



Green Building

Key Components of a Green Home

Green homes incorporate environmental considerations and resource efficiency into every step of the building and development process to minimize environmental impact. The design, construction, and operation of a home must focus on energy and water efficiency, resource efficient building design and materials, indoor environmental quality, and must take the home's overall impact on the environment into account.

Energy-Efficient Features

Many of the energy-efficient qualities of a green home are easy to spot. Appliances, windows, and water heating systems will likely have ENERGY STAR® ratings. The home should also include efficient lighting fixtures and bulbs. Renewable energy sources, such as photovoltaic electricity and water heating systems, further decrease the overall energy consumption within the home.

Water-Efficient Features

Fixtures and appliances such as low-flow showerheads, faucets, and toilets, and ENERGY STAR® dishwashers and washing machines all conserve water. Programmed, low-volume irrigation systems, rainwater collection systems, wastewater treatment systems, and hot water recirculation systems also save water.

Resource-Efficient Features

These Decisions—from home size, to orientation on the lot, to floor plan layout—are made in the design of your home and development of the lot. The house orientation and design should take advantage of natural daylight to reduce lighting needs, and should use strategies to reduce heat gain in the summer and heat loss in the winter. The home should contain renewable materials, including rapidly-renewable wood species such as bamboo, and recycled-content materials in carpets, ties, and concrete formulations.

Indoor Air Quality Features

The heating, air conditioning and ventilation system (HVAC) must be appropriately sized for an efficient and properly ventilated home. Fans in the kitchen and bathrooms should cycle fresh air inside, and release stale air. Low-VOC paints and finishes and wall papers should be used as well.

Outside the home

In a green home, care should be taken to preserve trees and other vegetation native to the area. Landscaping should contain plants that are appropriate for the climate, and grouped according to water needs. Driveways and other impervious surfaces should be reduced as much as possible, and may be composed of gravel, permeable block pavers, grids, or other permeable systems.

Green Building Resources

National Association of Home Builders [NAHB GREEN](#) program for certified green homes and other resources.

Incentive for building green:

Solar/renewable tax credits go to [dsire.org](#) for all the current information on tax incentives on a variety of green projects.

Energy Credits go to [srectrade.com](#) for information on buying and selling energy credits.

If you want to learn more about the latest in green building products, techniques, designs and marketing, there is a wealth of good information on the internet. Try these websites first:

Toolbase: [www.toolbase.org](#) – a huge collection of fact sheets and case studies. A great resource for builders and homeowners.

Energy Star Program: [www.energystar.gov](#) – Federal program with lots of design guidelines and marketing materials.

US Dept. of Energy: <http://www.eere.energy.gov/> - great general and technical information.

Home Innovations research Labs: [www.hominnovation.com](#) – Lots of good articles and information – general and technical.

US Green Building Council – and local chapters: [www.usgbc.org](#) – this is a huge website with lots of information. The links page is one of the best.

Certified home energy raters serve the building community with building science expertise and performance testing. See the website of RESNET, their national association, at [www.resnet.us](#).