

Use and Awareness of Green Building Programs and Environmentally Certified Wood Products in the US Residential Construction Industry

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Executive Summary

The overall goal of this study was to develop a better understanding of US residential homebuilders' and remodelers' perceptions and use of Green Building Programs (GBPs), Environmentally Certified Wood Products (ECWPs), construction materials (i.e., wood, steel and concrete), and other innovative green technology and products.

Green building refers to a structure built using a process that is environmentally responsible and resource efficient throughout its life-cycle: from design and siting, to construction, operation, maintenance, renovation, and demolition. Since it is difficult to assess the sustainability of houses, a number of organizations have developed standards, codes and rating systems that let regulators, building professionals and consumers embrace green building concepts and practices with confidence. Collectively, these rating systems and standards are known as green building programs (GBPs). In the US, the National Association of Homebuilders' National Green Building Standard (NGBS) and the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED) for Homes have become the two major competing GBPs at the national level.

Each GBP employs a different rating system to award compliance for the use of sustainable materials, building products, and technology. As green building practices in residential housing become more popular in the US, the influence of LEED for Homes and NGBS on the choice of materials by construction professionals is of fundamental interest for forest resource professionals. Since a large volume of wood is consumed by the US building industry, it is important to understand the adoption of green products and technologies by US homebuilders and remodelers.

A survey targeting US homebuilders and remodelers was developed and the probability sampling frame was carefully designed in order to ensure reliable and valid statistical inferences. The results of the survey suggest that a great majority of homebuilding professionals are aware of GBPs in the US. Although less than a quarter of homebuilders had actually used either LEED for Homes or/and NGBS, many non-users were planning to use one of the programs in the future. The main reasons why homebuilders adopted GBPs were: to differentiate their homes in the market, the home buyer specified that they wanted a green house, and there is strong demand for homes built using a GBP. Those builders who have used a GBP favored the NGBS program over the LEED for Homes program, because they perceived NGBS as being less expensive and easier to use than LEED for Homes, although LEED for Homes was rated as being superior in terms of brand recognition and effectiveness in helping to sell homes.

Wood is a renewable natural resource with a smaller carbon footprint than other construction materials, such as steel or concrete. Wood products from responsibly managed forests should be an ideal fit for most GBPs. In order to communicate to consumers that a wood product comes from forests managed in accordance with environmental and social standards, some organizations have launched forest certification systems. Environmentally certified wood products (ECWPs) are usually associated with eco-labeling and chain-of-custody programs that are designed to ensure that wood products are harvested from sustainably managed certified forests. There are a number of forest certification programs around the world, but several major certification programs in the US have become the de facto standard, including the Forest Steward Council (FSC) and the programs endorsed by PEFC (the Sustainable Forestry Initiative (SFI) and the American Tree Farm System (ATFS)). ECWPs certified by FSC and SFI are considered rival products in the market place. The LEED for Homes GBP has accepted FSC for the forest certification credit, but has not recognized SFI or ATFS. In contrast, the NGBS GBP allows the use of any third party certified wood. Consequently, forestry

experts, government officials and environmental NGOs are interested in how the two major GBPs might influence the demand for certified wood.

The survey results show that only about 10% of homebuilders used environmentally certified wood products (ECWPs) on a regular basis while another quarter of homebuilders used ECWPs occasionally. When asked to compare the two major certification programs, a great majority of ECWP users did not differentiate between FSC and SFI. Roughly 30% of homebuilders were still unaware of major wood certification programs.

As a result of increased interest in green building practices and GBPs, companies continually evaluate a wide variety of new green building products and technologies, including ECWPs. However, the US residential construction industry has long been criticized for being slow to adopt new products and technologies. A variety of attributes can influence a builder's adoption of green building products and technology. The survey results show that the most important attributes for influencing product specification are the economic or technical performance of the products including, price, availability, durability, low maintenance, ease of installation, energy efficiency and consumer demand. On the other hand, the less important attributes tend to be those related to the environmental performance of the product. Finally, the survey shows that wood is clearly viewed by residential construction professionals as being the most environmentally friendly building material when compared to either steel or concrete across a wide range of performance attributes.

This study offers the first detailed look at residential construction professionals' perceptions and use of a variety of environmentally oriented building programs and products in the US. It establishes a baseline for the use of GBPs and ECWPs by US homebuilders and remodelers. While the current awareness and use of these programs and products is often low, the results suggest that their use will increase in the future as the awareness of both construction professionals and consumers increases.

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