

Green Remodeling: Options Abound

By Karen Appold

Green remodels are springing up everywhere. Consider these statistics.

More than 1,000 builders, remodelers and other members of the home building industry have earned the Certified Green Professional™ (CGP) educational designation since it was introduced early this year by the National Association of Home Builders (NAHB).

“This is phenomenal growth,” says NAHB President Sandy Dunn. “The home building industry clearly sees the value of this designation and consumers will, as well.”

More than 300 remodelers have attended the National Association of the Remodeling Industry’s (NARI) Green Remodeling Education program, started in February 2007, and more than 50 have tested and been awarded NARI’s Green Certified Professional (GCP) designation since August 2007.

Promoting Green Remodeling to Homeowners

The U.S. Green Building Council (USGBC) defines a green home as one that uses less energy, water and natural resources; creates less waste; is smartly located and built with as little impact on the land it sits on as possible; and is healthier for the people living inside.

Gehman Custom Remodeling has standards, many of which are green, which it won’t compromise. “Our reasons why and the benefits to the client are explained during project development,” says Dennis D. Gehman, GAC, CR, CLC, CKBR, president, who plans to take NARI’s test to become a GCP soon. Gehman’s standards include:

- low-e argon filled insulated glass in all windows,
- programmable set back thermostats,
- cellulose or spray foam insulation,
- reuse or recycle as many of the materials/debris that is created from remodeling projects and
- truck pooling to project sites.

Mark Philben, CLC, CR, CAP, GCP, project developer, Charlie Allen Restorations, Inc., says, “We encourage clients to consider green alternatives when choosing products whether it is high-efficiency equipment or low volatile organic compound (VOC) products for interior finishes.”

There are many reasons why people will buy green. “Some do it for the environment, while others are concerned about health and want to keep their homes free of VOCs and other contaminants,” Philben says. “Others, who hope

to save on energy bills, are also looking for the comfort that is realized with a well insulated, well designed heating and cooling system.”

Calculating Cost-Effectiveness

There is a payback for anything that conserves energy, Philben notes. Insulation, better heating equipment and quality windows and doors all recoup costs over time. It can take many years before these improvements pay for themselves, however.

“If you change a heating system because it’s worn out, it makes sense to pay the marginal cost increase for a high-efficiency unit,” Philben says. “However, replacing a heating system that works fine with a high-efficiency unit is not as economical. Other benefits, such as health and good stewardship of our environment, are hard to calculate but definitely have a payback to all consumers.”

Ultimately, Gehman says, “Some items are a no brainer and others definitely cost more. People who choose green because of their values aren’t doing so because of cost. For them it’s the right thing to do for our earth, their children, themselves and all people.”

Great Eco-Friendly Products

Area remodelers have found the following products to be great green choices.

Heating and cooling equipment: Advances are incredible, with 95 percent efficiency in some of the newer units, Philben reports. Some of the best include on-demand hot water systems that take the place of typical hot water heaters, LED lights that will last 50,000 hours and icynene insulation that seals a house tight.

Tankless hot water heaters: They only heat water when needed, rather than the standard way of keeping many gallons of water hot throughout the day when no one is using it, Gehman says.

Cellulose insulation: Recycled newspapers and cardboard are transformed into powdery gray material. It is treated with a chemical so it won’t burn and attract insects, has a high R value (the measure of its resistance to heat flow) and air can’t pass through so it will seal a home like spray foam but at half the cost, reports Jack Crimmins, CR, GCP, president, Crimmins Construction Corp.

Engineered woods: Use engineered lumber called I-joists instead of solid sawn lumber, Crimmins recommends. Smaller, faster growing trees are used to create lumber in smaller pieces. Exterior trim is made of clear pine with smaller pieces glued together. Years ago, smaller pieces were thrown away as scrap.

Low-e argon filled insulated glass in windows: These windows will save you money because they reduce transmission of heat between spaces of glass, Crimmins explains. Homes will be more comfortable because they will maintain temperatures easier.

Heat recovery ventilator: Use this to ventilate a tight home, recommends Crimmins. It mechanically removes stale air within a home and pre-heats fresh air before it enters a home. "Program the unit to run a percentage of the time to maintain the proper level of indoor air quality and humidity," he says. "Otherwise, the potential of sick house syndrome exists."

Programmable set back thermostats: According to www.EnergyStar.gov, an ENERGY STAR qualified programmable thermostat offers four pre-programmed settings to regulate a home's temperature in both summer and winter, when homeowners are asleep or away.

Recycling—Another Element of Green Remodeling

Using green products is great, but so is reusing materials. Crimmins' company recycles materials whenever possible, including cardboard, scrap metal and clean wood, i.e., non-painted and non-pressure treated wood. The latter can be removed from a site and recycled more cheaply than putting it in a dumpster.

Dirty wood, i.e., wood containing paint or nails, can be separated and disposed of as well, although it will cost a little more than clean wood, Crimmins says. "I can take it to a recycling place in town for nothing. The time and expense to do so is cheaper than putting it into a dumpster."

The best way to reuse materials is to find them a new home in the house they originated, give them to a friend or neighbor or donate them to a non-profit organization such as Habitat for Humanity of Bucks County ReStore in Pennsylvania, Gehman says.

Reusing Saves Money All Around

According to Jesse A. Raphial, Habitat Restore manager, each person throws out approximately 1,300 pounds of trash annually. "At the rate that this country is producing trash, we will have some very serious issues to deal with in the future," he says.

Plastic and paper are the biggest items that are recycled. "But it's the larger items that worry us the most," Raphial says. "If we could recycle metals and woods more often that would greatly reduce the size of trash problems."

Habitat ReStore accepts all home products except appliances more than 7 years old due to inefficiency issues. "However, we will take a few older appliances to get hard to find parts," Raphial notes. Items such as cabinets, countertops, doors, windows, fixtures, used furniture, paints and building materials find second

homes in apartment rehabs, second homes, basements, laundry rooms, garages, sheds, etc. This helps the environment by keeping items out of the trash, reduces project costs and raises money for building local homes.”

When looking to sell a remodeling project, Raphial advises remodelers to tell homeowners that they will take extra care in doing the demolition work. Items that can be salvaged will be donated to a center such as the Habitat ReStore and therefore reduce the amount of waste produced. Habitat ReStore will then issue a donation receipt to the homeowner, providing them with a tax deduction and effectively lowering the cost of their home improvement. This also reduces dumpster fees.

Addition Contains Green Elements

A North Wales, PA, addition by Gehman Custom Remodeling is a good example of incorporating both green products and recycling materials into a project.

The homeowner, Lou Fromm, chose bamboo flooring because, “Our contractor mentioned the eco benefits and we loved the soft look.”

Bamboo is the fastest growing plant on earth. It is known to produce greater biomass and 30 percent more oxygen than a hardwood forest of comparable size, while improving watersheds, preventing erosion, restoring soil, providing sweet edible shoots and removing toxins from contaminated soil.¹

Both the dishwasher and a lighting system will save energy. The GE Profile™ Dishwasher with SmartDispense™ stores the contents of an entire 47-ounce bottle of liquid or gel detergent. Dispensing is based on water hardness, cycle selection and soil level of dishes. There is also a pure steam pre-wash option that helps pre-treat dishes to leave them sparkling and virtually streak-free.

“A dimming system from Lutron is a big energy saver because when lights are dimmed, they use a much less percentage of wattage and last longer,” says Fromm, owner of Fromm Electric Supply.

Since Fromm’s project was completed, Lutron began selling Eco-Dim dimmers that guarantee a minimum 15 percent savings on energy costs compared to standard switches. Previous Lutron wall box dimmers used in lighting control and home automation systems produced a 5 percent minimum savings. The dimmers will also extend bulb life three times beyond the expected life expectancy. This compounds savings on energy costs with additional savings gained through less frequent maintenance and bulb replacements.

Fromm’s project also used cellulose insulation and fiber cement, i.e., sustainable material made with Portland cement, cellulose fibers and water, Gehman adds.

Regarding reusing products, granite and cabinets in the kitchen found new homes in the addition. Granite countertops were cut and reused as countertops in a new bar area and mudroom desk area.

Getting a Project Green Certified

Leadership in Energy and Environmental Design (LEED) is a third-party certification program and the nationally accepted benchmark for the design, construction and operation of high-performance green buildings. LEED promotes a whole-building approach to sustainability by recognizing performance in five key areas of human and environmental health: sustainable site development, water savings, energy efficiency, materials selection and indoor environmental quality.

“LEED was initially developed because the building industry lacked a coherent definition of what ‘green’ was,” says Ashley Katz, communications manager, USGBC.

Having a home LEED certified may make it eligible for tax credits or tax deductions. Visit <http://www.greenhomeguide.org/resources/incentives.html> for a list of resources that can help you identify the many incentives to build a green home. To get a project LEED certified, register with USGBC.

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Reference

1. http://www.ambientbp.com/about_bamboo.htm

Resources

National Association of the Remodeling Industry
www.NARI.org

National Association of Home Builders
www.NAHB.org

U.S. Green Building Council
www.USGBC.org