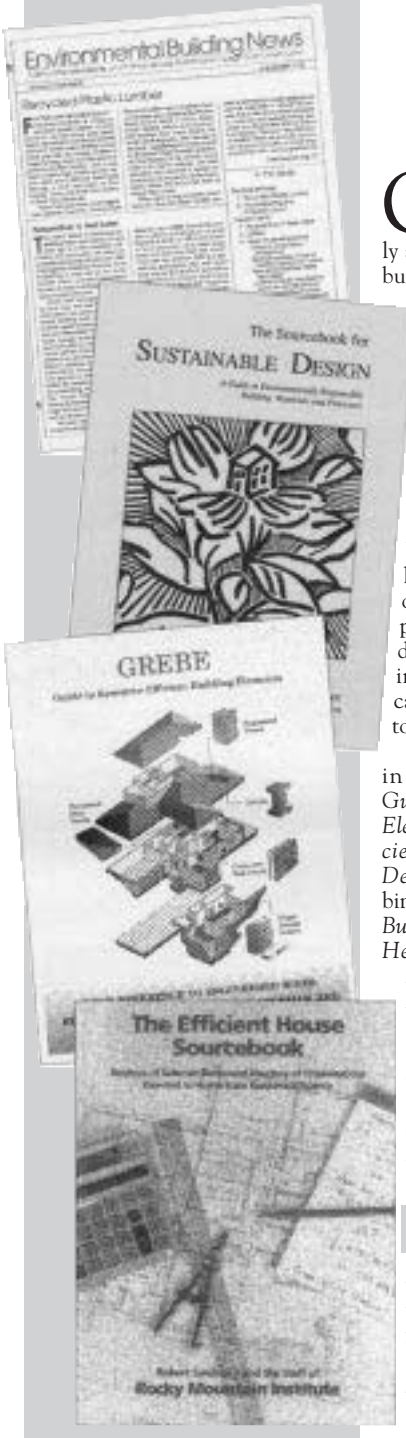
A Guide to
Green Building Resources

Information for the contractor who wants to lessen the environmental effects of remodeling and new construction



Green can mean a lot of things, but when applied to building houses, it is usually associated with resource-efficient building materials, healthy-house construction, and energy-efficient building systems. Below is a listing of many of the references builders should consult if they are interested in such issues. For the sake of brevity, we have confined our list to information resources. Plugging into this information is the first step for anyone attempting to build environmentally sound houses. The next step is to find out where to get appropriate products and materials. Although distributor and manufacturer listings are not included here, they can be found in many of the directories listed below.

Of the sources we reviewed, six in particular stood out: CRBT's *Guide to Resource Efficient Building Elements* and list of *Resource Efficiency Information Sources and Demonstration Projects*; the bimonthly newsletter *Environmental Building News*; the *Safe Home Digest Healthy Building Resource Guide*; ASR's *Sourcebook of Sustainable Design*; and *The Efficient House Sourcebook* from the Rocky Mountain Institute. While much of this information overlaps, these six publications are a good starting point for a library on green building.

Resource-Efficient Materials

American Institute of Architects (AIA)
Architects' Committee on the Environment
1735 New York Ave. N.W.
Washington, DC 20006
202/626-7300

With a grant from the EPA, The AIA has begun the *Environmental Resource Guide* (ERG), an encyclopedia of reports on building materials. The focus of these reports is a "material analysis" that weighs the environmental impact of various building materials. The guide also includes case study reports of appropriate design projects, and a compilation of articles from other publications that address design issues under six topics: Site Design and Land Use; Natural Resources; Energy; Recycling and Waste Management; Building Ecology; and Education. The ERG is set up as a subscription service that costs a staggering $200 per year. Periodic updates are sent as the reports are completed.

Architects for Social Responsibility (ASR)
Boston Society of Architects
52 Broad St.
Boston, MA 02109
617/951-1433

ASR publishes *The Sourcebook for Sustainable Design: A Guide to Environmentally Responsible Building Materials and Processes*. At $75, this guide is a little pricey for some builders, but it is well worth getting if you're serious about specing resource and energy efficient products and materials. The *Sourcebook* is organized by CSI headings. The introductions to many of the sections include good overviews and clear recommendations for specifying materials, followed by a list of manufacturers or distributors of products and materials. Included is a comprehensive resource guide to other information sources.

Center for Maximum Building Potential
8604 F.M. 969
Austin, TX 78724
512/928-4786

This non-profit land planning corporation, known as "Max's Pot," works with communities worldwide on projects that make "maximum" use of bioregional resources. The Center is a good source for ideas that foster innovative uses of locally-available materials. While the group is based in the desert Southwest, and has extensive expertise working in similar climes with earthen building materials such as adobe and rammed earth, the group's research techniques and philosophy are well-worth examining and applying in other regions.

Center for Resourceful Building Technology
P.O. Box 3413
Missoula, MT 59806
406/549-7678

CRBT is a non-profit organization aimed at educating builders and the public about innovative building technologies that make wise use of environmental resources. CRBT publishes the *Guide to Resource Efficient Building Elements* (GREBE), a reference to over 100 manufacturers of resource-efficient building products. It includes information about recycling on the job site and sources for salvaged lumber.

CRBT is run by a builder, and the *GREBE* clearly reflects his practical experience. At $25, the *GREBE* is a steal, and the one guide we would recommend first for finding sources of resource-efficient materials and products, plus other practical information about building environmentally-responsible houses.

Rocky Mountain Institute
1739 Snowmass Creek Rd.
Snowmass, CO 81654-9199
303/927-3851

The Rocky Mountain Institute's *Efficient House Sourcebook* ($15) is one of the most well-rounded gatherings of information on green building out there. It provides in-depth reviews (with excerpts, so you can sample the flavor of information) of a wide selection of books, periodicals, catalogs, information services, and associations. Included is a list of sources for energy-efficient house plans; a complete listing of sources to consult when selecting energy-efficient appliances; water use and waste disposal resources; and a national listing of state energy offices, renewable energy associations, research and education centers, energy extension services, and regional power authorities.

Healthy House

Safe Home Digest
Lloyd Publishing
24 East Ave., Suite 1300
New Canaan, CT 06840
203/966-2099

Safe Home Digest publishes the *Healthy House Building Resource Guide* ($49.50) in a three-ring binder with comprehensive resource directories for all publications, products, and services needed for building and maintaining a healthy house and household. Directories are divided by subject from Agriculture and Alternative Energy to Vacuums and Water Quality. Included are listings of

architect and design/build firms specializing in healthy house construction, and fact sheets that summarize important considerations and controversies that you should know about before selecting some building products, such as carpeting, oil-based paints, and heat recovery ventilators.

Healthy House Institute
7471 North Shiloh Rd.
Unionville, IN 47468
812/332-5073

The Healthy House Institute grew out of John Bower's book, *Healthy House Building, A Design and Construction Guide*, which is a good, practical manual for building houses with very low toxicity levels. Bower parlayed his experience of building a home for himself and his wife (who became environmentally sensitive after moving into a new home) into an independent resource center aimed at sharing solutions to the problems caused by toxic materials in the home. In addition to the book, the Institute maintains a library of books, pamphlets, research papers, and product literature, and periodically publishes in-depth reports on relevant topics, including paint (with an extensive source-of-supply listing for low-toxic paints), furnishings, and the "unhealthy house" (a short overview of toxins in the home).

Swedish Council for Building Research
Sankt Göransgatan 66
S-112 33 Stockholm
Sweden
(+46) 8 617 73 00

The Swedish Council for Building Research, or B*yggforskningsrådet*, has conducted some of the most comprehensive research on indoor air quality, the toxic effects of building materials, and healthy house building techniques in the world. The results of many of their findings are available in English-language publications. Most of these are bound research papers that are very academic in nature. But if you want cutting-edge information on these topics, they are worth consulting. Of particular note is *Buildings and Health*, a somewhat scientific, but understandable, explanation of the relationships between human health and indoor air quality. A quarterly publications list, *Synopsis*, summarizes all research titles that are currently available.

Energy-Efficient Design and Construction

American Council for an Energy-Efficient Economy
1001 Connecticut Ave. N.W.,
Suite 801
Washington, DC 20036
202/429-8873

The ACEEE ("AC triple E") is a non-profit information lobby working to stimulate an awareness for greater energy efficiency, especially among government policymakers. The organization sells a number of useful books, most of which address large (read "abstract") policy issues. But the catalog includes two very good, practical books: *Residential Indoor Air Quality and Energy Efficiency* ($24.50), an excellent overview of the important concepts and methods needed to build healthy, energy-efficient houses, and *Consumer Guide to Home Energy Savings* ($6.95), a clearly-written, well-illustrated guide to insulation, air sealing techniques, heating and cooling systems, and energy-efficient lighting and appliances. The guide includes a listing of high-efficiency home appliances and equipment.

Florida Solar Energy Center (FSEC)
Public Information Office
300 State Rd. 401
Cape Canaveral, FL 32920
407/783-0300

For anyone building in hot, humid climates, FSEC is a necessary information resource. The center publishes an excellent series of *Design Notes* and *Energy Notes* that cover topics such as passive cooling, radiant barriers, moisture control in hot climates, shading techniques, and more.

Energy Design Update (EDU)
P.O. Box 1709, Ansonia Station
New York, NY 10023
212/662-7428

EDU is an expensive monthly newsletter ($138 per year), but it is without a doubt the clearest and best researched publication available on energy-efficient design and construction. It includes news, discussions of current research, and information on building materials and techniques.

Energy-Efficient Building Association (EEBA)
Northcentral Technical College
1000 Campus Dr.
Wausau, WI 54401-1899
715/675-6331

EEBA is a trade association dedicated to educating builders in the concepts and techniques required to build safe, energy-efficient buildings. The group hosts a yearly conference that attracts energy experts from all over the U.S. and Canada, making lunchtime conversation at these events as informative as the conference sessions. EEBA publishes the proceedings. Copies from past conferences offer a wealth of information on energy-efficient building practices. EEBA also has a small catalog of technical publications that are available for sale, including the *R-2000 Builder's Manual*, a well-illustrated handbook that describes the energy-efficient building techniques and standards for the Canadian R-2000 conservation program.

Home Energy
2124 Kitteredge, #95
Berkeley, CA 94704
510/524-5405

A trade magazine for the weatherization industry, *Home Energy, The Magazine of Residential Energy Conservation* ($49/year, bimonthly) offers clearly written information on every aspect of energy-efficiency for existing homes.

Energy Source Directory
Iris Communications
P.O. Box 1647
Tualatin, OR 97062
503/620-0881

The *Energy Source Directory* is expensive ($175) but is the most complete (500 page) directory to specialized products and materials used in energy-efficient construction. So if you've ever wondered where to get complete ventilation packages, bulk foam sealants, virgin plastic vapor barriers, fluorescent lighting or other hard-to-find energy products, this is the source.

Southface Energy Institute
P.O. Box 5506
Atlanta, GA 30307
404/525-7657

Southface is a non-profit organization for research, education, and consultation on energy and environmental technologies. Members receive *The Southface Journal*, a quarterly publication that we strongly recommend for builders working in warm climates. Membership to the Institute costs $20 per year.

Underground Space Center
790 Civil and Mineral
Engineering Building
500 Pillsbury Dr., S.E.
University of Minnesota
Minneapolis, MN 55455
612/624-0066

This research center at the University of Minnesota is the nation's primary source for information on earth-sheltered housing and below-grade insulation. The Center has published a number of books, and the research staff is available by phone to answer questions from the general public.

Comprehensive Sources

A few resources attempt to take a comprehensive look at all the green issues:

Building With Nature
Carol Venolia
P.O. Box 369
Gualala, CA 95445
707/884-4513

Building With Nature is a "professional networking newsletter" that attempts to link building professionals nationwide and share information on green design and construction. It's weighted towards the West Coast, and to abstract, philosophical discussions of design issues. But these discussions are nevertheless tremendously thought provoking. Each issue also includes good resource information. The subscription price for this bimonthly newsletter is $45 per year.

City of Austin Green Building Program
Environmental and Conservation Services Department
P.O. Box 1088
Austin, TX 78767
512/499-3504

Though developed specifically for builders in southwest Texas, the City of Austin Green Building Program received international recognition at the 1992 Earth Summit in Rio de Janeiro as one of twelve "outstanding environmental initiatives" worldwide. Builders enrolled in the program receive training, plus marketing and technical support, for building "Green Builder Homes."

The core of the program is the *Green Building Guide*, a checklist that allows builders to rate the overall green level of their homes within several categories — water, energy, materials, and waste. An expanded guide, *The Sustainable Building Sourcebook*, goes into further detail in educating builders in the concepts, building techniques, and sources of supply within each category.

Together, these two manuals present the most comprehensive approach we have seen to building green. The Austin approach does a good job balancing the often conflicting requirements that arise in the process.

Environmental Building News (EBN)
RR1, Box 161
Brattleboro, VT 05301
802/257-7300

The editors of EBN have a strong sense for what is practical, and deliver clear reports on specific issues, plus a wealth of resource information, reviews, news, and construction details. Since its first issue, which came out in July 1992, this bimonthly newsletter has featured notable, in-depth articles on rigid insulation and its alternatives, a comparison of sheathings, plastic lumber, dealing with construction waste, and concrete and concrete additives. The subscription price of $60 may seem high, but if you build green, this is the single, best source you can go to for staying well-informed and up-to-date on all the issues.

Environmental By Design
Archemy Consulting Ltd.
1662 West 75th Ave.
Vancouver, BC V6P 6G2
Canada
604/266-7721

This sourcebook focuses on interior products with material summaries and supplier information. The summaries are concise, but often sketchy. Nevertheless this guide provides basic information for choosing a wide variety of low-toxic, resource-efficient interior products, including insulation, paints, stains, varnishes, sealers, wall coverings, paneling, caulking, joint compounds, carpeting, and other flooring materials. The "Professional Edition" in an expandable three-ring binder sells for $50. Yearly updates are available for a yearly subscription price of $30. Technical bulletins are also available. The first one out describes how to use Material Safety Data Sheets as a starting point for understanding what toxins are contained in building materials.

Northeast Sustainable Energy Association (NESEA)
23 Ames St.
Greenfield, MA 01301
413/774-6051

NESEA sponsors the Quality Building Council — a builders educational and support group — and hosts the yearly Quality Building Conference — one of the most useful building conferences around if you're interested in practical information about building energy- and resource-efficient houses.

Government and National Trade Associations

Canadian Housing Information Center
700 Montreal Rd.
Ottawa, Ont. K1A 0P7
Canada
613/748-2367

The Center is the information arm of the *Canadian Mortgage and Housing Corporation* (CMHC), a government-sponsored research organization that publishes and distributes a wide-variety of housing information. The recently-released *Clean Air Guide* offers step-by-step instructions on how to create and maintain a healthy indoor environment. A listing of current research is published each quarter.

National Appropriate Technology Assistance Service (NATAS)
P.O. Box 2525
Butte, MT 59702-2525

NATAS is also an agency of the U.S. Dept. of Energy. You can call the NATAS hotline at 800/428-2525 (or 800/494-4572 in Mont.) for assistance locating technical and resource information on efficient or renewable energy and technology, and for advice in developing small businesses that promote energy-efficient technologies.

National Center for Appropriate Technology (NCAT)
U.S. Department of Energy
P.O. Box 3838
Butte, MT 59702
406/494-4572

NCAT is a research arm of the U.S. Dept. of Energy that publishes its findings in small booklets. Topics include engineered wetlands, composting toilets, and solar water heating. Call for publications list.

National Research Center (NRC)
National Association of Homebuilders
400 Prince George Blvd.
Upper Marlboro, MD 20772-8731
301/249-4000

The NRC recently completed the Resource Conservation House, a demonstration home built with a variety of resource-efficient materials. A report on the performance and construction of this house, plus reports on other specialized building materials and technologies, are available.

National Research Council of Canada
Institute for Research in Construction
Montreal Rd.
Ottawa, Ont. K1A 0R6
613/993-2054

The Research Council publishes *Canadian Building Digest*, a 250 issue encyclopedia that explains the theory and practice of energy-efficient construction better than almost any other source. The complete set is available for $50. A more in-depth treatment of similar topics are also available in *Building Practice Notes*, a 62 issue set available for $5 to $25 per issue. Write for current publication list.

Oak Ridge National Laboratory (ORNL)
Oak Ridge, TN 37831
615/576-5454

ORNL is managed by Martin Marietta Energy Systems under contract to the U.S. Dept. of Energy, and is the closest institution we have in this country to a national laboratory for building science. The results of the lab's research are published and available to the public for a nominal price. Among the works to come out in the last few years are the *Building Foundation Handbook*, which examines the effectiveness of below-grade insulation and gives practical insulation and moisture-control details for slabs and basements, and the *Moisture Control Handbook*, which outlines the pathways of moisture in and through a house, and offers practical solutions to both interior and exterior moisture problems. Both handbooks are strongly recommended to all builders.

Grassroots Builder's Groups

In the last few years a number of builders, along with allied tradespeople, suppliers, architects and designers, have formed small groups or networks to address "green building" issues and find practical, local solutions to global problems. If there are other similar groups out there that we have missed, please tell us so we can update this information in the future.

Builders for Social Responsibility (BSR)
RR1, Box 1953
Hinesburg, VT 05461
802/482-3295

In addition to sharing information in their monthly meetings and sponsoring local workshops to educate builders and homeowners, BSR has group-designed a house that's "energy efficient, non-toxic, and affordable." The design won recognition at the 1992 Quality Building Conference. Plan specifications are available for $5. The house is currently under construction in Hinesburg, Vt., and includes an engineered wetlands for septic treatment.

Eco-Home Network
4344 Russell Ave.
Los Angeles, CA 90027
213/662-5207

Though not a network made up strictly of builders, this grassroots, non-profit organization spreads information for inner-city dwellers who still want to keep strong ties to a healthy, natural environment. Membership is comprised of homeowners, designers, builders, teachers, consultants, and students. Local builders would benefit from the group's shared reference library. Builders in other areas can gain some useful resource information, plus insight into specific green concerns of customers from the newsletter, *Ecolution*. The group has designed and built "an environmentally sound, energy efficient, economical" house that is intended as a model for sustainable inner-city dwelling.

Northwest EcoBuilding Guild
217 9th Ave. N.
Seattle, WA 98109
206/622-8350

This group spreads a wide net — reaching builders and allied professionals in Washington, Oregon, Idaho, lower British Columbia, western Montana, and northern California. The Guild is currently working on a network directory of products and services. Membership dues are $45 per year. Due out this fall is a newsletter — *Learned Times: A Journal of Ecologically Sustainable Building*, which will be mailed to members. ■

— Compiled by Clayton DeKorne