

Conversations Conferences



on Nebraska
Environment
and Sustainability

White Paper: Materials

By Debra Hansen, State Resource Coordinator for Materials

What comes to mind when someone says ‘materials’? We often make or build something with materials. Of prime importance are homes and commercial buildings that we construct for our families and our businesses. We build schools, churches and all types of facilities for our government. The buildings in the United States use 40% of all our energy and 72% of all the electricity in our country. They produce 39% of the CO₂ emissions and consume 13.6% of all potable water.

So, how can we build buildings that use less energy and water and protect our natural resources? What are green building materials or products?

They are first materials that are salvaged and reused, not wasted, thrown away and filling up our landfills. Deconstructing existing buildings and salvaging the materials and components provides an opportunity for reuse.

They are materials that are locally produced, indigenous to the area and durable, a material that lasts.

They are products made with recycled content or agricultural waste and are recyclable, or materials made from renewable resources. Strategies to help conserve one of our renewable resources, timber, include the use of composite wood products such as laminated beams and engineered lumber, and supporting sustainably managed forests.

Second, green building materials provide for a quality indoor environment for the building occupants. They are products that improve the indoor light quality and daylighting, or reduce the level of noise. They are materials that do not release pollutants or irritants into the building. They have minimal or no volatile organic compounds (VOC) emissions. Off-gassing of VOCs often occurs in paints, sealants, adhesives, carpets and composite woods.

And, they are building products or systems that save energy or water. Materials that are manufactured with resource-efficient processes also reduce energy consumption and minimize waste.

Purchasing sustainable green building materials should be our goal whether renovating or building new. And all materials leaving the job site should be part of a construction waste management program, where building components and durable goods are salvaged, and paper, glass, plastic, metals, cardboard, brick and concrete rubble are recycled.

Affordability of green building materials is often evident when considering the life-cycle cost of the materials compared to conventional products.

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The lead to use green building materials must be taken by the project owner and designers. It is within our ability to move from a petrochemical product based society to a carbohydrate product base.

It still just boils down to the three Rs: *reduce, reuse and recycle*, and I would add *rebuy* environmentally preferred products.

A great resource for green building materials is www.buildinggreen.com.