

## Energy Efficient Homes: Green Certification Programs<sup>1</sup>

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Green certification programs are typically designed to save energy, water, or both. However, many of the programs also address issues such as resource conservation, use of recycled products, durability, indoor air quality, and wildlife habitat.

When looking to build or buy a green home, location is the place to start. That's because the location of a home is essential in reducing the economic, environmental, and social consequences of travel to and from work, shopping, recreation, etc. Economic pressure is reduced by decreased fuel and maintenance costs for vehicles and road infrastructure. Environmental pressure is reduced by having less vehicle emissions and not having to create or maintain road infrastructure as often. Social consequences associated with centrally located housing include having a more tightly knit neighborhood and supporting local business. The next step is to consider residential energy use. This often comes from the burning of fossil fuels at power plants, which contributes to smog, acid rain, and risks of global climate change. So, the less energy used, the less air pollution generated and the less money spent on utility bills. It's a win-win situation. A

home's materials use, water use, landscaping, and indoor environmental quality are also keys to a complete green home.

In this publication we have included a review of several of the more popular certification programs used in Florida. Many of the certification programs require hiring a trained (or approved or accredited) professional to rate or evaluate the home to be sure it meets the standards of the certification agency/group. Many utility companies provide incentives to build green, and some counties and municipalities are requiring new construction to meet certain standards. Keep in mind that all of these programs change over time. Therefore, *always* check the associated Web sites for current program requirements.

### Quick Facts

- **Florida Green Building Coalition–Green Home Standard** certifies new and existing homes that incorporate various features of green building and addresses issues that are specific to a particular region to promote a more sustainable Florida. <http://www.floridagreenbuilding.org>

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- **LEED for Homes<sup>®</sup>** is a nationwide program that certifies new homes that meet targets in an array of green building areas to make the home better for the occupant, environment, and community. <http://www.usgbc.org>
- **NAHB Green Building Program<sup>™</sup>** certifies builders who incorporate various features of green construction in all of their projects. <http://www.nahbgreen.org>
- **ENERGY STAR<sup>®</sup> Qualified Homes** are new homes built to meet targeted energy reductions. <http://www.energystar.gov>
- **Florida Water Star<sup>SM</sup>** certifies new and existing homes that address indoor and outdoor water consumption issues. <http://www.floridawaterstar.com/>
- **Florida Yards & Neighborhoods** recognizes newly constructed home landscapes and homeowners whose yard meet criteria based on outdoor water use, protection of natural resources and enhanced wildlife habitat. <http://fyn.ifas.ufl.edu>

### Florida Green Building Coalition–Green Home Standard

The Florida Green Building Coalition (FGBC) is a non-profit Florida organization whose primary mission is "to provide a statewide green building program with environmental and economic benefits." The Florida Green Home Standard checklist is comprised of eight categories.

- **Energy** – based on projected energy performance based on energy efficient design features
- **Water** – focuses on efficient indoor and outdoor water use
- **Lot Choice** – promotes use of existing infrastructure, mass transit, public open space, and community resources
- **Site** – protects native plant and animal habitat

- **Health** – addresses combustion fumes, moisture control, contaminant control, cleanability, universal design, and proper ventilation
- **Materials** – concentrates on durability, waste reduction, locally produced goods, and sustainable materials.
- **Disaster Mitigation** – includes measures for hurricane, flood, wildfire, and termite protection.
- **General** – gives credit for smaller house size, adaptability, renewable power generation, and remodeling

#### Other Resources

For questions or more details on the FGBC Green Home Standard, including links to the standards, checklist, and reference guide see <http://www.floridagreenbuilding.org>.

### LEED for Homes<sup>®</sup>

The Leadership in Energy and Environmental Design (LEED) Green Building Rating System<sup>™</sup> was created by the U.S. Green Building Council (USGBC), a non-profit organization committed to expanding sustainable building practices. LEED for Homes is an initiative designed to promote the transformation of the mainstream homebuilding industry toward more sustainable practices. LEED for Homes is targeting the top 25% of new homes with best practice environmental features.

While there are already a number of local or regional green homebuilding programs, LEED for Homes is attempting to provide national consistency in defining the features of a green home and to enable homebuyers anywhere in the country to identify green homes. LEED for Homes was developed and refined by a diverse group of national experts and experienced green builders. The LEED for Homes Green Building Rating System measures the overall performance of a home in eight categories that include:

- **Location and Linkages** – placement of the home in socially and environmentally responsible ways in relation to the larger community

- **Sustainable Sites** – using space and resources of the entire property so as to minimize the project's impact on the site and its natural habitat features
- **Water Efficiency** – water efficient practices, both indoor and outdoor
- **Energy and Atmosphere** – energy efficiency, particularly in the building envelope and heating and cooling design
- **Materials and Resources** – efficient use of materials, selection of environmentally preferable materials, and minimization of waste during construction
- **Indoor Environmental Quality** – improvement of indoor air quality by reducing the creation of and exposure to pollutants
- **Awareness and Education** – education of the homeowner, tenant, and/or building manager about the operation and maintenance of the green features of a LEED home
- **Innovation and Design** – special design methods, unique regional credits, measures not currently addressed in the Rating System and exemplary performance levels

### Other Resources

For more information about LEED for Homes, go to the USGBC Web site:  
<http://www.usgbc.org/DisplayPage.aspx?CMSPageID=147>.

## NAHB National Green Building Program™

The National Association of Home Builders (NAHB) voluntary Model Green Home Building Guidelines are designed to be a tool kit for the individual builder looking to engage in green building practices as well as for home builder associations (HBAs) looking to launch their own local green building programs.

This certification addresses the builder and the building process rather than the individual home. The

system aims to organize the green design and construction process and assist the builder toward incorporating more green building features into their homes. The NAHB Green Building Guidelines address seven primary sections:

- **Lot Design, Preparation, and Development** – reduce the homes impact on natural features such as vegetation and soil and enhance the home's long-term performance.
- **Resource Efficiency** – advanced framing techniques and home design to optimize the use of building materials; material selection to reduce the amount of time and money needed for home maintenance.
- **Energy Efficiency** – optimize the building envelope, incorporate more energy efficient mechanical systems, appliances, and lighting into a home, yielding long-term utility bill savings and increased comfort for the homeowner
- **Water Efficiency** – reduce indoor and outdoor water use to reduce water demand and utility bills
- **Indoor Environmental Quality** – effective management of moisture, ventilation, and other issues to create a more comfortable and healthier living environment
- **Operation, Maintenance and Homeowner Education** – how best to educate homeowners on the features of their new green home
- **Global Impact** – use of materials and/or products with additional environmental restrictions

Note: If approved by American National Standards Institute (ANSI), the program will be referred to as the NAHB National Green Building Standard™.

### Other Resources

For more information about the NAHB National Green Building Program™, visit the Web site <http://www.nahbgreen.org/>.

## ENERGY STAR® Qualified New Homes

The homes that earn the ENERGY STAR® designation must meet guidelines for energy efficiency set by the U.S. Environmental Protection Agency and the U.S. Department of Energy. ENERGY STAR® qualified homes are designed to be at least 15% more energy efficient than conventional homes. The ENERGY STAR® Qualified New Homes program applies to total energy consumption for the following items:

- **Heating**
- **Cooling**
- **Domestic water heating**
- **Lighting**
- **Appliances**
- **On-site energy production**
- **Plug loads**

ENERGY STAR® qualified new homes can include a variety of energy efficient features, such as upgraded insulation, high performance windows, tight construction and ducts, efficient heating and cooling equipment, and ENERGY STAR® lighting and appliances. These features contribute to improved home quality and homeowner comfort, and can lower energy demand and reduce air pollution.

### Other Resources

For more information about ENERGY STAR® Qualified New Homes or home improvement with ENERGY STAR® visit <http://www.energystar.gov> .

## Florida Water Star<sup>SM</sup>

Florida Water Star<sup>SM</sup> is a voluntary certification program for new and existing homes. Its intent is to encourage water efficiency in household appliances, plumbing fixtures, irrigation systems, and landscapes. The St. Johns River Water Management District (SJRWMD) and its partners created the Florida Water Star<sup>SM</sup> program in response to the increasing

strain on Florida's water resources. This certification program has three distinct categories:

- **Interior** – appliances, fixtures, and leak prevention to minimize water use and waste.
- **Irrigation** – increased efficiency through proper design and installation and improved scheduling practices and technologies.
- **Landscaping** – encouraging right plant, right place, drought tolerant plants and preserved vegetation to reduce outdoor water use.

### Other Resources

The Florida Water Star<sup>SM</sup> Web site provides specific information on many of the water-saving fixtures and practices listed in the criteria, at <http://www.floridawaterstar.com/homebuilders/resources.html> .

## Florida Yards & Neighborhoods

In participating counties, the University of Florida's Florida Yards & Neighborhoods (FYN) program certifies new home landscapes as Certified Florida-Friendly. Florida-friendly landscapes minimize the use of potable water for irrigation, avoid the runoff of excess fertilizers and pesticides from the yard, and provide habitats for wildlife.

Landscape certifications rely on a point-based checklist with nine categories that coincide with the Florida-friendly landscaping principles:

- **Using the Right Plant in the Right Place**
- **Watering Efficiently**
- **Fertilizing Appropriately**
- **Mulching**
- **Providing for Wildlife**
- **Managing Yard Pests Responsibly**
- **Recycling**
- **Reducing Stormwater Runoff**

- **Protecting the Waterfront**

The FYN program also provides a homeowner recognition program for occupied homes with landscapes that are Florida-friendly.

**Other Resources**

For more information about Florida Yards & Neighborhoods, visit <http://fyn.ifas.ufl.edu/>.

**Referenced**

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