

383

5/20/80

PAS

SERI/TP-451-597
UC CATEGORY: UC-58c

DR 1197

CONF-800355--1

SERI INFORMATION DATA
BANK NETWORK

RAFAEL UBICO

FEBRUARY 1980

TO BE PRESENTED AT STATE ENERGY
AUDIT: IMPACT 80, SPONSORED BY
THE AMERICAN INSTITUTE OF
INDUSTRIAL ENGINEERS, SHERATON
ST. LOUIS, ST. LOUIS, MO,
APRIL 1, 1980

Solar Energy Research Institute

1536 Cole Boulevard
Golden, Colorado 80401

A Division of Midwest Research Institute

Prepared for the
U.S. Department of Energy
Contract No. EG-77-C-01-4042

MASTER

DISTRIBUTION OF THIS DOCUMENT IS UNLIMITED

DISCLAIMER

This report was prepared as an account of work sponsored by an agency of the United States Government. Neither the United States Government nor any agency Thereof, nor any of their employees, makes any warranty, express or implied, or assumes any legal liability or responsibility for the accuracy, completeness, or usefulness of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights. Reference herein to any specific commercial product, process, or service by trade name, trademark, manufacturer, or otherwise does not necessarily constitute or imply its endorsement, recommendation, or favoring by the United States Government or any agency thereof. The views and opinions of authors expressed herein do not necessarily state or reflect those of the United States Government or any agency thereof.

DISCLAIMER

Portions of this document may be illegible in electronic image products. Images are produced from the best available original document.

Printed in the United States of America
Available from:
National Technical Information Service
U.S. Department of Commerce
5285 Port Royal Road
Springfield, VA 22161
Price:

Microfiche \$3.00⁵⁰

Printed Copy \$~~4.00~~^{5.00}

NOTICE

This report was prepared as an account of work sponsored by the United States Government. Neither the United States nor the United States Department of Energy, nor any of their employees, nor any of their contractors, subcontractors, or their employees, makes any warranty, express or implied, or assumes any legal liability or responsibility for the accuracy, completeness or usefulness of any information, apparatus, product or process disclosed, or represents that its use would not infringe privately owned rights.

SERI INFORMATION DATA BANK NETWORK

Rafael E. Ubico

Solar Energy Research Institute
1617 Cole Boulevard
Golden, Colorado 80401

The availability of accurate, timely information will be an important key in the continued spread of solar energy. This paper describes the products and services available through the Solar Energy Information Data Bank, a national information network developed and operated by the Solar Energy Research Institute with the participation of member organizations.

BACKGROUND

The energy-efficient structure of the 1980's is one that effectively combines solar heating with traditional energy conservation measures. The more conventional solar applications--passive solar heating, solar hot water heating, and wood-burning furnaces--are meeting with increasingly widespread acceptance in the design and equipping of today's energy conscious building. One need only to look at the growing sales statistics for such solar devices as greenhouses and other sunspaces, solar hot-water heaters, and wood-burning space heaters, stoves, and fireplace inserts to appreciate this fact. This trend is being encouraged by a number of state and local ordinances like that passed by the city of San Diego which requires new homes to be equipped for solar hot water systems beginning in October 1980. Such solar initiatives, when combined with standard conservation initiatives such as effective insulation and lowered thermostats, will help to reduce our nation's reliance on petroleum and other non-renewable resources during the coming decade.

Practical applications of other, more centralized, solar technologies will also begin to come of age in the 1980's, as advances are made in the fields of photovoltaics, biomass conversion, large-scale wind applications, solar thermal conversion, and ocean energy systems. As these technologies come online and gain acceptance, more dramatic gains can be expected in our ability to be energy self-sustaining. The national goal set by President Carter in 1979 is for 20% of the nation's energy needs to be met through renewable resources by the year 2000. In its recent report, Energy Future, the Harvard Business School concluded that this goal is not only a critical priority, but that it can be achieved through economically feasible measures[1].

The continued growth of solar energy in this country will depend on steady technical progress and the overcoming of economic barriers and informational restraints. Federal legislation passed by Congress in recent years has recognized the vital importance

of these three elements. Solar tax credits and the proposed solar loan bank are examples of the kinds of initiatives which can be taken on the economic side. The technical and informational issues were both addressed by Congress in the Solar Energy Research, Development, and Demonstration Act of 1974 (P.L. 93-473). This law established the Solar Energy Research Institute (SERI) to provide a national focus for the continued development of solar energy. The same legislation also created a national network to promote the effective diffusion of solar energy information throughout the country in a timely and accurate manner. Designated the Solar Energy Information Data Bank (SEIDB), this network is mandated by Congress to collect, review, process and disseminate information on all the solar energy technologies.

Lead responsibility for the SEIDB network was assigned to SERI with the award of the SERI contract by the Department of Energy in July 1977. During its initial years, the requisite planning, organization, and development were completed to permit the SEIDB to fulfill its charter as the nation's principal source of solar energy information. By the end of 1979, the SEIDB was actively engaged in the collection and dissemination of solar information for a variety of audiences. The remainder of this paper describes the current SEIDB network and the products and services which it offers to qualified organizations.

PROJECTED AUDIENCES

The SEIDB network is chartered by P.L. 93-473 to serve a national audience. The law specifically requires that information retrieval and dissemination services be provided for the following categories of users:

- Federal, state and local government, and their contractors,
- universities and colleges, and
- the private sector, upon request and in appropriate cases.

The composition of audiences within these broad user categories, and the relative information needs and priorities of these audiences, has been the subject of a comprehensive user needs study undertaken by SERI. The final report on this study is scheduled to be released in April 1980. In general, this report will provide an exhaustive cross reference

DISCLAIMER

This book was prepared as an account of work sponsored by an agency of the United States Government. Neither the United States Government nor any agency thereof, nor any of their employees, makes any warranty, express or implied, or assumes any legal liability or responsibility for the accuracy, completeness, or usefulness of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights. Reference herein to any specific commercial product, process, or service by trade name, trademark, manufacturer, or otherwise, does not necessarily constitute or imply its endorsement, recommendation, or favoring by the United States Government or any agency thereof. The views and opinions of authors expressed herein do not necessarily state or reflect those of the United States Government or any agency thereof.

MAJIER

DISTRIBUTION OF THIS DOCUMENT IS UNLIMITED

fy

among user audiences, solar technologies, and types of information by content and form.

For study purposes, the solar information user community has been divided into predefined classes of organizations and individuals within six functional groupings: (1) information intermediaries (i.e., information centers and libraries); (2) the research community (i.e., government laboratories, DOE contractors, industrial researchers, academic researchers); (3) practitioners (i.e., manufacturers, distributors, installers, architects, builders, utilities); (4) facilitators (i.e., state energy offices, legislators, trade associations, professional associations, public media, financial institutions, public interest groups, developers, and regulatory agencies); (5) consumers (i.e., government, commercial, agricultural, industrial and home owners); and (6) the general public.

The results of the user needs study will provide the basis for the further development of the SEIDB network. Existing and planned products will be re-evaluated and appropriately revised in light of the study's findings. In addition, all future planning will draw upon its results. The end goal is to ensure that future SEIDB products and services are matched to the real information needs of target user groups.

NETWORK CONCEPT

The SEIDB operates as a network which links central SEIDB operations at SERI with participating member organizations who, in turn, serve particular constituencies of information end-users. Under this concept, SERI can, in certain situations, deliver solar information directly to end-users. In most cases, however, it will concentrate on serving as an "information manufacturer" or "wholesaler", relying on "retailer" organizations for direct consumer contact and ultimate product delivery. In 1979, the SEIDB network involved the close cooperation of SERI with these network participants:

- Mid-American Solar Energy Complex, Bloomington, Minnesota
- Northeast Solar Energy Center, Cambridge, Massachusetts
- Southern Solar Energy Center, Atlanta, Georgia
- Western Solar Utilization Network, Portland, Oregon
- National Solar Heating and Cooling Information Center, Philadelphia, Pennsylvania

In the future, information retailer organizations may include DOE agencies, laboratories and contractors; state and local energy offices; academic, public and special libraries and information centers; private research institutes; professional, public interest and trade organizations; the information industry; and other Federal government information activities.

COOPERATIVE AGREEMENTS

Because of overlapping mandates, the development of cooperative agreements with other principal energy information agencies has been essential to smooth working relationships. An ongoing interchange to help define respective roles and responsibilities has already been initiated with DOE's Technical Information Center, Energy Information Administration, and Energy Extension Service. Where appropriate, these discussions will culminate in definitive Memoranda of Understanding. Discussions with other Government agencies involved in the nation's solar program, such as the Department of Agriculture and the National Aeronautics and Space Administration, are also planned for 1980.

PRODUCTS AND SERVICES

The types of information to be made available through the SEIDB network are defined by P.L. 93-473 as including:

- technical information on all solar technologies and applications,
- general information on solar applications for popular consumption,
- material properties, and
- performance data.

Information within each of these categories is packaged and disseminated through a variety of products and services. These are described below.

Information Outreach and Dissemination

The purpose of this service is to provide nationwide distribution of SEIDB information products, such as up-to-date directories, fact sheets, bibliographies, bulletins, promotional materials, and audiovisuals. This activity packages, announces, and delivers needed data and information to users at the right time and place and in the most useful format. Examples of existing products include:

- Publications Bulletin - A listing of all SERI publications with directions on how to obtain them; published quarterly.
- Solar Events Calendar - A listing of all solar conferences, fairs, meetings, exhibits, etc. scheduled in the U. S. and foreign countries within the foreseeable future; published quarterly.
- Information Locator - A directory of solar energy information sources; published annually.
- National Education Directory - A comprehensive listing of all solar courses offered by educational institutions in the U. S.; published annually.

- Technical Training Directory - A listing of all solar vocational training courses offered in the U. S.; published annually.
- Solar Reading Lists (Covering 9 Solar Technologies) - Listings of current literature published on each of the solar technologies; to be updated and republished as appropriate.
- SEIDB Insider - A newsletter reporting events pertinent to SEIDB participants; published bi-monthly.
- Pocket Solar Energy Information Data Bank Pamphlet - A solar awareness publication introducing the general public to different solar technologies and directing them to sources of further information; to be updated and republished as appropriate.
- Facts About Gasohol Brochure - A question-answer publication explaining the basic details of Gasohol; to be updated and republished as appropriate.
- Fuel From Farms Guide - A 170-page book describing accepted methods and the economics of small-scale ethanol production; to be updated and republished as appropriate.

National Solar Information Center

The Solar Energy Information Center at SERI maintains the nation's most comprehensive collection of solar-related publications and reports. An online bibliographic data base, known as Solar Biblio, is being developed by the Center to assist in literature searches for documents held at SERI and elsewhere. Services provided by the Center for qualified users include technical reference services, document acquisition and delivery, interlibrary loans, literature searches, the preparation of bibliographies and literature reviews, and the preparation of abstracting and indexing bulletins.

Online Data Bases

This service collects, validates, stores, and provides online accessibility to data on a variety of solar-related subjects. The current schedule for data base implementation is as follows:

<u>Already Implemented</u>	<u>To Be Implemented - 1980</u>	<u>To Be Implemented - 1981</u>
Calendar	Directories	Funding Sources
Education	Organizations	Performance Data
Installations	Professionals	Product Reliability
IPH	Info. Sources	
Wind	Installations	
International	Photovoltaics	
Contacts	SHAC	
Projects	International	
Manufacturers	Agreements	
Insolation	Country Profiles	

<u>Already Implemented</u>	<u>To Be Implemented - 1980</u>	<u>To Be Implemented - 1981</u>
Models	Materials	
Solar Biblio	Meteorology	
	Products	
	R & D Projects	
	Legislation	
	Standards	

In addition to the data bases developed and maintained by SERI, the SEIDB system also provides online access to several of the data bases developed and maintained by the National Solar Heating and Cooling Information Center (NSHCIC).

National Solar Inquiry and Referral Service

This service was begun in 1980 to satisfy the growing public demand for up-to-date, accurate information on solar subjects. Questions may be submitted through a toll-free telephone service, as well as through written and walk-in inquiries. Where appropriate, inquiries are referred to the DOE Technical Information Center for non-solar bibliographic information; to EIA's National Energy Information Center (NEIC) for general statistical information on energy resources, demand, and production; and to NSHCIC for information on passive and active solar heating and cooling applications.

Computer Center Services

The SERI Computer Center selects and implements the hardware and software systems required to provide online access to SEIDB data bases and solar simulation models. Nationwide online access to the SEIDB data bases is currently provided through a commercial time-sharing vendor pending acquisition of a database host system at SERI.

A large-scale Control Data Corporation CYBER 76 computer system is currently maintained at the SERI Computer Center to provide access to solar simulation models and related computational software. Qualified organizations may use this system to run such solar design tools as F-Chart, RSVP, and SOLCOST. The system is currently accessible by local telephone in most cities through the TYMNET^R communications network.

Ultimately, the central SERI computer facility will include both a database mainframe and a computational mainframe with a common central network interface into an external teleprocessing communications network. Dialup terminals, located at SERI and at SEIDB user sites around the country, will gain direct access to either of the SERI computers through the central network interface. As demand and usage grow, communications concentrators are planned for appropriate field locations to enhance network communications.

HOW TO OBTAIN INFORMATION

The following phone numbers may be used to obtain information from the SEIDB:

- National Solar Inquiry and Referral Service--Responds to public inquiries on solar-related subjects such as wood combustion, wind energy, photovoltaics, biomass conversion, agriculture and industrial process heat, and solar thermal conversion.
800-525-5000 (in Colorado use 800-332-8339)
- National Alcohol Fuels Information Center--Responds to public inquiries on questions related to alcohol fuels.
800-525-5555 (in Colorado use 800-332-8339)
- Solar Energy Information Center--Provides technical reference, interlibrary loan, literature search, and bibliographic services on solar-related subjects for DOE agencies, other Federal agencies, and their contractors.
Commercial: (303) 231-1415 FTS: 327-1415
- Document Distribution Services--Responds to requests for limited quantities of SERI-produced technical reports, SEIDB publications, and other information products.
Commercial: (303) 231-1158 FTS: 327-1158
- SEIDB Network Participation--Organizations involved in the collection, processing, and dissemination of solar-related information may participate as members of the SEIDB network. Interested parties should call:
Commercial: (303) 231-1032 FTS: 327-1032

Direct online access to the SEIDB data bases and models in 1980 will generally be limited to Federal and state agencies, and their contractors, involved in the nation's solar energy program. Other organizations may be invited to participate on a pilot basis. Any individual or organization, however, may submit a query through the National Solar Inquiry and Referral Service.

Written requests for information may be sent to the attention of the appropriate SEIDB service at the following address:

Solar Energy Research Institute
1617 Cole Boulevard
Golden, CO 80401

CONCLUSION

Significant advances in all the solar energy technologies can be expected in the 1980's as the nation moves toward meeting the President's goal of increased reliance on renewable energy sources. Rapid commercial adoption of these technologies, coupled with increasingly stringent conservation measures, will be necessary for the nation to appreciably relax its dependence on petroleum sources. The availability of reliable, timely information on solar-related subjects will be critical to the success of this program. As the nation's principal source

of solar information, the SEIDB network will play a key role in assuring that the nation's transition to renewables becomes a reality in the 1980's.

[1] Harvard Business School, Energy Future: Managing and Mismanaging the Transition. Edited by Roger Stobaugh and Daniel Yergin. Random House, New York, NY, 1979.

BIOGRAPHICAL SKETCH

Rafael Ubico, SEIDB Network Coordinator, Solar Energy Research Institute, Golden, CO. Mr. Ubico is responsible for the development of cooperative working relationships with SEIDB network participants and other energy information agencies. He also serves as the principal contact for users of SEIDB online services. Mr. Ubico is a member of the American Society for Information Science.