

Green Home Guide

U.S. Green Building Council, Green Home Guide delineates categories of green features for healthier, high-performance homes that cost less to operate and have fewer environmental impacts,

LOCATION: New green homes and neighborhoods must not be built on environmentally sensitive sites like prime farmland, wetlands and endangered species habitats. The greenest development sites are “in-fill” properties like former parking lots, rail yards, shopping malls and factories. Look for compact development where the average housing density is at least six units per acre. Your home should also be within easy walking distance of public transportation – like bus lines, light rail, and subway systems – so you can leave your car at home. A green home should also be within walking distance of parks, schools, and stores. See how many errands you can carry out on a bicycle. That’s healthier for you, your wallet, and the environment.

SIZE: No matter how many green building elements go into your home, a 5,000-square-foot green home still consumes many more natural resources than a 2,000-square-foot green home. The larger home will also require more heating, air conditioning and lighting. If you really want a sustainable home, choose a smaller size.

BUILDING DESIGN: The home should be oriented on its site to bring abundant natural daylight into the interior to reduce lighting requirements and to take advantage of any prevailing breezes. Windows, clerestories, skylights, light monitors, light shelves and other strategies should be used to bring daylight to the interior of the house. The exterior should have shading devices (sunshades, canopies, green screens and – best of all – trees), particularly on the southern and western facades and over windows and doors, to block hot summer sun. [4]Dual-glaze windows reduce heat gain in summer and heat loss during cold winter months. The roof should be a light-colored, heat-reflecting Energy Star roof, or a green (landscaped) roof, to reduce heat absorption.

GREEN BUILDING MATERIALS: A green home will have been constructed or renovated with healthy, non-toxic building materials and furnishings, like low- and zero-VOC (volatile organic compound) paints and sealants and non-toxic materials like strawboard for the sub-flooring. Wood-based features should come from rapidly renewable sources like bamboo, but if tropical hardwoods are used, they must be certified by the Forest Stewardship Council. A green home uses salvaged materials like kitchen tiles and materials with significant recycled content.

INSULATION: A non-toxic insulation, derived from materials like soybean or cotton, with a high R (heat resistance) factor in a home’s walls and roof will help prevent cool air leakage in the summer and warm air leakage in the winter.

WINDOWS AND DOORS: Windows and exterior doors should have ENERGY STAR® ratings, and they should seal their openings tightly to avoid heat gain in summer and heat loss in winter.

ENERGY EFFICIENCY: A green home has energy-efficient lighting, heating, cooling and water-heating systems. Appliances should have ENERGY STAR® ratings.

RENEWABLE ENERGY: The home should generate some of its own energy with technologies like photovoltaic systems.

WATER EFFICIENCY: A green home has a water-conserving irrigation system and water-efficient kitchen and bathroom fixtures. Look for a rainwater collection and storage system, particularly in drier regions where water is increasingly scarce and expensive.

INDOOR ENVIRONMENTAL QUALITY: Natural daylight should reach at least 75% of the home’s interior. Natural ventilation (via building orientation, operable windows, fans, wind chimneys and other strategies) should bring plentiful fresh air inside the house. The HVAC (heating, ventilation and air conditioning) system should filter all incoming air and vent stale air outside. The garage should not have any air handling equipment or return ducts, and it should have an exhaust fan.

LANDSCAPING: Vine-covered green screens, large canopy trees and other landscaping should shade exterior walls, the driveway, patios and other “hardscape” to minimize heat islands. Yards should be landscaped with drought-tolerant plants rather than water-guzzling plants and grass in most regions.