



# Solar Bibliography

## READING LIST FOR SOLAR ENERGY

### Non-Technical

- THE COMPLETE GREENHOUSE BOOK...P. Klegg and D. Watkins; Garden Way Publishing, Charlotte, VT 05445, 1978, 280 pp, \$8.95. Primarily a do-it-yourself guide, covers all aspects of greenhouses, including solar.
- CONSUMER HANDBOOK OF SOLAR ENERGY...J. H. Keyes; Morgan and Morgan, Dobbs Ferry, NY, 1979, 273 pp, \$10.95. Guidelines for the person interested in purchasing a solar energy system; emphasizes "Solar Furnaces."
- HOME IMPROVEMENTS FOR CONSERVATION AND SOLAR ENERGY...F. Hickok; Hour House, St. Petersburg, FL 33743, 1977, 151 pp, \$6.80. A guide to energy-efficient retrofitting techniques; includes solar energy systems.
- HOMEOWNER'S GUIDE TO SOLAR HEATING AND COOLING...W. M. Foster; Tab Books, Blue Ridge Summit, PA 17214, 1976, 196 pp, \$4.95. The basics of solar heating and practical advice for consumers.
- HOW TO BUY SOLAR HEATING WITHOUT GETTING BURNT...M. Wells and I. Spetgang; Rodale Press, Emmaus, PA 18049, 1978, 262 pp, \$6.95. A step-by-step method for determining whether solar heating is right for you; how to buy solar equipment without unnecessary expense.
- HOW TO USE SOLAR ENERGY IN YOUR HOME AND BUSINESS...T. Lucas, Ward Ritchie Press, Pasadena, CA 91105, 1977, 250 pp, \$7.95. A practical and basic guide to building and buying solar collectors; includes glossary, bibliography, and list of manufacturers.
- SOLAR AGE CATALOG...S. Oddo (ed); Solar Age, Church Hill, Harrisville, NH 03450, 232 pp, \$8.50. A compilation of articles on all aspects of solar heating; includes comparative data tables of various types of collectors.
- THE SOLAR DECISION BOOK: YOUR GUIDE TO MAKING A SOUND INVESTMENT...R. H. Montgomery; Dow Corning Corporation, Midland, MI 48640, 1978, c250 pp, \$10.00. A guide for everyone interested in solar, for consumers as well as distributors.
- SOLAR ENERGY: THE AWAKENING SCIENCE...D. Behrman; Little, Brown & Co., Boston, MA 02106, 1976, 408 pp, \$12.95. The history of solar technology, its progress, and its potential.
- SOLAR FOR YOUR PRESENT HOME...C. S. Barnaby, P. Caesar and B. Wilcox; California Energy Commission, 1111 Howe Ave., Sacramento, CA 95825, 1977, 163 pp, \$4.00. A book on retrofitting from California that can be helpful in any part of the country.



DC 107, 9th edition, April 1979

The Center is operated by the Franklin Research Center for the U.S. Department of Housing and Urban Development and the U.S. Department of Energy. This list is based on information known by the Center at the time of printing. Since the Center does not evaluate products or services, the appearance of names on this list does not indicate endorsement, nor does the absence indicate disapproval. Periodic updates are available. For more information, please contact us at P.O. BOX 1607, ROCKVILLE, MD 20850 or call toll free (800) 523-2929. In Pennsylvania call (800) 462-4983. In Alaska and Hawaii call (800) 523-4700.



THE SOLAR GREENHOUSE BOOK...J. C. McCullagh; Rodale Press, Emmaus, PA 18049, 1978, 328 pp, \$8.95. All the basics of solar greenhouses, including designs, construction, and planting instructions.

SOLAR HOMES AND SUN HEATING...G. Daniels; Harper and Row, Inc., New York, NY 10022, 1976, 178 pp, \$8.95. A practical guide to solar heating for the layman; a non-technical description of basic principles, existing systems and techniques for construction and installation.

SUN POWER: AN INTRODUCTION TO THE APPLICATIONS OF SOLAR ENERGY...J. C. McVeigh; Pergamon Press, Elmsford, NY 10523, 1977, 208 pp, \$4.95. A state-of-the-art publication in non-technical language; covers all aspects of solar energy.

SUNSET'S HOMEOWNER'S GUIDE TO SOLAR HEATING...Sunset Books; Lane Publishing Co., Menlo Park, CA 94025, 1978, 96 pp, \$2.95. An introduction to active and passive solar energy systems; includes photographs and drawings.

SURVEY OF THE EMERGING SOLAR ENERGY INDUSTRY...J. A. Bereny; Solar Energy Information Services, P.O. Box 204, San Mateo, CA 94401, 1977, 405 pp, \$60.00. A comprehensive listing of names and addresses related to the solar industry; also an overview of the different facets of the industry.

#### Technical

APPLICATION OF SOLAR ENERGY FOR HEATING AND COOLING OF BUILDINGS...R. C. Jordan and B. Y. H. Liu (eds); ASHRAE (Sales Dept.), 345 E. 47th St., New York, NY 10017, 1976, 206 pp, \$9.00. A compilation of technical articles on the assessment, components, performance, and application of solar energy for heating and cooling; includes references, charts, and index.

BASICS OF SOLAR HEATING AND HOT WATER SYSTEMS...AIA Research Corp., Washington, D.C. 20006, 1977, 48 pp, \$5.00. Design considerations important to the total system.

ENGINEER'S GUIDE TO SOLAR ENERGY...Y. Howell and J. A. Bereny; Solar Information Services, P.O. Box 204, San Mateo, CA 94401, 1979, 323 pp, \$27.50. Both basic and advanced information on solar technology; includes various calculations for sizing a solar system.

PRINCIPLES OF SOLAR ENGINEERING...F. Kreith and J. F. Kreider; Hemisphere Publishing Corp., Washington, DC 20005, 1978, \$24.50. The design and analysis of energy conversion systems; emphasis is on solar space and water heating systems.

SOLAR COLLECTOR DESIGN...D. K. Edwards; Franklin Institute Press, Philadelphia, PA 19103, 1977, 64 pp, \$8.50. A technical discussion of the design and construction of solar components..

SOLAR ENERGY ENGINEERING...A. A. M. Sayigh (ed); Academic Press, New York, NY 10003, 1977, 506 pp, \$36.00. A comprehensive and technical treatment of uses of solar energy; written by people experienced in solar engineering.

SOLAR ENERGY, TECHNOLOGY AND APPLICATIONS...J. R. Williams; Ann Arbor Science Publications, Inc., Ann Arbor, MI 48106, 1977, 120 pp, \$6.95 (soft cover). A definitive overview of the various techniques for utilizing solar energy; includes glossary and comprehensive bibliography.

SOLAR HEATING DESIGN BY THE F-CHART METHOD...W. A. Beckman et al; John Wiley & Sons, New York, NY 10016, 1977, 200 pp, \$14.95. A practical method for sizing solar space and water heating systems.

SOLAR HEATING SYSTEMS DESIGN MANUAL...International Telephone and Telegraph Corporation, Fluid Handling Division, 4711 Golf Rd., Skokie, IL 60076, 1976, c100 pp, \$2.50. Technical data, procedures, and designs necessary to install a solar hydronic heating system; based on system installed at ITT's training facility in Morton Grove.



Government Publications

APPLICATION OF SOLAR TECHNOLOGY TO TODAY'S ENERGY NEEDS...Office of Technology Assessment; Stock No. 052-003-00539-5, GPO, 1977, \$7.00. Assessment of the implications of large scale use of on-site solar energy in the frame work of the total energy problem.

BUYING SOLAR...Federal Energy Administration; Stock No. 041-018-00120-4, GPO, June 1976, 71 pp, \$1.85. A guide to factors a homeowner should consider when buying solar systems.

ERDA's PACIFIC REGIONAL SOLAR HEATING HANDBOOK...Los Alamos Scientific Laboratory; Stock No. 060-000-0024-7, GPO, Nov. 1976, 108 pp, \$3.25. A guide for engineers, architects, and individuals familiar with heating and ventilating applications who wish to design a solar heating system for buildings in the Pacific Coast Region; basic concepts are useful in other regions.

A GUIDE TO FEDERAL PROGRAMS OF POSSIBLE ASSISTANCE TO THE SOLAR ENERGY COMMUNITY...Congressional Research Service; Stock No. 052-070-04080-7, GPO, 1977, \$4.00. Report on existing programs which provide help to individuals and organizations interested in using solar energy.

HUD INTERMEDIATE MINIMUM PROPERTY STANDARDS SUPPLEMENT: SOLAR HEATING AND DOMESTIC HOT WATER SYSTEMS...Order No. 4930-2, GPO, 1977, \$12.00 (including updates). Solar requirements and standards applicable to one- and two-family dwellings, multifamily housing, and nursing homes and intermediate care facilities.

REGIONAL GUIDELINES FOR BUILDING PASSIVE ENERGY CONSERVING HOMES...AIA Research Corporation; Stock No. 023-000-00481-0, GPO, 1978, 312 pp, \$5.25. An aid to architects and others who are considering using passive solar and energy-conserving design.

SOLAR DWELLING DESIGN CONCEPTS...AIA Research Corporation; Stock No. 023-000-00334-1, GPO, May 1976, 136 pp, \$2.30. Discussion of all facets of the design and siting of housing intended to be heated by the sun; also includes discussion of the impact of solar energy utilization on traditional dwelling design.

SOLAR ENERGY IN AMERICA'S FUTURE: A PRELIMINARY ASSESSMENT...Energy Research and Development Administration; Stock No. 060-000-00051-4, GPO, March 1977, 104 pp, \$2.00. Documentation of a Stanford Research Institute study of the potential roles that solar energy technologies could have for meeting U.S. energy needs over the next 45 years.

SOLAR HEATING AND COOLING DEMONSTRATION: A DESCRIPTIVE SUMMARY OF HUD SOLAR RESIDENTIAL DEMONSTRATIONS CYCLE 2, Fall 1976...AIA Research Corporation; Stock No. 023-000-00389-9, GPO, 1977, 103 pp, \$2.30. Solar grant projects selected from the second cycle grant applications in the HUD solar heating and cooling demonstration program; includes drawings of buildings and solar systems.

SOLAR HEATING AND COOLING DEMONSTRATION PROGRAM: A DESCRIPTIVE SUMMARY OF HUD CYCLE 3 SOLAR RESIDENTIAL PROJECTS, SUMMER 1977...AIA Research Corporation; Stock No. 023-000-00418-6, GPO, 1977, 165 pp, \$3.50. The projects selected from the grant applications for the third cycle in the HUD solar heating and cooling demonstration program; sketches of buildings included.

SOLAR HEATING AND COOLING DEMONSTRATION PROJECT SUMMARIES...Department of Energy; Stock No. 061-000-00082-8, GPO, 1978, \$4.50. Brief descriptive overview of solar heating and cooling demonstration projects funded by DOE through 1977.

SOLAR HEATING AND COOLING RESEARCH AND DEVELOPMENT PROJECT SUMMARIES...Department of Energy; Stock No. 061-000-00072-1, GPO, 1978, \$5.00. Summaries of research and development projects in the areas of collectors, thermal energy storage, solar heat pumps, solar cooling and controls funded through 1977.



### Architectural

- THE COMPLETE SOLAR HOUSE...B. Cassiday; Dodd, Mead & Co., New York, NY 10016, 1977, 212 pp, \$8.95. A discussion of the workings and functions of solar energy systems; includes the cost-savings features.
- DESIGNING AND BUILDING A SOLAR HOUSE...D. Watson; Garden Way Publishing, Charlotte, VT 05445, 1977, 240 pp, \$8.95. Practical, clearly-written book which covers all aspects of solar house design, including siting, equipment, different types of systems, and costs.
- NATURAL SOLAR ARCHITECTURE: A PASSIVE PRIMER...D. Wright; Van Nostrand, Reinhold Co., New York, NY 10001. Comprehensive coverage of passive solar design; provides diagrams and explanations of important concepts.
- THE PASSIVE SOLAR ENERGY BOOK...E. Mazria; Rodale Press, Emmaus, PA 18049, 1979, 435 pp, \$10.95. A complete guide to passive solar building and greenhouse design; includes rules of thumb for system calculations.
- SOLAR ARCHITECTURE...G. E. Franta and K. R. Olson; Ann Arbor Science Publisher, Ann Arbor, MI 48106, 1977, 331 pp, \$15.00. Proceedings of a forum on energy concerned with solar architecture, especially passive designs.
- SOLAR HEATED BUILDINGS OF NORTH AMERICA: 120 OUTSTANDING EXAMPLES...W. A. Shurcliff; Brick House Publishing Co., Harrisville, NH 03450, 1978, 295 pp, \$8.95. Detailed descriptions of solar buildings in North America; all of the buildings are still in use; includes photographs of many.
- SOLAR HOME BOOK...B. Anderson and M. Riordan; Cheshire Books, Harrisville, NH 03450, 1976, 297 pp, \$7.50. Various aspects of solar home heating including direct and indirect systems, do-it-yourself solar water heating, retrofitting and social and cultural implications.
- THIRTY ENERGY EFFICIENT HOMES YOU CAN BUILD...A. Wade and N. Ewenstein; Rodale Press, Emmaus, PA 18049, 1977, 316 pp, \$8.95. Designs of houses already constructed are presented for use by people building their own homes; solar designs are included.

### General Energy

- ENERGY WE CAN LIVE WITH...D. Wallace; Rodale Press, Emmaus, PA 18049, 1976, 150 pp, \$3.95. Analysis of the potentials and applications of alternative energy sources, including solar energy.
- HOME ENERGY HOW-TO...A. J. Hand; Harper and Row, New York, NY 10022, 1977, 258 pp, \$9.95. Complete guide to saving and producing home energy.
- HOMEOWNER'S GUIDE TO SAVING ENERGY...B. L. Price and J. T. Price; Tab Books, Blue Ridge Summit, PA 18214, 1976, 288 pp, \$5.95. How to save money on home heating, cooling, appliance and electricity costs.
- HOMEOWNER'S ENERGY GUIDE...J. A. Murphy; Thomas Y. Crowell Co., New York, NY 10003, 1976, 215 pp, \$6.95. A workbook to enable the homeowner to compare the relative costs and savings of various energy conserving measures.
- LOW-COST ENERGY-EFFICIENT SHELTER FOR THE OWNER AND BUILDER...E. Eccli (ed); Rodale Press, Inc., Emmaus, PA 18049, 1976, 408 pp, \$5.95. The basics of owning and building an energy-efficient home; includes solar applications.
- SOFT ENERGY PATHS: TOWARDS A DURABLE PEACE...A. R. Lovins, Ballinger Publishing Co., Cambridge, MA 02138, 1977, 234 pp, \$6.95. Proposals for restructuring of our energy system and steps to putting renewable energy into action.



### Directories

INFORMAL DIRECTORY OF THE ORGANIZATIONS AND PEOPLE INVOLVED IN THE SOLAR HEATING OF BUILDINGS (3rd edition)...W. A. Shurcliff; 19 Appleton St., Cambridge, MA 02138, 1976, 178 pp, \$9.00. A selected list of institutions and individuals involved in all aspects of solar heating of buildings; main emphasis is on U.S., but some foreign groups are included.

SOLAR ENERGY AND RESEARCH DIRECTORY...Ann Arbor Science Publishers, Inc., Ann Arbor, MI 48106, 1977, \$22.50. A comprehensive directory of organizations involved in various aspects of solar energy technology.

SOLAR ENERGY SOURCE BOOK...C. W. Martz (ed); Solar Energy Institute of America, 1140 6th St. NW, Washington, DC 20001, 1978, 797 pp, \$15.00. A guide to manufacturers and organizations; periodic updates provided to members.

SOLAR INDUSTRY INDEX...Solar Energy Industries Association, 1001 Connecticut Ave., NW, Ste. 632, Washington, DC 20036, 1978, 381 pp., \$15.00. A comprehensive guide to manufacturers and service organizations; also includes chapter on operations and economics of solar energy systems.

SOLAR UPDATE...Environment Information Center, 124 E. 39th St., New York, NY 10016, 1977, \$25.00. A guide to information sources in solar energy.

### Periodicals

ALTERNATIVE SOURCES OF ENERGY...Alternate Sources of Energy, Inc., Route 2, Box 90A, Milaca, MN 56353, Quarterly, \$10.00/yr. Articles, columns and features on many aspects of energy alternatives; serves as a clearinghouse for exchange of ideas and technologies.

THE MOTHER EARTH NEWS...The Mother Earth News, Inc., 105 Stoney Mountain Road, Hendersonville, NC 28739, Bi-monthly, \$12.00/yr. Down-to-earth descriptions of peoples' experiences with alternative lifestyles, ecology and energy; source for what is happening in energy at the grass roots level.

SOLAR AGE...Solar Vision, Inc., Church Hill, Harrisville, NH 03450, Monthly, \$20.00/yr. Brief articles on developments in solar energy applications, with emphasis on solar heating and cooling.

SOLAR ENERGY...Pergamon Press, Inc., Maxwell House, Fairview Park, Elmsford, NY 10523, monthly, \$121.00/yr. (Included with membership in International Solar Energy Society - \$40.00). Scientific and engineering papers on all aspects of solar energy and technology, theory, and applications.

SOLAR ENERGY INTELLIGENCE REPORT...Business Publishers, Inc., PO Box 1067, Silver Spring, MD 20910, Bi-weekly, \$90.00. The Washington beat in solar energy; also new developments, markets, meetings.

SOLAR ENGINEERING...Solar Engineering Publishers, Inc., 8435 N. Stemmons Freeway, Suite 880, Dallas, TX 75247, Monthly, \$15.00/yr. Short descriptions of activities and developments in the field of solar energy, particularly in the private sector of the U.S.

SOLAR HEATING & COOLING...Gordon Publications, P. O. Box 2126-R, Morristown, NJ 07960, Bi-monthly, \$6.00/yr. Short articles on solar heating and cooling issues, developments, and equipment; oriented to builders, developers, and manufacturers.



SOLAR PROGRAM ASSESSMENT: ENVIRONMENTAL FACTORS - SOLAR HEATING AND COOLING OF BUILDINGS...Energy Research and Development Administration; Stock No. 060-000-00060-3, GPO, March 1977, 76 pp, \$2.20. Presentation of the environmental issues associated with the further development of solar heating and cooling.

A SURVEY OF PASSIVE SOLAR BUILDINGS...AIA Research Corporation; Stock No. 023-000-00437-2, GPO, 1978, 177 pp, \$3.75. Descriptions of a variety of passive solar buildings, including direct gain, indirect gain, and isolated gain; passive cooling is also presented.

Government publications are available from GPO. They can be obtained by writing: Superintendent of Documents, Government Printing Office, Washington, DC 20402. Use the stock no. when ordering. The other materials are NOT available through the National Solar Heating and Cooling Information Center (NSHCIC). They can be obtained by contacting the publishers, bookstores, or local libraries. This Reading List represents only a portion of the material available on solar energy. The book and pamphlet holdings of the NSHCIC library are available upon request.

Distributed by:





# Solar Bibliography

## PASSIVE SOLAR ENERGY DESIGNS AND BUILDINGS

This bibliography is broken into two major sections: Passive Design and Passive Buildings. The publications in the Passive Design section deal mainly with the details (materials, siting) of passive design but may also include descriptions of specific buildings. The Passive Buildings section lists those documents which are primarily about a specific house or houses. The owner and location of the building (or the number of buildings described) is noted at the end of each reference.

### PASSIVE DESIGN

#### Nontechnical Books

ALTERNATIVE NATURAL ENERGY SOURCES IN BUILDING DESIGN...A. J. Davis and R. P. Schubert; Passive Energy Systems, P.O. Box 499, Blacksburg, VA 24060, 1977, \$7.00.

DESIGNING AND BUILDING A SOLAR HOUSE...D. Watson; Garden Way Publishing, Charlotte, VT 05445, 1977, 240 pp, \$8.95.

THE FIRST PASSIVE SOLAR CATALOG...D. A. Bainbridge; Passive Solar Institute, P. O. Box 722, Davis, CA 95616, 1978, 71 pp, \$5.00.

HOW TO USE SOLAR ENERGY...T. Lucas; Ward Ritchie Press, 474 S. Arroyo Pkwy., Pasadena, CA 91105, 1977, \$7.95.

LOW-COST ENERGY-EFFICIENT SHELTER FOR THE OWNER AND BUILDER...E. Eccli (ed); Rodale Press, Inc., Emmaus, PA 18049, 1976, 408 pp, \$5.95.

NATURAL SOLAR ARCHITECTURE: A PASSIVE PRIMER...D. Wright; Van Nostrand Reinhold Co., New York, NY 10001, 1978, 245 pp, \$7.95.

PASSIVE DESIGN SAVES ENERGY AND MONEY...Berkeley Solar Group; Concrete Masonry Association of California and Nevada, 83 Scripps Dr., Suite 303, Sacramento, CA 95825, April 1979, 20 pp, Free.

THE PASSIVE SOLAR ENERGY BOOK...E. Mazria; Rodale Press, Emmaus, PA 18049, 1979, 435 pp, \$10.95, Trade edition - Paperback. (Professional edition, 685 pp, Hardback, \$24.95.)

SOLAR ARCHITECTURE...G. Franta and K. Olson; Ann Arbor Science, Ann Arbor, MI, 1978, 331 pp, \$15.00.

SOLAR GREENHOUSE: DESIGN CONSTRUCTION AND OPERATION...R. Fisher and B. Yanda; John Muir Publication, Santa Fe, NM, 1976, \$6.00.



DC 120, 4th edition, July 1979

The Center is operated by the Franklin Research Center for the U.S. Department of Housing and Urban Development and the U.S. Department of Energy. This list is based on information known by the Center at the time of printing. Since the Center does not evaluate products or services, the appearance of names on this list does not indicate endorsement, nor does the absence indicate disapproval. Periodic updates are available. For more information, please contact us at P.O. BOX 1607, ROCKVILLE, MD 20850 or call toll free (800) 523-2929. In Pennsylvania call (800) 462-4983. In Alaska and Hawaii call (800) 523-4700.



THE SOLAR HOME BOOK...B. Anderson; Cheshire Books, Harrisville, NH, 1977, 297 pp, \$7.50.

Nontechnical Articles

ADOBE: DESIGNING FOR PASSIVE SOLAR HEAT IN THE SOUTHWEST...D. Wright; Solar Age 1(7): 10-15, July 1976.

ARCHITECTURE AS ENERGY...M. Villecco; Design Quarterly (103):1-36, February 1977 (Complete issue).

BUILDINGS AS ORGANISMS...D. Chahroudi; CoEvolution Quarterly (16):110-115, Winter 1977/78.

CONCRETE WALLS TO COLLECT AND HOLD HEAT...F. Trombe et al.; Solar Age 2(8):13-19, August 1977.

CONVECTION OBSERVATION FOR NATURAL CLIMATE DESIGN...P. Henshaw; RAIN 5(7):16-19, May 1979.

DESIGNING, BUILDING A TROMBE WALL...B. Anderson; Solar Age 2(8):25-28, August 1977.

AN EASY-TO-BUILD SOLAR WALL...J. Adams; Solar Age 4(1):26-28, January 1979.

THE HEAT ALSO RISES...J. D. Balcomb; Progressive Architecture 60(4):106-109, April 1979.

HEATING WATER IN A BREADBOX...A. Von Vleet; Alternative Sources of Energy (25):21-25, April 1977.

IN SEARCH OF THE BETTER SUN TRAP: PASSIVE SOLAR HOMES FOR NORTHERN CLIMATES...D. Lees; Harrowsmith (18):26-38, March 1979.

INTRODUCTION TO PASSIVE SOLAR HEATING...D. Marier; Alternative Sources of Energy (33):16-19, August 1978.

LEARNING THROUGH EXPERIENCE: BUILDING PASSIVE SOLAR WITH ADOBE...J. Manos; Nexus 1(1): 6-7, March 1979.

THE LIVE-IN SOLAR COLLECTOR...B. Anderson; Solar Age 1(6):19-23, June 1976.

PASSIVE SOLAR DESIGN...B. Anderson and C. J. Michal; Annual Review of Energy 3:57-100, 1978.

PROMINENT PERFORMANCE VARIABLES IN SOLAR HEATING: A SUMMARY...B. Lawler; Energy and Alternatives 2(2):9-11+, Summer 1978.

RECENT WORK IN PASSIVE SOLAR DESIGN: THE USE OF ARCHITECTURE ITSELF AS THE PRIMARY ENERGY DEVICE...V. Loftness and B. Reeder; AIA Journal 67(4):52-63+, April 1978.

RULES OF THUMB: DESIGNING PASSIVE SOLAR-HEATED BUILDINGS...E. Mazria; Solar Age 4(5): 60-64, May 1979.

SNEAKY INVISIBLE THINGS (AIR CURRENTS IN PASSIVE SOLAR HOMES)...P. Henshaw; RAIN 5(6):10-13, April 1979.



#### Tapes

PASSIVE SOLAR: STATE OF THE ART...Proceedings of the Second Annual Passive Solar Conference. Speeches and Workshops available on cassettes. For more information contact Track Two Taping, P. O. Box 24, Rockville, CT 06066.

#### PASSIVE BUILDINGS

##### Nontechnical Books

EKOSE'A HOMES: NATURAL ENERGY CONSERVING DESIGNS...L. P. Butler; Ekose'a, 573 Mission St., San Francisco, CA 94105, 1978, 77 pp, \$24.95. (7 buildings)

THE ENERGY PRODUCING HOUSE...T. Smith and L. P. Butler; Ekose'a, 573 Mission St., San Francisco, CA 94105, 1978, 52 pp, \$18.95. (Smith - Lake Tahoe, CA)

HOME-GROWN SUN DWELLINGS...P. Van Dresser; The Lightening Tree, Santa Fe, NM 87501, 1977, 135 pp, \$5.95. (Ghost Ranch - Abiquiu, NM)

A SURVEY OF PASSIVE BUILDINGS...AIA Research Corp.; Stock No. 023-000-00437-2, 1978, 177 pp, \$3.75, Available from GPO (See List of Sources). (97 buildings)

THIRTY ENERGY-EFFICIENT HOUSES YOU CAN BUILD...A. Wade and N. Ewenstein; Rodale Press, Emmaus, PA 18049, 1977, 316 pp, \$10.95.

##### Nontechnical Articles

AN ALMOST PERFECT PASSIVE HEATING INSTALLATION...J. L. Parker; Alternative Sources of Energy (31):21-23, April 1978. (Halec Construction - Prescott, AZ)

BENEDICTINE MONASTERY...M. J. Hansen; Solar Age 2(10):24-27, October 1977, (Pecos, NM)

DON'T BUILD A HOUSE TILL YOU'VE LOOKED AT THIS...M. Phillips; CoEvolution Quarterly (18):100-102, Summer 1978. (Smith - Lake Tahoe, CA)

HERE'S A PASSIVELY HEATED AND COOLED HOUSE THAT YOU CAN AFFORD...AND WILL WANT...Anon.; Mother Earth News (48):117-119, September 1977. (Savell - Colton, CA)

INDIGENOUS WOOD AND SOUTH-FACING GLASS FOR PASSIVE SOLAR GAIN TYPIFY HOMES BUILT TO SHELTER INSTITUTE SPECS...E. Tozer; Popular Science 211(3):114-117, September 1977. (Shelter Institute - Bath, ME)

INTEGRATED NATURAL ENERGY ENVIRONMENTS...L. P. Butler; Sunworld (2):16-18, November 1976. (Butler - Jackson, TN)

THE KELBAUGH HOUSE...D. Kelbaugh; Solar Age 1(7):19-23, July 1976. (Kelbaugh - Princeton, NJ)

LET THE SUNSHINE IN...S. Stephens; Progressive Architecture 60(4):128-131, April 1979. (Mary Medina Bldg. - Taos, NM)

LOW TECHNOLOGY SOLAR HOMES THAT WORK WITH NATURE...T. Price; Popular Science 209(6):94-98, December 1976. (6 buildings)

A PASSIVE HOUSE FOR THE MASS MARKET...D. Bainbridge; Alternative Sources of Energy (33):22-24, August 1978. (Bainbridge - Davis, CA)



SOLAR AGE, September 1978 issue is totally on passive design and applications, including a Product Directory.

Technical Books, Reports, Proceedings

DESIGN WITH CLIMATE...V. Olgyay; Princeton University Press, Princeton, NJ 08540, 1963, \$28.50.

THE FIRST PASSIVE SOLAR HOME AWARDS...Franklin Research Center; Stock No. 023-000-00571-4, January 1979, 226 pp, \$5.50, Available from GPO (see List of Sources).

PASSIVE SOLAR BUILDINGS: A COMPILATION OF DATA AND RESULTS...R. P. Stromberg and S. O. Woodall; Sandia Laboratories, 1977, 71 pp, \$5.25, Rept. No. SAND 77-1204, Available from NTIS (See List of Sources).

PASSIVE SOLAR DESIGN: A SURVEY OF MONITORED BUILDINGS...AIA Research Corp.; Oct. 1978, 353 pp, \$12.50, Rept. No. HCP/CS-4113-2, Available from NTIS (See List of Sources).

PASSIVE SOLAR HEATING AND COOLING, CONFERENCE AND WORKSHOP PROCEEDINGS...Albuquerque, NM, May 18-19, 1976, 355 pp, \$10.50, Rept. No. LA-6637-C, Available from NTIS (See List of Sources).

PASSIVE SOLAR HEATING OF BUILDINGS...J. D. Balcomb et al; Los Alamos Scientific Laboratories, 1977, 20 pp, \$4.00, Rept. No. LA-UR-77-1162, Available from NTIS (See List of Sources).

PASSIVE SOLAR: STATE OF THE ART...Proceedings of the Second National Passive Solar Conference, Philadelphia, PA, March 16-18, 1978, Vol. 1, Buildings; Vol. 2, Components, Simulation and Testing; Vol. 3, Policy Education and Economics, \$14.00 (members), \$50.00 (non-members), Available from ISES (See List of Sources).

REGIONAL GUIDELINES FOR BUILDING PASSIVE ENERGY CONSERVING HOMES...AIA Research Corp.; Stock No. 023-000-00481-0, November 1978, 312 pp, \$5.25, Available from GPO (See List of Sources).

RESEARCH EVALUATION OF A SYSTEM OF NATURAL AIR CONDITIONING...K. Haggard et al; 1976, 364 pp, \$12.50, Rept. No. PB 243 498, Available from NTIS (See List of Sources).

SOLAR-PASSIVE BUILDING DESIGN COMPUTER PROGRAMS: A BRIEF SURVEY WITH COMMENTS...New England Solar Energy Association, P. O. Box 541, Brattleboro, VT 05301, 1979, 26 pp, \$4.00 + 50¢ postage.

SOLAR STUDY: A COMPARISON STUDY OF FOUR PASSIVE AND HYBRID SPACE HEATING SYSTEMS...P. Calthorpe, B. Wilcox and D. Stauffer; The Farallones Institute, 15290 Coleman Valley Rd., Occidental, CA 95465, 1978, 36 pp, \$3.50.

THIRD PASSIVE SOLAR CONFERENCE PROCEEDINGS...San Jose, CA, January 11-13, 1979, 925 pp, \$19.00 (members), \$65.00 (non-members), Available from ISES (See List of Sources).

Technical Articles

A COMPARISON OF PERFORMANCE FACTORS FOR PASSIVE SOLAR HEATING...L. Palmiter and B. Hamilton; NMSEA Southwest Bulletin 4(1):18-22, January/February 1979.



A FIELD VALIDATION OF THE THERMAL PERFORMANCE OF A PASSIVELY HEATED BUILDING AS SIMULATED BY THE DEROB SYSTEM...F. Arumi-Noe and D. O. Northrup; Energy and Buildings 2(1):65-75, January 1979.

FREE CONVECTIVE LAMINAR FLOW WITHIN THE TROMBE WALL CHANNEL...H. Akbari and T. R. Borgers; Solar Energy 22(2):165-174, 1979.

HOUSE WALLS AS PASSIVE SOLAR COLLECTORS: AN ASSESSMENT...D. A. McIntyre; Applied Energy 4(4):285-292, October 1978.

HYBRID PASSIVE/ACTIVE SOLAR SYSTEM: PERFORMANCE AND COST...B. D. Hunn; ASHRAE Journal 21(4):25-30, April 1979.

NATURAL AIR CONDITIONING WITH ROOF PONDS AND MOVABLE INSULATION...H. R. Hay and J. I. Yellott; ASHRAE Trans. 75(1):105-177, 1969.

OPTIMAL ENERGY DESIGN OF STRUCTURES BY USING THE NUMERICAL SIMULATION OF THE THERMAL RESPONSE - WITH EMPHASIS ON THE PASSIVE COLLECTION OF SOLAR ENERGY...A. F. Emery et al; Energy and Building 1(4):367-382, 1978.

PASSIVE SOLAR HEATING AND COOLING SYSTEMS...J. I. Yellott; ASHRAE Journal 20(1):60-67, January 1978.

PREDICTING THE PERFORMANCE OF PASSIVE SOLAR-HEATED BUILDINGS...E. Mazria, M. S. Baker, and F. C. Wessling; Sunworld 2(2):42-45, May 1978.

SOLAR EXPERIMENTS WITH PASSIVE RETROFIT...S. F. Keller, A. V. Sedrick, and W. C. Johnson; ASHRAE Journal 20(11):65-68, November 1978.

THE THERMAL ADMITTANCE OF LAYERED WALLS...M. G. Davies; Building Science 8:207-220, 1973.

THERMAL ANALYSIS OF A BUILDING WITH NATURAL AIR CONDITIONING...J. I. Yellott and H. R. Hay; ASHRAE Transactions 75(1):178-188, 1969.

THERMAL BEHAVIOR OF A MASSIVE EARTH STRUCTURE...D. Smith; Adobe Today (22):26-29, 1979.

THERMAL SIMULATION OF A PASSIVE SOLAR HOUSE USING A TROMBE-MICHEL WALL STRUCTURE...P. Ohanessian and W. W. S. Charters; Solar Energy 20(3):275-281, 1978.

TROMBE WALLS...A. Wilson; NMSEA Bulletin 3(12):9-11, December 1978.

#### Bibliographies

PASSIVE BUILDING DESIGN: A SELECTED BIBLIOGRAPHY...Stephen Anderson, 3911 Ave. D., Austin, TX 78751, August 1977, 13 pp, \$1.00.

PASSIVE SOLAR DESIGN: AN EXTENSIVE BIBLIOGRAPHY...AIA Research Corp.; Dec. 1978, 199 pp, \$9.25, Rept. No. HCP/CS-4113-3, Available from NTIS (See List of Sources).

PASSIVE SOLAR DESIGN: A SHORT BIBLIOGRAPHY FOR PRACTITIONERS...AIA Research Corp.; Oct. 1978, 17 pp, \$4.50, Rept. No. HCP/CS-4113, Available from NTIS (See List of Sources).



PASSIVE SOLAR: A CONTROLLED EXPERIMENT IN HOME HEATING...A. Fisher; Popular Science 212(4):76-79, April 1978. (Ghost Ranch - Abiquiu, NM)

PASSIVE SOLAR HOME FOR NORTHERN CLIMATES...D. Marier and A. Marier; Alternative Sources of Energy (25):5-11, 1977; PART TWO...Alternative Sources of Energy (26): 21-25, 1977. (Marier - Milaca, MN)

PASSIVE TAKES ON MANY FORMS AS DESIGNERS SHOW THE GAINS...Solar Engineering 4(1): 22-24, January 1979. (5 buildings)

PASSIVE TECHNOLOGY...K. W. Green; Architectural Record 65(1):5-20, January 1979. (14 buildings)

RALPH AND HOLLY TYRELL'S HOUSE...R. Tyrell; Solar Age 2(8):24-27, August 1977. (TEA - NH)

SOLAR AND WOOD ADOBE HOUSE...B. Colyer and W. Colyer; Alternative Sources of Energy (26):10-14, June 1977. (Colyer - Taos, NM)

SOLAR LAB SOAKS UP SUNSHINE WITH EXOTIC NEW MATERIALS...R. Stepler, Popular Science 212(6):96-98, June 1978. (MIT - Cambridge, MA)

A STEP AHEAD IN SOLAR LIVING...C. Scott; Better Homes and Gardens 57(3):50-55, 188, March 1979. (Smith - Lake Tahoe, CA)

SWEET BEADS AND FLYING FINS...R. Rush; Progressive Architecture 60(4):120-123, April 1979. (Pitkin County Airport - Aspen, CO)

THE SUN BLEST HOUSE...B. Colyer and W. Colyer; Alternative Sources of Energy (30): 4-7, February 1978. (Colyer - Taos, NM)

TALL PIPES OF WATER HEAT AND COOL AWARD-WINNING HOUSE...Sunset 159(5):112-115, November 1977. (Davis, CA)

#### List of Sources

GPO Superintendent of Documents  
U.S. Government Printing Office  
Washington, DC 20402

NTIS National Technical Information  
Service  
5285 Port Royal Rd.  
Springfield, VA 22161

#### ISES, members -

International Solar Energy Society  
American Section  
P.O. Box 1416  
U.S. Highway 190 West  
Killeen, TX 76541

#### ISES, nonmembers -

Unipub  
345 Park Avenue South  
New York, NY 10010



U.S. Department of Housing  
and Urban Development  
Office of Policy Development  
and Research  
In Cooperation with the  
U.S. Department of Energy



# Solar Energy And Your Home







U.S. Department of Housing  
and Urban Development



Solar  
Energy  
Add  
to  
Your  
Home

### Q. IS THERE REALLY AN ENERGY CRISIS?

**A.** Yes. Our society is using up our favorite non-renewable fossil fuels—oil and natural gas—at a furious pace. This situation has created a number of new problems and concerns:

- About 40% of our oil is currently imported at prices which are rising steadily and are expected to go higher.
- Our supply of natural gas is running low.
- We have large coal reserves, but learning to use them without damage to our environment will take time.
- As for nuclear power, some experts argue that we will not be able to fuel enough nuclear reactors to meet our growing energy needs before the oil and gas run out.
- In addition, both coal and nuclear energy exploitation raise serious environmental issues.

All of this suggests that we will need other solutions to our energy needs.

### Q. WHAT ABOUT OTHER ENERGY SOURCES?

**A.** We are learning how to use many new sources of energy. There are numerous experiments and research projects going on right now which attempt to convert wind, tides, and the earth's internal heat into usable forms of energy. Solar energy also can be used to generate electricity either by steam generators or directly by photovoltaic "solar cells." However, most of these methods will not be commercially available for many years.

On the other hand, using solar energy to heat homes and other buildings can mean energy savings for many people right now.



**Q.** I REMEMBER HEARING A LOT ABOUT SOLAR ENERGY A FEW YEARS AGO. WHY HAS IT SUDDENLY BECOME SO POPULAR AGAIN?

**A.** The use of solar energy dates back at least 1,000 years. More recently, experiments in the 1940's proved that solar energy can heat homes. Although these early systems worked well, they did not compete economically with conventional forms of heating (oil, gas, electricity). But with energy costs going up every day and likely to rise even higher, solar energy has become an increasingly attractive and competitive alternate energy source for heating houses and the water they use. Of equal importance, solar energy systems are nonpolluting and ecologically harmless, and the sun's power is inexhaustible.

**Q.** WHY SHOULD I CONSIDER A SOLAR HEATING SYSTEM FOR MY HOME?

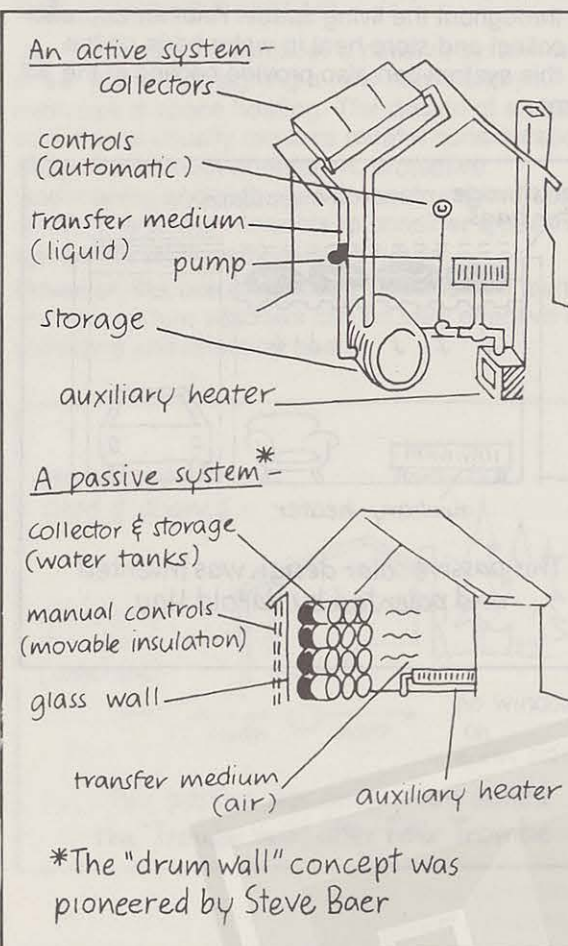
**A.** There are four reasons why you should consider installing such a system in your home:

- You will have long-term savings
- Your home may have a higher resale value as conventional energy prices increase
- You will conserve energy
- Your system will be ecologically safe and clean

Depending on your location, about 55% of the energy needed to run your home will be used for space heating, about 15% for hot water. If some of the non-renewable fossil fuels used to generate that energy could be put to other uses, our oil and gas supplies will last longer and provide more time to develop other energy sources.

**Q.** HOW DO SOLAR ENERGY SYSTEMS WORK?

**A.** Radiation is absorbed by A COLLECTOR, placed in STORAGE, with or without the assistance of a TRANSFER MEDIUM, and distributed to the point of use—your living space. The performance of each operation is maintained and monitored by either automatic or manual CONTROLS. An AUXILIARY HEATER provides backup for times when the solar system is not working.

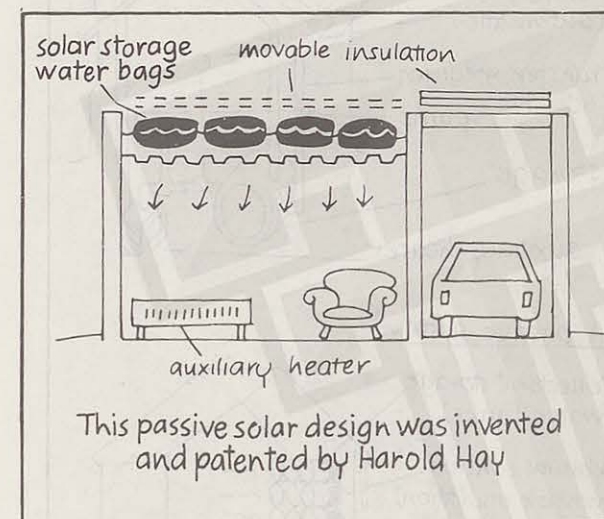




**Q.** WHAT KINDS OF SOLAR HEATING SYSTEMS ARE THERE?

**A.** There are two basic types: active and passive.

Active systems are divided into liquid and air systems. They use pumps and pipes (or fans and ducts) to carry heat from the collectors to storage and from storage to the living space of the house. Some passive systems use the wall of the house or a separate stationary wall as both the collector and storage medium. In the passive house, movable wall panels, or flaps, are often used to direct the heat throughout the living space. Another approach is to collect and store heat in water bags on the roof; this system can also provide cooling in the summer.



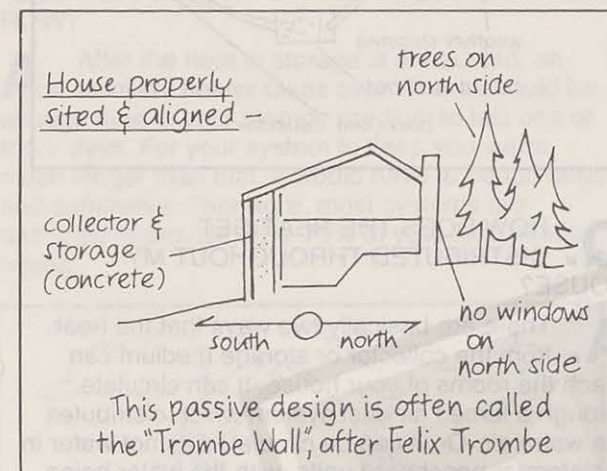
**Q.** WHEN SHOULD I CONSIDER AN ACTIVE SYSTEM?

**A.** An active system can be used in either new or existing construction and may be useful for an older home if you plan on remodeling or upgrading your present heating system and are adding insulation, weather-stripping and other energy conserving features. In any case, your property must have a good southern exposure to take full advantage of the sun's light.

**Q.** WHEN SHOULD I CONSIDER A PASSIVE SYSTEM?

**A.** You should consider a passive system when you are designing a new home and your main use is space heating. The design of a passive solar home usually requires careful consideration of siting, north-south orientation, protective landscaping and high quality construction. Because of this, it is seldom feasible to consider a passive system for an already existing house.

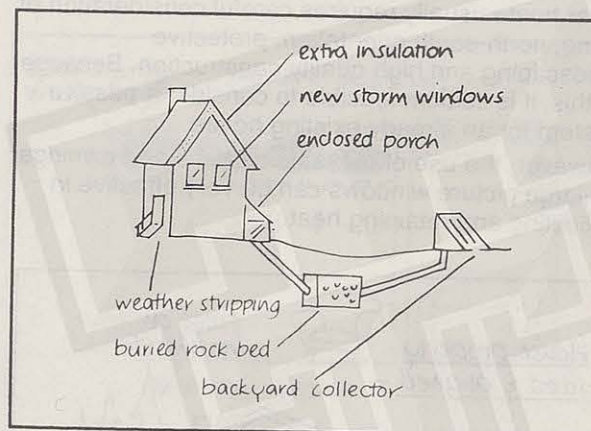
However, the use of movable curtains and awnings on large picture windows can be very effective in collecting and retaining heat.





**Q.** WILL I HAVE TO MAKE MODIFICATIONS TO MY HOME TO INSTALL A SOLAR ENERGY SYSTEM?

**A.** Probably. Unless your home is very well insulated you will certainly have to add insulation, weather-stripping and storm windows and doors. But with the cost of oil, gas and electric heat what it is, you would be wise to do this anyhow. Solar collectors are usually placed on the roof, but they can be erected in your back yard or attached to a wall. If you add solar equipment to your existing heating system you may have to allow for piping or duct work connections. Storage tanks or bins are usually in basements, but they can be placed underground or outside the home.

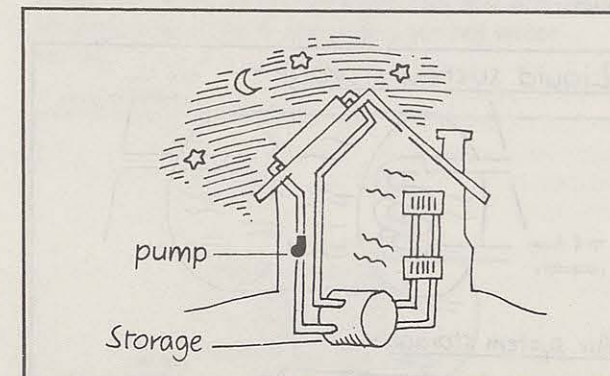


**Q.** HOW DOES THE HEAT GET DISTRIBUTED THROUGHOUT MY HOUSE?

**A.** There are basically two ways that the heat from the collector or storage medium can reach the rooms of your house. It can circulate through a forced air duct system which distributes the warm air. Or, it can be circulated as hot water in radiators or baseboard units, with the water being preheated by solar and brought up to the high temperature needed by the back-up system. In many cases, this means that your present heating system can be adapted to distribute solar heat.

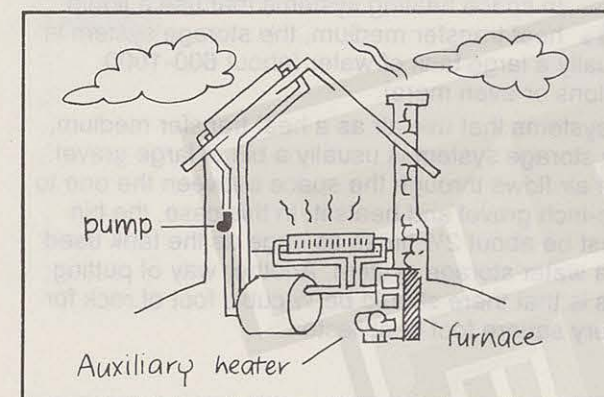
**Q.** HOW DO I HEAT MY HOUSE AT NIGHT?

**A.** All day the heat generated in the collectors has been transferred to the storage system. A second set of pipes (for liquid) or ducts (for air) is used to circulate heat from storage to the rooms of your home.



**Q.** BUT WHAT HAPPENS IF THERE ARE A FEW CLOUDY OR VERY COLD DAYS IN A ROW?

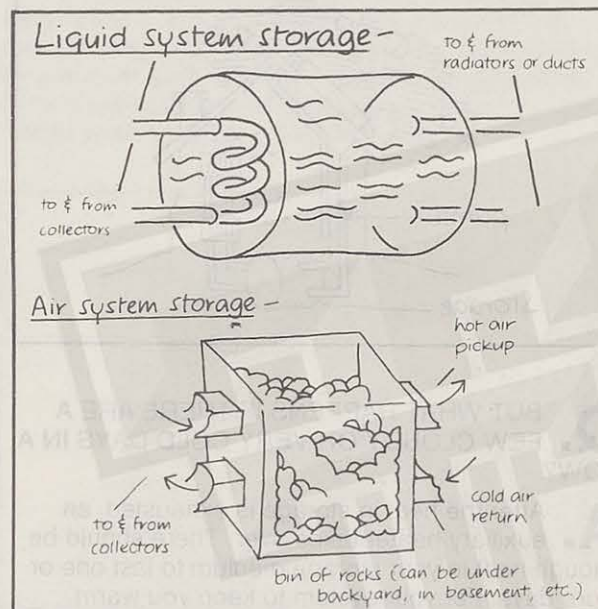
**A.** After the heat in storage is exhausted, an auxiliary heater takes over. There should be enough heat in your storage medium to last one or more days. For your system to keep you warm much longer than that, it would have to be too large and expensive. Therefore, most systems are designed to provide 50%-75% of your total heating needs.





**Q.** WHAT IS AN AUXILIARY HEATING SYSTEM?

**A.** It can be any one of the standard furnaces fueled by oil, electricity, coal or gas. It is necessary to have a full-sized backup heater because it will be used when the weather is at its worst. It can also be used when maintenance of the solar energy system requires shutting the system down.



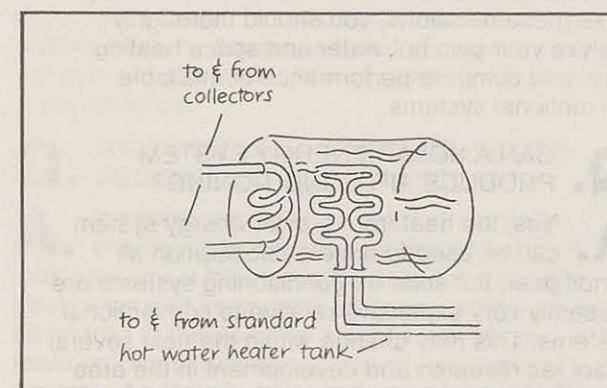
**Q.** HOW IS HEAT STORED IN A SOLAR ENERGY SYSTEM?

**A.** In space heating systems that use a liquid heat transfer medium, the storage system is usually a large tank of water (about 600-1000 gallons or even more).

In systems that use air as a heat transfer medium, the storage system is usually a bin of large gravel. Hot air flows through the space between the one to two-inch gravel and heats it. In this case, the bin must be about 2½ times as large as the tank used in a water storage system. Another way of putting this is that there should be ½ cubic foot of rock for every square foot of collector.

**Q.** HOW IS HOT WATER PRODUCED FOR DOMESTIC USES WITH A SOLAR ENERGY SYSTEM?

**A.** The fluid drawn from the solar collectors is run through a coil in a tank of water and heats it. Water is circulated through a second coil in the tank, heated, and drawn off for domestic uses. If you have a solar domestic hot water system, your system must be so constructed that any anti-freeze solution used cannot leak into your hot water supply.



**Q.** CAN I USE A SOLAR ENERGY SYSTEM JUST TO PROVIDE HOT WATER FOR DOMESTIC USE?

**A.** Yes. Domestic hot water systems are small and easy to install. They can be connected to your present hot water system and many commercial systems are available. Such systems are also regularly featured in do-it-yourself magazines.

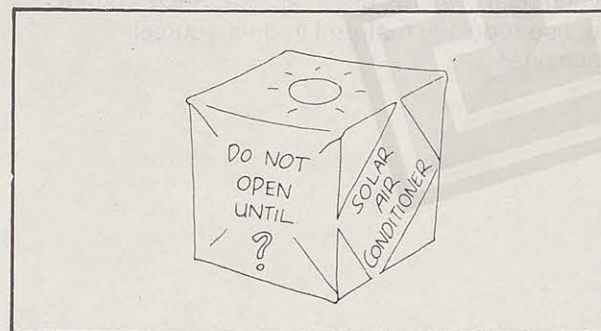


**Q.** CAN I PUT IN A DOMESTIC HOT WATER SYSTEM AND ADD SPACE HEATING LATER?

**A.** Sometimes, particularly in new construction where the basic house can be so designed. But be sure to plan ahead. Where are you going to put the storage container? And a combined domestic hot water and space heating system needs much more collector area than a domestic hot water system alone. You should determine how much of your energy dollar goes for space heating and how much for domestic hot water. Before you make these decisions, you should thoroughly analyze your own hot water and space heating costs and compare performance of available conventional systems.

**Q.** CAN A SOLAR ENERGY SYSTEM PRODUCE AIR CONDITIONING?

**A.** Yes, the heat from a solar energy system can be used to drive an absorption air conditioner, but solar air conditioning systems are presently very expensive relative to conventional systems. This may change within the next several years, as research and development in the area continues. Passive air cooling systems are presently available. They are inexpensive and efficient, but they work best in climates with low humidity and cool nights. As air conditioning accounts for much less of the energy we use than space and hot water heating, developing cheaper, more reliable solar space and water heating systems are more immediate goals.

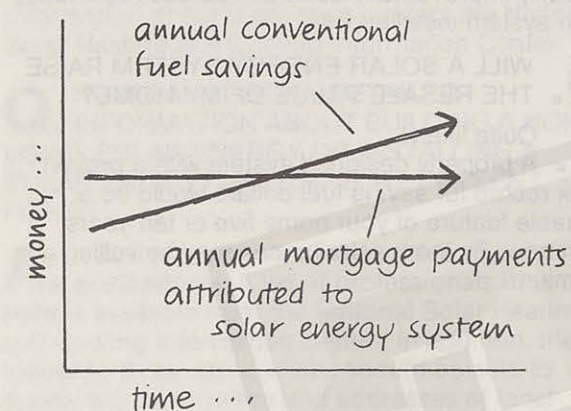


**Q.** ARE SOLAR ENERGY SYSTEM COSTS COMPARABLE WITH OIL, GAS AND ELECTRIC SYSTEM COSTS?

**A.** This is a very complex question to answer. Without knowing more about your home, your location, or property and income taxes it is not possible to give a direct answer. In many locations, it can be said that over a number of years solar energy heating systems are less expensive than electricity but more expensive than gas or oil. However, if one takes the monthly costs of operating a home into account, solar energy systems can result in lower fuel bills in your first heating season. As conventional energy prices rise, the economics of solar energy systems will become more attractive.

**Q.** WHAT SHOULD I CONSIDER BEFORE DECIDING TO INVEST IN SOLAR?

**A.** In assessing the economics of any solar energy system for your home, you should look carefully at the trade-offs between the higher installation and equipment costs you will be paying compared to the potential savings you will be realizing due to decreased use of conventional fuel sources. As stated earlier, the more conventional fuel prices rise, the better your solar alternative will look. The chart shown here illustrates one way to look at this relationship.





**Q. HOW MUCH WILL A SOLAR ENERGY SYSTEM COST?**

**A.** Just as the cost of a car depends on the model, size and degree of luxury desired, the amount you might spend for a solar energy system depends on the design and size of the house, climatic conditions, and the type and size of the desired system. In the 1976 HUD demonstration program, combined solar heating and hot water systems for single family dwellings ranged in cost from \$5,000 to \$19,000. The cost for domestic hot water only was about \$1,500 to \$2,500.

**Q. WILL I BE ABLE TO GET A MORTGAGE OR A HOME IMPROVEMENT LOAN TO INSTALL A SOLAR ENERGY DOMESTIC WATER OR SPACE HEATING SYSTEM?**

**A.** Interest in solar energy systems is growing so fast that many progressive, forward-looking lending institutions are becoming receptive to this concept. However, you may have to shop around. Bankers are becoming aware that a house with a well-designed solar energy system is likely to grow in value as fossil fuel costs rise. Some banks are offering a reduction in interest rate for loans to people building energy conserving homes. The Federal Housing Administration will now insure mortgages for homes with solar systems which meet HUD standards, and Title I HUD-insured property improvement loans can be used to finance solar system installations.

**Q. WILL A SOLAR ENERGY SYSTEM RAISE THE RESALE VALUE OF MY HOME?**

**A.** Quite likely! A properly designed system with a proven track record for saving fuel dollars would be a valuable feature of your home five or ten years from now. By then, solar homes may be selling at a premium.

**Q. ARE THERE TAX ADVANTAGES TO A SOLAR ENERGY SYSTEM?**

**A.** As of January 1979, thirty-eight states had passed legislation to encourage the use of solar devices. These laws are usually in one of the following forms:

- property tax exemptions or deductions
- income tax credits or deductions
- sales tax exemptions.

Other states are considering similar measures. For information about state legislation see *State Solar Legislation*, a summary of enacted state tax incentives, solar access legislation and financial assistance programs. It is available from the National Solar Heating and Cooling Information Center. The following publications are available from the National Technical Information Center, Springfield, Virginia 22161: *A Survey of State Legislation Relating to Solar Energy* by Robert M. Eisenhard, National Bureau of Standards, NBSIR 76-1082, \$4.50; *State Solar Energy Legislation of 1976; A Review of Statutes Related to Buildings* by Robert M. Eisenhard, National Bureau of Standards, NBSIR 77-1297, \$10.75; *State Solar Energy Legislation of 1977; A Review of Statutes Relating to Buildings* by Robert M. Eisenhard and Laura Santucci, National Bureau of Standards, NBSIR 79-1705, \$13.00.

Federal tax incentives for solar installation were enacted by Congress in 1978. For more information about these laws contact the National Solar Heating and Cooling Information Center.

**Q. HOW CAN I OBTAIN DETAILED INFORMATION ABOUT BUILDING A HOME USING SOLAR ENERGY OR INSTALLING A SOLAR ENERGY SYSTEM IN MY PRESENT HOME?**

**A.** You'll probably need the advice of a professional. A list of professionals in your state is available from the National Solar Heating and Cooling Information Center. In addition, the following three associations should be able to supply you with names and addresses of local members who would be able to give you information.



AMERICAN INSTITUTE OF ARCHITECTS  
1735 New York Ave., N.W.  
Washington, D.C. 20006

THE AMERICAN SOCIETY OF HEATING,  
REFRIGERATING AND AIR CONDITIONING  
ENGINEERS  
345 East 47th Street  
New York, N.Y. 10017

NATIONAL ASSOCIATION OF HOME BUILDERS  
15th and M Streets, N.W.  
Washington D.C. 20005

An interesting book that will help you survey your own home and give you valuable tips on saving energy is "In the Bank or Up the Chimney?", available from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402. Stock #023-000-00297-3, \$1.70.

The National Center can provide you with a bibliography on do-it-yourself solar applications and some tips for the home owner.

**Q.** HOW CAN I LOCATE MANUFACTURERS OF SOLAR ENERGY EQUIPMENT?

**A.** You can obtain lists of manufacturers, distributors and installers in your area by writing to the National Solar Heating and Cooling Information Center. In addition, three directories of service suppliers and manufacturers are listed below with their price and the publisher's address.

- **Solar Industry Index**, published by the Solar Energy Industries Association. \$15.00 prepaid. A comprehensive listing of manufacturers and service companies in solar market. Includes basic information, life cycle costing and sources of public information. Available: Solar Industry Index, SEIA, 1001 Connecticut Ave., NW, Washington, DC 20036.
- To provide homeowners with some guidelines for choosing solar equipment, the President's Office of Consumer Affairs and the Federal Energy Administration offer a booklet called Buying Solar. A copy can be obtained from: U.S. Government Printing Office  
Washington, DC 20402  
Stock #: 041-018-00120-4, \$1.85
- **Solar Energy Source Book**, published by the Solar Energy Institute of America. \$15.00 prepaid. (797 pp) Comprehensive listing of products, manufacturers, engineers, architects. Includes how-to information and life cycle costing. Available: SEINAM, 1110 6th St., NW, Washington, DC 20001.



**Q.** WHERE CAN I FIND A CONTRACTOR IN MY AREA WHO WOULD INSTALL A SOLAR ENERGY SYSTEM OR A BUILDER WHO IS BUILDING SOLAR HOMES?

**A.** Your local association of home builders would be your best source. They get to know most of the local contractors and could probably suggest several who could install a solar energy system in your present home. If you are considering a solar energy system for a new home, they might be able to put you in touch with a builder who is building or has built solar homes. Some electric or gas utility companies are starting to collect lists of experienced contractors. You might try your local utility. Listings of solar-involved builders and contractors are available from the National Solar Heating and Cooling Information Center.

**Q.** I WOULD LIKE TO SEE SOME SOLAR HOMES IN MY AREA. WHERE CAN I FIND THEM?

**A.** An excellent source for this kind of information is *Solar Heated Buildings of North America*, William A. Shurcliff, Brick House, Church Hill, Harrisville, NH 03450, 1978 \$8.95. This book lists 120 homes, schools and commercial buildings that existed as of early 1978. Some of the listings contain a great deal of useful information. The National Solar Heating and Cooling Information Center and state energy offices can also be contacted for solar houses not listed in this directory.

**Q.** WHERE CAN I GET MORE INFORMATION ON SOLAR ENERGY?

**A.** The National Solar Heating and Cooling Information Center, P.O. Box 1607, Rockville, MD 20850, established by DOE and HUD, will be happy to answer your questions about applications in solar energy homebuilding. They welcome inquiries from homeowners, builders, contractors, community planners, zoning-officials, architects, building code officials, bankers, insurance agents and manufacturers—in short, anyone concerned with housing.





#### Reading List for SOLAR ENERGY

##### Periodicals

- ALTERNATIVE SOURCES OF ENERGY. Alternate Sources of Energy, Inc., Route 2, Box 90A, Milaca MN, Quarterly, \$10.00/yr.
- SOLAR AGE. Solar Vision, Church Hill, Harrisville, NH 03450, Monthly, \$20.00/yr.
- SOLAR ENERGY. Pergamon Press Ltd., Maxwell House, Fairview Park, Elmsford NY 10523, Monthly, \$140.00/yr.
- SOLAR ENGINEERING. Solar Engineering Publishers, Inc., 8435 N. Stemmons Freeway, Suite 880, Dallas TX 75247, Monthly, \$10.00/yr.
- SOLAR HEATING AND COOLING. Gordon Publications, P.O. Box 2126-R, Morristown, NJ 07960, Bimonthly, \$6.00/yr.

##### Non Technical Books

- BUY WISE GUIDE TO SOLAR HEAT ... F. Hickok; Hour House, P.O. Box 40082, St. Petersburg FL 33743, 1976, 121 pp. \$9.00.
- DESIGNING AND BUILDING A SOLAR HOUSE ... D. Watson; Garden Way Publishing, Charlotte VT 05445, 1977, 240 pp. \$8.50.
- HOW TO BUY SOLAR HEATING WITHOUT GETTING BURNT ... M. Wells and I. Spetgang; Rodale Press, Emmaus, Pa 18049, 1978, 262 pp. \$6.95.
- HOW TO USE SOLAR ENERGY IN YOUR HOME AND BUSINESS ... T. Lucas; Ward Ritchie Press, Pasadena, CA 91103, 1977, 315 pp. \$7.95.
- THE PASSIVE SOLAR ENERGY BOOK ... E. Mazria; Rodale Press, Emmaus, PA 18049, 1979, 435 pp. \$10.95.
- SOLAR AGE CATALOGUE ... S. Oddo(ed.); Solar Age, Church Hill, Harrisville, NH 03450
- THE SOLAR HOME BOOK ... B. Anderson with M. Riordan; Brick House, Church Hill, Harrisville, NH 03450, 1976, 297 pp. \$8.50
- SOLAR HOMES AND SUN HEATING ... G. Daniels; Harper & Row, Inc., New York NY, 1976, 178 pp. \$8.95.
- SUNSET HOMEOWNER'S GUIDE TO SOLAR HEATING ... Sunset Books; Lane Publishing Co., Menlo Park, CA 94025, 1978, 96 pp. \$2.95.

#### Reading List for GENERAL ENERGY

- ENERGY PRIMER ... R. Merrill and T. Gage, Ed.; Dell Publishing Co., New York, NY 10017, 1978, 256 pp. \$7.95.
- FUTURE ENERGY ALTERNATIVES ... R. Meador, Ann Arbor Science Publishers, Inc., Ann Arbor, MI 48106, 1978, 197 pp. \$6.95.
- HOME ENERGY HOW-TO ... A. J. Hand; Harper & Row, New York, NY 10022, 1977, 258 pp. \$9.95.
- HOMEOWNER'S ENERGY GUIDE ... J. A. Murphy; Thomas Y. Crowell Co., New York NY 10003, 1976, 215 pp. \$6.95.
- LOW-COST ENERGY-EFFICIENT SHELTER FOR THE OWNER AND BUILDER ... E. Eccli (ed.); Rodale Press, Inc., Emmaus PA 18049, 1976, 408 pp. \$5.95.