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GREEN BUILDING: New wood choices are friendly to environment

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Rates of forest growth in the United States far exceed the rates of harvest. The logging of our forests, filling the growing demand for wood in the building industry, however, is painfully visible. Wood is one of God's truly sustainable resources; the forests were created to regenerate themselves within our lifetime. Wood requires less energy to convert to usable materials than such nonrenewable resources as aluminum, steel, concrete and plastics.

If energy availability were not a problem in the future, then global use of these nonrenewable resources would increase if their cost structures allowed competitive pricing. Because energy availability is slowly but surely becoming constrained, wood and other renewable resources are likely to become relatively more valuable.

In turn, it is important to focus on decreasing our dependence on fossil fuel and nonrenewable energy sources and instead rely more on those that are renewable, but in a nonthreatening or sustainable way. If our society were to comply with this statement, we would design and build smaller, more efficient homes that are built in such a way as to outlast us and consume less nonrenewable energy in more efficient ways.

This is a challenge, given all the immediate, inexpensive resources we have at our fingertips to construct homes so that they cost less overall but perform inefficiently and become toxic mold traps within a few years or even months of inhabiting.

Most wood is engineered (or combined with chemically derived adhesives and binders for strengthening) in some way for the construction industry. Formaldehyde used in plywood, oriented strand board and glue-laminated support beams are just a few examples.

The focus of this article is to introduce some products that are available to us that offer alternative means for the adhesives and binders, thus eliminating chemical toxins from the engineering process. These products are widely available to the building and retail industry throughout the United States.

Plywood, a material used in almost every construction project, will be the first focus. Plywood is actually plies of wood that are glued together with toxic urea formaldehyde-based glues. In 2005, Columbia Forest Products, one of the nation's largest manufacturers and suppliers of wood products for building, succeeded in launching a revolutionary soy-based and amino acid adhesive to replace formaldehyde-based glues.

This product has been in the works for more than 10 years. By this year, supposedly all four CFP plants will convert to using this adhesive. Their plywood products are then sold to distributors all over the United States.

PureBond formaldehyde-free hardwood plywood is one of CFP's products. Not only is this plywood formaldehyde-free, but it is also made from Forest Stewardship Council certified wood. This means the wood contents come from strictly sustainably harvested forests, where the entire ecosystem is less jeopardized.

CFP also offers an agri-fiber core (or wheatstraw) PureBond product with the formaldehyde-free binder, for those who want a completely renewable fiber other than wood. It is offering other FSC certified wood products now, including I joists and glue-laminated beams. However, these products still contain formaldehyde-based adhesives.

AFM Safecoat Safe Seal is yet another option if the formaldehyde-based plywood has already been installed. Safe Seal is a water-based, nontoxic sealant that can be used to “lock in” the formaldehyde found in plywood products, preventing it from outgassing.

This is good news. If you do not see these products in your local lumberyard or stores, then inquire for them. They are available, but their success will rely on supply and demand, like any other product in the industry. It is up to us as consumers to create this demand.

Cindy Meehan-Patton is one of the founders of the nonprofit WNCGBC and president of her corporation, Shelter Ecology, founded in 1992 (www.shelterecology.com). Contact the council for more information on green building or becoming a member by visiting wncgbc.org, calling 32-5080 or e-mailing info@wncgbc.org

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