ALABAMA A&M AND AUBURN UNIVERSITIES

ALABAMA COOPERATIVE Extension SYSTEM

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Building Green: What Does It Mean?

Those planning to build or buy an office building or home are faced with new terminology—green building. As builders and contractors address the desire of their customers to protect the environment, green building is increasingly becoming a feature of construction practices.

Building with green guidelines has environmental and financial benefits. These guidelines produce structures that consume less energy, less water, and fewer, less wasteful construction materials, promoting the efficient use of resources and providing lower operating costs. Some certification program guidelines also focus on the human health aspects of buildings, improving indoor air quality by using fewer toxic compounds during the construction process.

The Alabama 4-H Environmental Education Center at Lay Lake is a Gold-certified LEED building.

While green building construction costs may be somewhat higher than those of traditional methods, they are offset by lower operation and maintenance costs over the life of the building and by the high demand for green buildings. The U.S. Green Building Council estimates that buildings constructed using the Leadership in Energy and Environmental Design (LEED) system have an 8 to 9 percent reduction in operating costs, a 7.5 percent increase in value, a 3.5 percent increase in occupancy, and a 3 percent increase in rent.

Benefits of Building Green

By employing a cradle-to-grave concept in building (considering at the planning phase that the building is a holistic working system with a defined lifespan), green building guidelines benefit the builder, the property owner, and the environment.

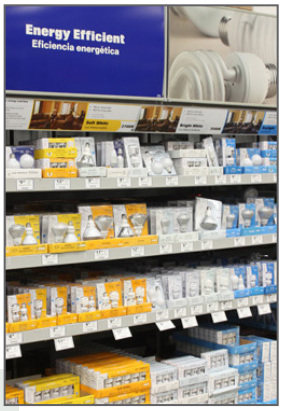
■ ***Efficient Use of Resources.*** Green building guidelines consider the surrounding environment during the planning phase, encourage the reuse of construction materials, and reduce construction waste. Some guidelines reduce air pollution by encouraging the use of locally produced construction materials that are transported shorter distances and that promote the use of sustainable building materials produced from renewable resources.

■ ***Lower Water Consumption.*** According to the National Association of Homebuilders, a traditional home uses an average of 64 gallons of water per day indoors. A home built under green building protocols can reduce usage by 30 percent. Outdoor water usage can be reduced with the incorporation of native plants into landscaping plans.

■ ***Lower Energy Consumption.*** Green building guidelines address energy consumption during the construction phase as well as over the life of the building. These guidelines consider the building as a whole system, including windows, ducts, vapor barriers, and the building envelope. The U.S. Green Building Council estimates that homes built using the LEED system are 30 to 60 percent more energy efficient than a traditional home.

Green buildings make efficient use of resources, lower water and energy consumption, and improve indoor air quality.

■ ***Indoor Air Quality.*** With increasing incidence of asthma and allergies, indoor air quality is a high priority for many people. Compounds, materials, and chemicals used in traditional building construction emit contaminants that aggravate these health conditions, while green building guidelines promote the use of low-VOC (volatile organic compounds) paint, air filters, low- or nontoxic carpeting, and other materials.



Green Building Programs

Many programs set forth green building guidelines and offer certifications. Programs available in Alabama include:

■ ***Leadership in Energy and Environmental Design.*** The LEED program is a project of the U.S. Green Building Council and is available for new construction, existing buildings, commercial interiors, homes, and neighborhood developments. Through training and examination, building professionals may also attain accreditation in LEED practices.

The LEED program offers third-party certification of building practices, and certified buildings receive a plaque recognizing their level of attainment. This nationally recognized certification program has stringent guidelines, which address construction and design aspects ranging from building material conservation to indoor air quality to energy consumption. Builders strive to achieve one of four levels of certification for their structures: certified, silver, gold, or platinum, the highest level of certification.

LEED-certified projects are located in all fifty states. The Alabama 4-H Environmental Science Education Center located on Lay Lake opened in November 2007 and is a certified Gold LEED building.

■ ***Energy Star.*** Energy Star–rated appliances may be familiar to you, but this program of the U.S. Environmental Protection Agency now includes a certification for homes. A home that qualifies for the Energy Star rating includes efficiency in its air envelope; air distribution, heating, cooling, and water heating equipment; lighting and fixtures; and appliances.

By EPA estimates, an Energy Star–certified home saves the average homeowner between $200 and $400 in energy costs per year. These homes must be at least 15 percent more energy efficient than homes built to the 2004 International Residential Code, and they are typically 20 to 30 percent more energy efficient than standard homes. Look for a builder in your area committed to building under the Energy Star guidelines at www.energystar.gov.

■ ***EnergyKey.*** Builders in Alabama can obtain accreditation with the EnergyKey program, a project of the Home Builders Association of Alabama. Through this partner program of Energy Star, a builder can receive one of three levels of certification: Advantage EnergyKey, Star EnergyKey, or Green EnergyKey. The program complies with the 2006 International Residential Code for energy efficiency and Energy Star guidelines, and it is available to residential properties only. At its highest level of certification, the EnergyKey program addresses aspects of green building similar to LEED certification: site selection, wise use of resources, sustainability of materials, waste management, indoor air quality, and energy efficiency.

Incorporating low-VOC paints and nontoxic carpeting improves indoor air quality. Utilizing Energy Star–rated appliances decreases energy use.

Depending on the level of certification, the inspection for a building's compliance to these guidelines may be completed by the builder or by an outside entity. Look for an EnergyKey builder or contractor in your county at www.energykeyhome.com.

■ ***EarthCraft.*** Originally started in the Atlanta region, EarthCraft homes have spread throughout the Southeast. The certification program uses a scoring method to certify homes. The program addresses green building aspects similar to other programs: site design, energy efficiency, waste management, indoor air quality, water conservation, and others.

EarthCraft certification is available for new construction, renovated homes, multifamily housing, and affordable housing. You can locate a participating Alabama builder at www.earthcrafthouse.com.

Some green buildings utilize materials recycled from other building renovations.

Conclusion

Increasingly, buyers demand comfortable, efficient structures with features that save money over time. Green building programs allow an abundance of qualified, certified builders and contractors in Alabama to meet their customers' building needs, while at the same time conserving water, improving air quality, and providing sustainable site design.

References

U.S. Green Building Council, www.usgbc.org

National Association of Homebuilders, "NAHB Model GREEN Home Building Guidelines," 2006

U.S. Environmental Protection Agency Energy Star Program: www.energystar.gov

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