UF UNIVERSITY of FLORIDA
IFAS Extension

FCS3308

Differences between Green Homebuilders and Traditional Homebuilders[1]

Randall A. Cantrell[2]

Quick Facts

- In 2011, more than 12,000 housing units were certified by the LEED for Homes program and approximately 6,000 by the ICC-700 standard (LEED 2011; NAHB 2011).
- Green building products such as those manufactured with softwood lumber are consumed more by the US residential construction sector (i.e., new home construction, and repair and remodel) than by any other sector (WWPA 2009).

Terms to Help You Get Started

- **Green Building** Describes a set of policies and practices to ensure that buildings are built and used in ways that are as environmentally responsible and resource-efficient as possible from construction to demolition (Allen and Iano, 2008)
- **USGBC** US Green Building Council
- **LEED for Homes** Leadership in Energy and Environmental Design for Homes, a residential green building program established by the USGBC
- **NAHB ICC-700** One of the more prominent Green Building Programs in the US. Known as ICC-700 and developed by the National Association of Home Builders (NAHB)
- **Environmentally Certified Wood Products** Wood products that have been certified to have been produced in accordance with a documented process that ensures responsible forest management practices
- **Forest Stewardship Council** a non-profit organization that sets standards to ensure that forestry is practiced in an environmentally responsible and socially beneficial manner (Taylor, 2012)
- **Sustainable Forestry Initiative Label** A label indicating that forest products were derived from well-managed forests (SFI, 2012)

Keywords

Residential Green Building Programs, Environmentally Certified Wood Products, Forest Stewardship Council

What is "green" building?

Homebuilders are not a homogeneous group. Throughout the majority of the US homebuilding history, homebuilders may have used similar practices and building materials, but homebuilders who build to a "green" standard differ from those who do not. This study's reference to "green" implies green building certification programs (GBPs), which are transparent, third-party-maintained mechanisms whereby homebuilders receive points for incorporating specific conservation measures into the process of erecting a home.

1. This document is FCS3308, one of a series of the Family Youth and Community Sciences Department, Florida Cooperative Extension Service, Institute of Food and Agricultural Sciences, University of Florida. Original publication date March 2012. Visit the EDIS website at http://edis.ifas.ufl.edu.

2. Randall A. Cantrell, assistant professor, Department of Family, Youth and Community Sciences, University of Florida, Gainesville, FL 32611.

How might you benefit by understanding differences between types of builders?

Within the residential construction sector, there are innovative builders who erect homes according to nationally recognized green standards. In doing so, they attempt to increase home occupants' awareness and desire for new building products and materials (Koebel et al. 2003). In other words, homebuyers need to understand what it means to buy a home that is certified by a green building program (GBP). Some builders understand better than others the benefits associated with building to such standards. Alternatively, there are builders who think they understand enough to convince homeowners that they are building to green standards without the need for certification through a GBP. This may be true, but often "green washing" takes place, and the builder sells what sounds like a green construction project when in reality it is a piecemeal, quasi-green construction job.

Green building practices such as whole-house systems (US Department of Energy 2011a) must be embraced by competitive homebuilders in order that they may better inform homebuyers of the merits of such building concepts. That is, no one aspect of construction (or remodeling) can be conducted without being aware of its impacts on other subsystems within the home. Similarly, future energy codes will demand that homebuilders be informed and trained in order to respond to energy-performance increases (US Department of Energy 2011b). Ill-prepared or ill-informed companies will become less competitive as green building practices for the residential construction sector continue to gain recognition.

What Is the Basis for Comparison between Homebuilder Types?

This paper is based on a study that collected information from homebuilders and remodelers who were involved in two or more residential construction projects during 2010 (Cantrell 2012). The goal was to develop profiles for two categories of US builders—green and traditional—by differentiating them along the six distinct dimensions: 1) attributes that drive material selection; 2) perceptions of wood, steel, and concrete as building materials; 3) familiarity with building-product technologies; 4) environmental perceptions of building materials; 5) perceptions of environmentally certified wood programs; and 6) perceptions of green building programs.

What are the differences between green homebuilders and traditional homebuilders?

Attributes that Drive Material Selection

Traditional builders place significantly less emphasis on sustainability when selecting materials than do green builders. A green builder will: choose building materials made from recycled materials and derived from renewable raw materials; consider the energy efficiency, recyclability, and length of service life of the materials; and often use materials produced locally. Green builders consider these selection criteria to be more important than do traditional builders.

Perceptions of Wood, Steel, and Concrete as Building Materials

Green builders believe more strongly than do traditional builders that steel and concrete have a long service life; however, they are significantly more neutral than traditional builders (i.e., green builders score closer to 3 on a 1–5 scale while traditional builders score greater than 3) regarding the perceptions that wood or steel contribute to a high level of energy efficiency in the finished house and that steel is highly renewable. However, green builders believe more strongly than do traditional builders that wood is a highly renewable material and that concrete and steel are recyclable. Green builders do not believe that the manufacturing process of steel and concrete has a low CO_2 emmision or that it uses low energy to manufacture them; however, traditional builders are much more neutral about these two issues related to the manufacture of concrete.

Familiarity with Building-Product Technologies

Both categories of builders are knowledgeable about energy-efficient windows, water-conserving fixtures, energy-efficient appliances, and low-VOC paints; however, green builders are more informed about these four technologies than are traditional builders. Both types of builders still have much knowledge to gain about heat-recovery ventilators, solar power generation, solar water heating, structural insulated panels, concrete with reduced cement, and tankless water heaters.

Environmental Perceptions of Building Materials

Both categories of builders are knowledgeable about the impacts on the environment of low-VOC paints,

heat-recovery ventilators, solar power generation, solar water heating, concrete with reduced cement, water-conserving fixtures, tankless water heaters, and energy-efficient appliances, but traditional builders are significantly less knowledgeable about them than are green builders.

Perceptions of Environmentally Certified Wood Programs

Neither category of builder is as familiar with environmentally certified wood programs as it could be, but traditional builders are significantly less knowledgeable about them than are green builders.

Perceptions of Green Building Programs

Neither category of builder is as familiar with green building programs as it could be, but green builders are more familiar with them than are traditional builders. Interestingly, traditional builders feel more strongly than do green builders that the ICC-700 program is more effective in reducing the environmental footprint of the house than is the LEED for Homes program, has more of an influence on home sales than does the LEED for Homes program, and has greater customer brand recognition than does the LEED for Homes program. However, green builders are much more neutral regarding these three beliefs. These feelings on the part of the traditional builder are most likely due to a lack of familiarity with the two green building programs; and thus, they potentially are influenced by hearsay and speculation.

Summary

Green builders and traditional builders differ in their beliefs considerably. In some cases, it may economically benefit the traditional builder to become better informed about environmental concerns. It is doubtful that green builders are simply out to make the world a better place; they must also earn a profit for their efforts. Clearly markets (i.e., homebuyers) are rewarding green builders for their approach toward construction. This is not to imply that traditional builders do not have access to viable markets as well, but more markets will open to them if they become more aware of what motivates green-conscious homebuyers. Moreover, "green-washing" is rampant in the marketing of the green movement, and it is understandable how a busy homebuilder with limited time to attend conferences and workshops or read multiple literature sources could be misinformed. This could cause them to make choices in good faith that result in less sustainable building practices. The homebuilding market is highly competitive, however, and will become even more so as building codes continue to become more stringent and homebuyers more savvy. Thus, homebuilders of all types must take it upon themselves to maintain the level of knowledge required to guide homebuyers through the myriad choices available to them.

References and Resources

- Cantrell, R. (Forthcoming). A Gap Analysis Measuring Differences between Green Builders and Traditional Builders, In: Journal of Forest Products Business Research.
- Koebel, T., M. Papadakis, E. Hudson, and M. Cavell (2003). The Diffusion of Innovation in the Residential Building Industry. Prepared for the US Department of Housing and Urban Development, Office of Policy Development and Research. Washington, DC.
- LEED for Homes (2011). Retrieved February 20, 2012 from http://www.usgbc.org/DisplayPage.aspx?CMSPageID=147.
- NAHB Research Center (2011). NAHB Green. Retrieved February 20, 2012 from http://www.nahbgreen.org/Certification/report.aspx.
- SFI (2012). Retrieved February 11, 2012 from http://www.sfiprogram.org/.
- Taylor, N.W., J. Kip, and K.C. Ruppert (2008). Energy Efficient Homes: Easy Steps to Saving Money in Your Home. EDIS publication number: FCS3267. University of Florida, Gainesville, FL. 8 pages.
- U.S. Department of Energy (2011a). Whole-house Systems Approach. Retrieved February 20, 2012 from http://www.energysavers.gov/your_home/designing_remodeling/index.cfm/mytopic=10370.
- _____ (2011b). 30/30 Vision – Goal in Sight. Retrieved February 20, 2012 from http://www.energycodes.gov/status/30-30vision.stm.
- Green Building. In Wikipedia (2012). Retrieved February 21, 2012 from http://en.wikipedia.org/wiki/Green_building.
- WWPA (2009). 2008 Statistical Yearbook of the Western Lumber Industry. Portland, OR: Western Wood Products Association.