Sessions 2b: Green Building and LCA

U.S. Green House Building Systems and Wood Products

Philip Araman, Ph.D., USDA Forest Service, Southern Research Station, paraman@vt.edu
Daniel Hindman, Ph.D., Virginia Tech

Green house construction in the US is gaining more and more acceptance in the US. Wise material use, air quality and energy efficient buildings are the main goals. Certification systems such as the National Green Building Standard ICC-700 and LEED for Homes are national programs. There are also many regional programs such as EarthCraft House which was developed in and is very popular in the State of Georgia and other eastern states. In each of the systems, builders must attain various levels of points for the homes to certified “green” at various levels. There are many ways that wood products can attain needed points. The authors will present this information along with the realities of wood and the “green systems” and make recommendations to improve the positions and use of wood products. The wood products include softwood structural lumber, panels products such as OSB, engineered wood products and secondary wood products such as flooring, millwork and cabinets. Using green house building systems is the future in home building and wood products should be firmly part of the green picture.

Why Relevant: Wood products can be a major part of green building in North America. This is the major US market for wood products. We will talk about the issues.

The Carbon Impact of Wood Processing

Adam Taylor, Ph.D., University of Tennessee, AdamTaylor@utk.edu

Environmental impact is becoming a more important component of the evaluation of products and processes. Life cycle assessment (LCA) is the standard method for evaluating these impacts. In LCA-based analyses, ‘carbon impact’ is a category that is frequently emphasized, whether it is called global warming potential, fossil fuel usage or carbon footprint. Wood products generally have favorable environmental profiles compared with alternative materials; however, the majority of wood’s environmental burdens – and carbon impact in particular – is associated with the processing stages of the life cycle. Processes that require few non-wood inputs, less raw material modification, and use biomass energy sources have less carbon impact, even though they may be ‘less efficient’ in other respects.