

GREEN

Bringing Sustainability to the Residential Market

WHEN BERNADETTE V. UPTON, ASID, LEED AP, SIGNED UP FOR A COMMUNITY COLLEGE CLASS IN ENVIRONMENTAL SCIENCE IN 1982, SHE HAD NO IDEA IT WOULD CHANGE HER LIFE. “I NEVER CONSIDERED MYSELF AN ENVIRONMENTALIST, A TREE-HUGGER, ANYTHING LIKE THAT,” SHE SAYS. “SHAME ON ME, NOW THAT I KNOW WHAT I KNOW.”

When Upton went back to work after the course, she questioned whether she wanted to return to interior design. “It was extremely difficult to return to a business I felt was so much a part of gluttony and pollution,” she says. But return she did—in a whole new way. Her firm, EcoDecor of North Palm Beach, Fla., takes an environmentally friendly approach to interior design.

Now more and more interior designers are following suit. While green design began in commercial properties, today many of the same products and practices are being used in homes. Like Upton, designers around the country are working to improve indoor air quality, conserve energy and other resources and promote reuse and recycling in the residences they design. And since Upton launched EcoDecor, it has become a whole lot easier to be green.

“You can imagine what it was like trying to be a green designer in 1982—nearly impossible,” says Upton, who went on to become a founding member of the ASID Sustainable Design Council. “There’s a lot more receptivity today.”

Improving Air Quality

Think of air pollution, and you’re likely to think of cars spewing ex-



PHOTO BY GAIL OWENS COURTESY LAURA BIRNS DESIGNS.

▲ **Features of this “green” room include wood from managed forests, countertops made from recycled material, and low-VOC paints.**

haust or clouds of fumes billowing from smokestacks. But air pollution doesn’t just happen outside, warns Upton. In fact, her top priority as a green designer is to improve indoor air quality.

A room Upton designed for an American Lung Association Showhouse in Delray Beach, Fla., in 2003 was jam-packed with ideas for fighting indoor air pollution. The main tactic? Eliminating volatile organic compounds (VOCs), the chemicals emitted as gasses from products as diverse as carpeting, furniture and paint.

“The number-one VOC hand-down is formaldehyde,” says Upton. “It’s a known carcinogen, but it’s in everything these days.” She cites furniture, fabrics, finishes, wall-coverings, carpeting and paint as just a few examples.

To avoid formaldehyde in the showhouse project, Upton used formaldehyde-free plywood for the window cornices instead of the usual formaldehyde-laden particleboard. She also specified that all paints, adhesives, sealants and similar products used on the project be low- or no-VOC ones. That’s easier to do these days, she says, noting an industry-wide shift from solvent-

based products to those that are water-based.

Today there are even milk-based products, such as the paints made by the Old-Fashioned Milk Paint Company, Inc., in Groton, Mass. And there are integral color plasters that eliminate the need for paint altogether by incorporating natural color compounds into gypsum-based plaster.

Carpeting and furnishings can be another major source of VOCs. In the showhouse room, Upton used a wool carpet with natural dyes and a jute backing. “If you are using a synthetic carpet,” she warns, “you need to find someone who will off-gas it for you so that the emissions come out well before it reaches the home.”

And although the furniture Upton selected for the room was new, the pieces had been on a showroom floor long enough to off-gas. “People always want the new piece out of the warehouse,” she says. “In this case, we wanted the piece that had been sitting on the showroom floor for six months.”

Plants are another way to improve indoor air quality, says Upton, who recommends a book called *How to Grow Fresh Air: 50 House Plants That*

HOUSES

BY REBECCA A. CLAY

▶ Designers can reduce the VOCs in a room—resulting in better air quality—by using natural materials whenever possible. Wool rugs, and used or floor sample furniture will off-gas less than synthetic and brand-new products.



PHOTO © 2006 ROBERT LUDWICK (954) 785-9919, FOR BERNADETTE UPTON, ASID.

Purify Your Home or Office (Penguin, 1997). A single plant, she says, can absorb VOCs in a 100-square-foot area. While spider plants and philodendrons handle the job especially well, any healthy plant will help as long as its soil is well-aerated enough to stay mold free.

Good ventilation is also a must. Open doors and windows can help flush VOCs out during and immediately after installations. Upton also uses an air-cleaning unit, such as those from IQAir, to capture dust and any stray VOCs.

Conserving Resources

Conserving energy, water and other natural resources is another major concern for green designers.

The kitchen is where the environmentally conscious designer can have perhaps the biggest impact, says Laura Birns, ASID, CCIDC, principal of Laura Birns Design of Del Mar, Calif., and a U.S. Green Building Council member.

Refrigerators, microwave ovens and other appliances that have earned the Energy Star™ rating for their efficiency can reduce energy use, for example. Careful selection of appliances can save other resources, too. Birns points to Fisher & Paykel's "DishDrawer" dishwasher as an example. "It's best known because it has drawers, which hold big wineglasses and things like that," explains Birns. "However, it also allows you to do a small wash instead of using your whole dishwasher and wasting a lot of water."

Bathrooms are another priority area for green designers. Low-pressure showerheads and low-flow toilets help conserve water. (Clients' fears that such products—especially low-flow toilets—don't work as well as regular products are no longer grounded, says Birns.) Tankless water heaters, like hot water "butlers" in the kitchen, also save resources by

providing instant hot water, eliminating the need to run the water first.

Lighting is a critical consideration throughout the house, says Birns. Dimmer switches, low-voltage lighting and fluorescent lighting help conserve energy. Birns is also a big fan of zoned lighting, which allows residents to have light just where they need it instead of lighting up entire rooms. Closet lights that turn off automatically when the door shuts are another solution.

Properly placed windows can help homes take advantage of natural light, as can skylights. Window placement also has an impact on heating and cooling efficiency. Window films, like those manufactured by Vista® Window Film, Industry Partner of ASID, can block heat transfer while still letting in light.

Birns isn't just interested in conserving energy and water, however. She also strives to reduce the use of resources like trees. She recommends veneers over formaldehyde-free backings instead of "full-board" cabinetry, for example. And she loves floors made from bamboo and fast-growing hardwoods, like aspen, from managed forests. Woods accredited by the Forest Stewardship Council are ideal.

The only hitch? "What keeps a lot of wood floors from being totally green is the hard urethane finishes," says Birns, who's not yet convinced that the alternatives will withstand scratches.

That's a problem the industry is now tackling, says Jeffrey D. Inscho, spokesman for the Hardwood Council, Industry Partner of ASID, noting that the council is conducting research on low- and zero-VOC finishes and their effect on indoor air quality.

"If you're using healthy finishes, hardwood flooring is the way to go," says Inscho, pointing out that bamboo flooring requires potentially toxic glue. "Hardwood floors are 100 percent natural." To reduce the pollution



▲ The award-winning home remodel shown in these photos uses creative recycling, including recycled glass countertops with integral sinks in the master bath and a unique stairway made of recycled steel.



PHOTOS BY DAVID O. MARLOW FOR ASSOCIATES III.

Healthy House, Healthy Occupant

What's good for the planet is also good for you, says Trudy Dujardin, ASID, president of Dujardin Design Associates, Inc., of Westport, Conn., and Nantucket, Mass.

When Dujardin built her dream house on the harbor in Nantucket in 1987, the site prompted her to go green. "Nantucket is such a small, fragile ecosystem," she explains, noting that she used nontoxic building materials and never used a drop of pesticide on the property. "It really made sense to do this with a conscience."

The completely nontoxic house that resulted wasn't just good for the environment, however. It was also good for Dujardin herself: When she developed multiple chemical sensitivities (MCS) a decade later, the house became her refuge.

Dujardin attributes her health problems to 25 years of exposure to toxic materials on building sites, on top of her childhood exposure to crop-dusting and pesticides on her family's South Carolina farm. Although the diagnosis is still controversial, MCS in Dujardin's case meant headaches, fatigue and what she calls "brain fog." Oil-based paints, polyurethane finishes and even pine and other lumber with a lot of terpenes are especially likely to trigger a reaction.

Now she has developed a specialty in designing homes for others with MCS and urges all of her clients to go green. "People are very receptive when they hear my story," says Dujardin. "I talk from the heart." When clients aren't receptive, she's usually able to convince them to use nontoxic materials in nurseries at least. "They all fall for that one," she says, noting that green design could stem what she sees as a rising tide of asthma and allergies.

And it's not just clients' health she's worried about. Clients also need to consider the people who manufacture and install the products used in their homes. Even if paint has off-gassed and other materials aren't toxic by the time clients move in, Dujardin urges them to think about the materials' effect on construction workers, as well as those who manufacture products—even those who are wearing respirators and other protective gear.

"I tell clients, 'Let's have a conscience for them, too,'" she says. "There are nontoxic alternatives we can choose that don't put anybody in harm's way."

—Rebecca Clay

associated with transporting wood, the council also recommends that designers choose wood grown nearby. The Hardwood Council can provide a boxed sampler of all 22 North American hardwoods to interior designers upon request.

Promoting Recycling

Recycling is another area where interior designers can make a big difference. But emphasizing recycling means more than just ensuring that there's a place for recycling bins in the homes you design. It also means using as many recycled materials as you can, says Annette Stelmak, ASID, design director at Associates III in Denver and co-author of the ASID publication, *Turning Green: A Guide to Becoming a Green Design Firm*.

Stelmak used recycled glass tiles for the kitchen counter and backsplash, and recycled glass countertops with integral glass sinks in the master bath of a Boulder County remodeling project that took a first place in a sustainability competition sponsored by the ASID Colorado Chapter in 2004. A local artisan created a stairway structure using recycled steel. "Steel itself is infinitely recyclable," she notes.

Now there's even recycled paint. Robert Redford's Sundance Catalog has a new line of "Prairie Paints" that recycles post-consumer latex paint left over from large decorating jobs.

Refashioning and reusing items are other forms of recycling. For instance, Stelmak and her colleagues have been known to turn old pots into lamps, antique fabrics into bedding and reclaimed wood into cabinetry and floors.

Being a recycling-oriented designer also means being mindful of what happens on the job, emphasizes Stelmak.

For the remodeling project in Boulder County, Stelmak convinced the contractor to institute an on-site recycling program. "The good news

about Boulder is that there are resources for people who want these goods," says Stelmak. "We were able to recycle everything on the job site, from paper and pallets, to scrap metal and lumber."

Stelmak was even able to recycle much of the house itself. The owners donated everything they possibly could—fixtures, fittings, hardware, appliances, cabinetry, trim and millwork. Recipients who appreciate such donations range from Habitat for Humanity to local theater groups to companies that sell such items, says Stelmak. While this so-called "deconstruction" does up the costs, she says, it also reduces dumping fees. She also urges clients to donate used furniture.

Stelmak is always surprised that more designers don't go green. "I have peers who come to our seminars and say, 'It's so amazing what you're doing. How do you do it?'" says Stelmak, who is co-authoring a book she hopes will demystify green residential design. "They think green design is big and overwhelming."

But green design isn't a specialty market anymore, she says. Instead, environmental consciousness is something that designers should think about automatically with every project, just as they think about safety or accessibility. Says Stelmak, "It's our responsibility."

For more information, visit the ASID Sustainable Design Information Center at www.asid.org/green. And visit www.nbm.org for information about *The Green House: New Directions in Sustainable Architecture and Design*. Cosponsored by the ASID Foundation, Inc., the exhibit is on view at the National Building Museum in Washington, D.C., May 20, 2006, through June 3, 2007, and then traveling nationwide.]

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