



# Tree Hugger Consulting

Growing ideas for sustainable construction

## Introduction to Sustainable Building Products

When beginning the design process and looking at all the selections for building materials that abound in the market, it can be very daunting. This is particularly true when it comes to sustainable building products. New products are coming out almost daily, and there are confusing certifications that can leave the consumer wondering whether what they are buying is sustainable or not. Here is a short introduction to some of the available products, and some suggestions on what to look for.

**Carpet:** Natural fibers are best (wool), but most major manufacturers now offer recycled or recyclable fibers in broadloom styles. Carpet gives off a lot of toxic chemicals as it sits in your building. Look for carpets with low volatile organic compounds (VOCs), or those that are certified by the Carpet and Rug Institute for best results. Also be sure that the carpet glue has low or no VOCs. Another option is to install carpet tile. These squares of carpet allow easy replacement of worn or stained areas. They are used mostly in commercial applications.

**Wood:** Almost everyone likes the look of wood in their building. Choose local species that don't have to travel far. Or, choose wood that is "rapidly renewable," able to be harvested within seven years. Bamboo is a great example of a rapidly renewable resource. It is available for flooring, cabinets, and finish trim. You could also use materials that have a "wood look." Rubber base and trim are available that look similar to painted or stained wood, are made from recycled rubber, and are more durable than wood.

**Vinyl flooring:** Vinyl is full of toxic chemicals that will offgas into your building, and it is hazardous to the employees making it. A natural substitute is linoleum. The main ingredients in linoleum are rapidly renewable, and are not harmful to the environment. Again, make sure that the glue used to install it has low VOCs.

**Appliances and fixtures:** Always look for the EnergyStar label when selecting fixtures that require electricity. These are the most efficient fixtures on the market. There are often tax incentives available for purchasing them.

**Heating and air conditioning:** Your heating and cooling system uses the most energy out of all the fixtures and appliances in your building. Gas systems are usually more energy efficient, but natural gas comes from oil. With new options to purchase electricity from wind and geothermal sources, electricity can be the better choice (though it may cost more). There are two terms that determine the energy efficiency of your heating and cooling system, respectively: AFUE and SEER. In both cases, the higher the number, the more efficient the system. Tax incentives are available to help offset the costs of higher efficiency equipment. Also, make sure that the units are sized right for your building. The sizing should be calculated based on Manual J for residential buildings and Manual N for commercial buildings. Many engineers and contractors will tend to oversize the system, so demand that these calculations be made and that you see the results.

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