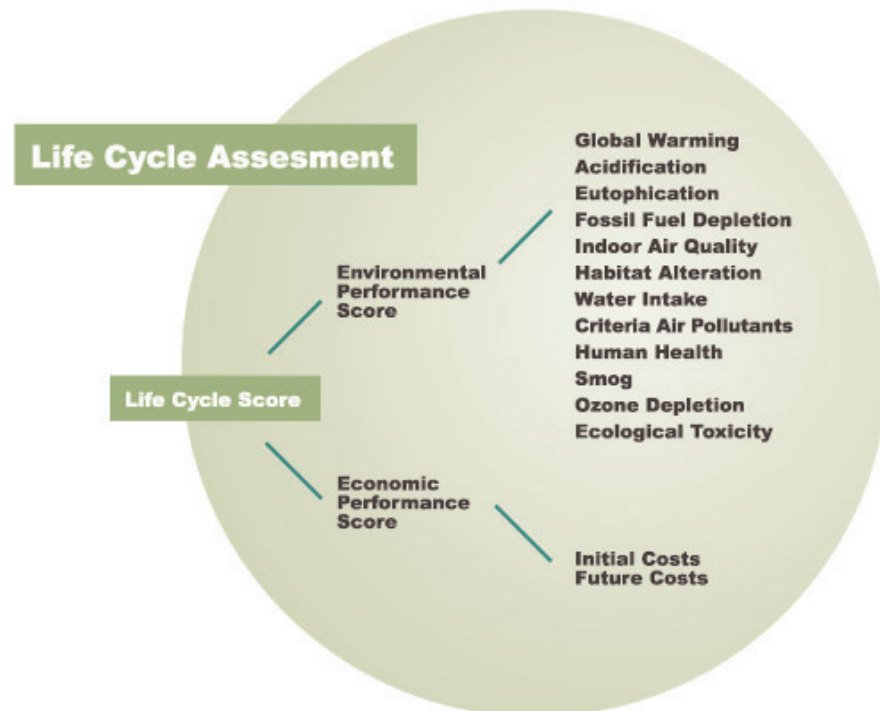
Integrated design – thinking about how a building works as a system and designing that system to be environmentally-friendly – is a key part of green building. Certain products, particularly those that deal with energy, are not inherently green but can be used in ways that enhance the environmental performance of a building. For example, a dual-pane, low-E window may not be green in terms of its material components or manufacturing process, but if used strategically it can reduce energy use by maximizing the collection of winter sunlight and blocking out the summer sun. Some design considerations that will help you choose the right materials include building orientation, use patterns, durability, and local availability.

There is no perfect green material. Trade-offs are inevitable!

Building materials have multiple impacts on the environment, both positive and negative. One common way to assess these impacts is through Life Cycle Assessment (LCA), which considers the full range of a product's environmental impacts, from resource extraction to manufacture and then through installation and ultimate disposal. This type of analysis allows for comprehensive and multidimensional product comparisons. With flooring for example, LCA weighs the resource-extraction impacts and durability of hardwoods with the manufacturing impacts, emissions during use and potential recyclability of carpet.

Defining whether a building material is "green" is not an exact science. But there is still a role for objective analysis and testing.

In determining how "green" a material is, it is important to refer to objective resources such as GreenSpec, a database of approximately 2000 environmentally-friendly building products published by the Environmental Building News. GreenSpec screens its products based on standards and testing procedures established by third-party groups with an interest in green building. This scientific analysis helps to separate green products from "greenwashed" products.



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Independent Certification Programs

Third-party Certification and Screening Programs Related to Green Building

Carpet and Rug Institute Green Label – A testing and labelling program for “low-emitting” carpet, underlayment, adhesives and vacuum cleaners



Greenguard – An independent testing and labeling program for “low emitting” furniture and finish materials



Energy Star – A labelling program for energy efficient homes, building products and appliances



Greenseal – A Life Cycle Assessment-based labelling program for building products and green operations and maintenance procedures



Environmentally Preferable Products Database – A database of “preferred products” under development by the California State Architect; focused on commercial and school buildings



Leadership in Energy and Environmental Design (LEED) – A certification program for buildings that achieve performance targets in the five green building categories



Forest Stewardship Council – A certification program for wood products that come from forests that are managed in an “environmentally responsible, socially beneficial and economically viable way”



Scientific Certification Systems – Independently certifies that products meet the EPA’s environmentally-preferable standards for federal government purchases; also certifies manufacturers specific claims on product content and emissions levels

