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# Energy Efficiency and Renewable Energy Network (EREN)

## Customer Satisfaction Survey / 1997 Final Report

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## Acronym Glossary

*AWEA*: American Wind Energy Association

*CADDET*: Centre for the Analysis and Dissemination of Demonstrated Energy Technologies

*CAS*: Climate Analysis Section

*CQI*: continuous quality improvement

*CREST*: Center for Renewable Energy and Sustainable Technology

*DOE*: Department of Energy

*DOE HQ*: Department of Energy Headquarters

*EE*: Office of Energy Efficiency and Renewable Energy

*EIA*: Energy Information Administration

*EPRI*: Electric Power Research Institute

*EREC*: Energy Efficiency and Renewable Energy Clearinghouse

*EREN*: Energy Efficiency and Renewable Energy Network

*FEMP*: Federal Energy Management Program

*IGSHPA*: International Ground Source Heat Pump Association

*JPEG*: Joint Photographic Experts Group

*LBL*: Lawrence Berkeley National Laboratory

*NOAA*: National Oceanic and Atmospheric Administration

*NREL*: National Renewable Energy Laboratory

*PC*: personal computer and denotes IBM compatible

*PDF*: Portable Document Format

*PTTC*: Petroleum Technology Transfer Council

*PV*: photovoltaics

*RFQ*: request for quote

*SEO*: State Energy Offices

*TQM*: total quality management

*WWW*: WorldWide Web

## Energy Efficiency and Renewable Energy Network (EREN) Customer Satisfaction Survey 1997

### EXECUTIVE SUMMARY

The 1997 *Energy Efficiency and Renewable Energy Network Customer Satisfaction Survey* was conducted in support of EREN continuous quality improvement and strategic planning activities by adding a longitudinal perspective to the baseline data collected in the first survey conducted in 1996. The purpose of the survey is to collect customer feedback to provide qualitative and quantitative data. Customer feedback is then analyzed for application to the further development of EREN products and services. The 1997 survey captures data and qualitative statements based on a sample of forty (40) EREN customers selected randomly from the EREN Users Group listing. The customer feedback generally covers the following areas.

- demographics of customers
- derived value or benefits
- desired service options
- service quality
- satisfaction level
- source preferences
- preferred delivery mechanisms
- baseline data to support CQI and strategic planning

Customer feedback was obtained through voluntary participation in a phone survey, based on the same methodology and similar questions to the previous survey conducted in 1996.

In support of the EREN mission statement, the 1997 survey data indicate that EREN products and services are used primarily for current awareness and project support by professionals from the commercial, governmental, and academic sectors working in energy efficiency and renewable energy. Most customers make use of sources linked to EREN without strict regard to publisher. Although the majority of respondents (40%) seek DOE published material, it is important to note that respondents increasingly associate EREN with quality, accurate and timely information regardless of publisher. Within 1996 and 1997 samples, the primary technology in 1996 was solar, as opposed to wind technology in 1997. Application of information remained highest for buildings for 1996 and 1997.

Within the 1997 sample, increased hardware capabilities were the trend with the majority of respondents (51%) using Pentium PCs. Although the clear majority of respondents (45%) had no suggestions for improving EREN, among areas suggested for improvement were the following.

- search query (highest)
- organization (second highest)

- functionality named or implied included browsing, alphabetical lists, and site maps
- fewer graphics
- short text summaries to supplement labeled buttons

The 1996 and 1997 survey data showed an increase in the use of Web-based resources. Respondents continue to use general search engines for locating information, however, experienced EREN customers repeatedly testified to the added value and time saved by using EREN. Implementation of the new EREN search engine and some attention to customer feedback on organization and improved access should result in an increase in EREN as a first Web-based source in the future.

Respondents in the 1997 survey unanimously agreed that EREN provided a significant value-added service and product in support of energy efficiency and renewable energy. Survey data provide clear evidence that EREN is fulfilling its mission and attaining a high level of success among its primary user group of commercial, academic, and government professionals using EREN for current awareness and project support.

**Energy Efficiency and Renewable Energy Network (EREN)**  
**Customer Satisfaction Survey 1997**

## **PROJECT OVERVIEW**

### **1. INTRODUCTION**

#### ***1.1. Background***

The Energy Efficiency and Renewable Energy Network (EREN) serves as a gateway to electronic information resources on the Internet. Operated by the U.S. Department of Energy's (DOE) Office of Energy Efficiency and Renewable Energy (EE), EREN was designed to support the scientific and technical mission of DOE and to link government agencies, colleges and universities, commercial companies, and individuals to energy efficiency and renewable energy information resources throughout the world.

To understand the vital role that EREN has in providing access to information, it is important to understand the changes in information resources themselves. In the past, government agencies have provided much of the access to public information primarily in print form. With advances in technology, electronic resources have become increasingly important as a method of communication and as a source for information. With the Internet serving as a catalyst, there is a wealth of energy efficiency and renewable energy information in electronic format. However, the sheer volume of information available on the Internet makes it difficult to find relevant, authoritative information on any particular topic. EREN is responding to the problems associated with locating information on the Internet by identifying authoritative, relevant information and grouping related resources which allows users access to the information they need in an organized and logical manner. As an online information service, EREN improves access by grouping according to broad subject divisions, type of resource, type of organization, by an alphabetical listing of sites, and by a keyword search system. EREN also serves as a multi-media network with links to maps, images, video, sound, and text.

#### ***1.2. Objectives***

EREN was originally conceived as a way to serve State Energy Offices (SEOs) and DOE site offices by assisting them in providing information resources more effectively to their internal and external customers. Because of its public availability over the Internet, however, it has become increasingly clear that it is also a valuable service for other groups such as energy developers, manufacturers, builders, consumers, and students, and supports the DOE mission to increase use and understanding of energy efficiency and renewable energy technologies. DOE realized that if EREN is to be effective, it is important to understand who its customers are and to ensure that the efforts that EREN is making satisfy the customer need for access to information about energy efficiency and renewable energy.

During the years 1995 and 1996, Customer Satisfaction surveys were developed, fielded in three formats (telephone interviews, Web Forms, E-mail) with data collected from 97 EREN users, and the results were reported. These surveys established the baseline for the Continuous Quality Improvement (CQI) Plan. Surveys were envisioned as being annual events, monitoring changes in EREN and in the user community so that EREN developers could be provided with the metrics and data to support CQI and strategic planning. This information provides important input for improving performance.

The EREN Customer Satisfaction Survey 1997 was designed to follow-up the results of the 1995-96 Surveys, enabling comparison to the 1995-96 baseline, and to provide additional qualitative feedback about EREN. The following objectives were developed for the 1995-96 Surveys and remain unchanged for the 1997 Survey. They are repeated here.

1. Identify and define actual EREN users. One of the objectives of this study was to identify the individuals who are accessing the system, thereby defining EREN customers. The DOE mission is to make practical advances in research applicable to individual consumers, thus EREN developers wanted to know more about EREN's actual users, who they are, and how they use EREN. Limited information on EREN users has been available in general terms. Information by domain name, (e.g., .com for commercial, .edu for academic, or .gov for government) and by geographic location (e.g., \*.edu.fr for France or \*.edu.co for Colombia), was captured through the EREN server, along with information on the total number of users.
2. Determine the value or benefits derived from the use of EREN. Appraisal of the usefulness of the resources available through EREN helps to measure the social and economic impact of the information.
3. Determine the kind and quality of services that users want. Given the technology of the Internet, information on the kind and quality of resources and services desired can provide answers to questions about how well users are being served by present resources and will aid in planning future products and services.
4. Determine the users' levels of satisfaction with existing services. This study is an opportunity to evaluate EREN products and services. Analysis of data collected during the Customer Satisfaction Survey 1997 is expected to provide a longitudinal perspective to data collected in 1995-96. Important from an overall management point of view, this data will be used to monitor EREN performance for the Continuous Quality Improvement Plan.
5. Determine users' preferences in both the sources of service and the means of delivery. Answers to questions of sources preferred will be used to establish priorities in identifying and selecting new sources.

6. Establish continuous quality improvement measures. By determining the level of customer satisfaction with EREN services, measures of performance can be established to support continuous quality improvement and further ensure that EREN is meeting long-term goals and customer needs.

According to quality criteria from both the President's Quality Award and the Malcolm Baldrige National Quality Award, information and analysis should be the foundation of quality and operational performance improvement. Not only must data be valid and reliable, but the right things must be measured. Decision-making must be data driven. Organizations must have systematic approaches and processes for determining customer requirements and expectations, purposefully managing relationships with customers, and determining levels of customer satisfaction.

#### 1.2.1. Quality Metrics Methodologies

Metrics are numbers used to measure the effects of an organization's practices. They provide the tools to determine performance of products or services. Metrics further allow an organization to compare its products or services with those of other organizations. They are also used to identify change over time, measuring its effect and facilitating an understanding of the impact of change. The purpose of metrics is to support continuous quality improvement.

There are three specific types of metrics: 1) process or efficiency metrics that assist organizations in measuring quantifiable goals (such as staff availability and how personnel recruitment goals are being met); 2) results or impact measures (these may have quantifiable components but are also subjective, such as staff responsiveness to customer needs); and 3) corporate culture or corporate approach metrics that are mostly subjective, but could be measured both by process and efficiencies metrics. The development of metrics for any organization, however, is dependent upon knowledge of the organization goals, the tasks it performs to accomplish those goals, and the organization's products and services.

Each functional area within an information service can be broken down to the individual task level. From this level, it is easier to identify specific tasks that can be measured. For example, in a traditional library setting, the usage of a specific collection can be measured through circulation statistics. Libraries and information centers routinely count the number of times a specific book or journal is checked out, and many count the number of times it is re-shelved, in an effort to determine how many people have had access to a specific item. This helps to identify areas of patron interest, and assists the librarian in making decisions about future materials to acquire for the collection. The same is true for an electronic information service. The number of times a specific topic is selected provides a quantifiable measure of customer interest. In the case of EREN, this metric could be defined as the number of times within a given period that a particular resource is accessed. Information technology makes the collection of this statistic automatic.

Quantitative data provides information that can be translated into specific numbers. Qualitative data, on the other hand, offers an explanation of information that is harder to quantify, but is

equally helpful in determining the value of a service. Both quantitative and qualitative data are useful in measuring the quality of information services. In the example of measuring the usage of a specific book, quantitative information is best, but in determining the specific reasons that the book is selected, qualitative information is key. Interviews with users provide insights into their motivation for use. Moreover, qualitative metrics can also be translated into quantitative data. For example, the number of positive book reviews about a given title compared to the number of negative reviews would provide quantitative and qualitative information about the title. Both give useful information.

The value of information is becoming a topic of major significance as we move further into the Information Age. Determining methods for quantifying value where information is concerned is important because value can be measured in several different ways. Time saved through the availability and use of information can be measured, dollars saved as a consequence of information use can be measured, as can money saved in cost avoidance. It is assumed that the value of information resources available through EREN could also be determined through an analysis of the non-renewable energy that is reportedly saved, by computing this into additional dollar savings. Value can also be measured by virtue of having some other intrinsic worth; for example, educational or environmental.

There are specific characteristics that describe a high quality electronic information service. These characteristics can apply to the evaluation of databases, Internet resources, electronic documents, etc. Some specific characteristics to be measured on an ongoing basis in a continuous quality improvement strategy for information services were identified in the early 1990's. These characteristics include:

1. coverage and scope
2. timeliness
3. accuracy
4. accessibility/ease of use
5. output
6. documentation
7. value-to-cost ratio

Questions developed for the 1995-96 Surveys, based on the study of quality metrics methodologies, were used - or modified - in the 1997 study to support longitudinal data analysis and continuous quality improvement.

### **1.3. Literature Review**

As reported in the "Energy Efficiency and Renewable Energy Network (EREN) Customer Satisfaction Survey (1996),"development of a quality service relies on understanding customer satisfaction measures, as well as metrics for determining customer information requirements."

In an effort to understand quality metrics, we undertook a review of the literature on the subject of online information retrieval. The results were reported in the 1996 study. In addition, information about the individuals who use these services and how information is valued was also discussed.

The literature reviewed for the 1995-96 study covered several areas dealing with metrics

- research on information-seeking strategies
- studies of the effectiveness of information centers and services
- examination of the quality of information services
- methods of obtaining evaluative information

In addition, questionnaires for a variety of organizations and services were considered.

We have updated that effort with a review of the current literature on the evaluation of World Wide Web resources. Much of the information on evaluating Internet resources is available on the Web. Usually the authors are academic librarians creating critical thinking tools for university students. Criteria are being defined, but here are no universally accepted standards to define quality in web design. Nonetheless, certain recommendations consistently appear in the web-based literature. These common factors arise out of the intent to aid users in locating authoritative information.

Considerable attention has been given to questions of incorporating metadata into a web site to provide better indexing by search engines, and to facilitate automated cataloging of Internet resources. Documents from the Alexandria Digital Library provide links to various organizations and agencies addressing the "design, development and application of meta-information."

Evaluation resources relevant to the development and administration of high quality factual/scholarly networked information systems (Ciolek, 1996; Ciolek, 1997; Retig, 1996; Alexander and Tate, 1997, Tillman 1997) include checklists of quality criteria, including authority, accuracy, objectivity, currency, and coverage. Another study (Smith, 1997) subdivides the evaluation criteria into elements of scope, content, design, purpose, reviews, workability, and cost.

A discussion of the continuum of information types and degree of quality associated with each type is presented in a document by Hope Tillman (1997) which provides generic criteria for evaluation: (1) stated selection criteria; (2) authority of author; (3) comparability with other

sources; (4)-stability of information; (5) appropriateness of format; and (6) software, hardware, and multimedia requirements.

There are a number of approaches to the evaluation of quality, among them are programming, procedure, structure, bibliographic, and organizational. The *Energy Efficiency and Renewable Energy Network (EREN) World Wide Web Home Page Guidelines* currently include many of the recommendations in the literature. Consistent application of the *Guidelines* in the development of EREN will result in the increased recognition of EREN as a web site offering quality information about energy efficiency and renewable energy issues.

## 2. METHODOLOGY

### 2.1. *Technical Approach*

In order to provide DOE with the customer feedback to determine if EREN was accomplishing its mission, it was determined by the EREN development team that answers must come from the customers themselves, in addition to the quantitative data available from server statistics. A Customer Satisfaction Survey was developed that would capture information from a user satisfaction perspective. In addition to providing feedback to the current success of EREN, the Customer Satisfaction Survey is an important step in the EREN long-range Total Quality Management (TQM) Program because it helps to evaluate services as well as providing a vehicle for communication with EREN users.

A telephone survey was again chosen as the method for gathering data on customer satisfaction with EREN because it is possible to probe for more than terse answers in a personal conversation on the telephone that allows the researcher to expand the information about preferences and satisfaction levels than would be possible in a questionnaire. Respondents were selected in random order from a list of names of registered Users Group members. It was determined that more could be learned about how users form opinions and what criteria they use for judging satisfaction with information systems by means of conversations with registered users of EREN.

The questionnaires used in 1995-96 and in 1997 were substantially the same. It was anticipated that the questionnaire would undergo some changes as the understanding of the needs for information to support the CQI Plan developed; however, responses should be comparable from year to year. The specific set of questions used for the 1997 study reflected the experience gained in the earlier survey, and continues to represent a work in progress. It included open-ended questions, binary, and scaled questions. It was designed to accommodate checklists, ranges of answers, and "yes/no" replies to make responses fairly easy.

The questionnaire was kept to a length that would not place an undue burden of time on the users. In practice, users were generally involved in conversations lasting about 15 minutes.

The survey questions approached the concept of user satisfaction from several aspects. For example, the level of user satisfaction may be ascertained to some extent by determining the number of times a respondent has used EREN, on the grounds that one would not repeatedly return to use an unsatisfactory service.

Questions in the survey instrument were also designed to elicit detailed information about users' experiences with EREN resources. Users were encouraged to make suggestions about other resources they would like to see added to EREN and to give additional comments about any aspect of the network that concerned them.

Questions were included that pertained to the accuracy and currency of EREN information resources. Those questions were designed to measure satisfaction with the system, assuming that

satisfaction follows from access to resources that are accurate and provided in a timely manner. Users reporting satisfaction with EREN resources may experience various inconveniences. Indicators of this inconvenience can be considered measures of accessibility; that is, the time and intellectual effort which a user must expend in accessing the desired material. One indicator of implicit value is the time the user spends in accessing the information, as quantified by the equation of time as it is equal to salary and overhead. Difficulty of access works against information provision by reducing the availability of materials to the user; however, the level of availability also depends on the characteristics of each specific user.

This study of EREN and its customers documents customer involvement in evaluating and improving products and services.

### 2.1.1. Procedures

A request for participation in the 1997 Survey (Appendix B) was sent via electronic mail to randomly selected members of the EREN Users Group. When a positive reply was returned, an e-mail message was sent to the respondent, thanking him/her for his willingness to participate and setting a tentative date for the interview. The questionnaire was either mailed or faxed to the respondent. Respondents were given the questionnaire in advance so they could follow the interviewer's questions more easily. They were not required to review the questionnaire in advance of the interview but some chose to do so.

One researcher conducted all of the interviews for this study to ensure consistency in the interviewing process. A great deal of information was carefully transcribed during the interview process, including information of an anecdotal nature that strengthened and provided qualitative background for the responses. Interviews were not, however, tape recorded; and the results are dependent on the notes of the researcher.

The interviews were guided by the questionnaire design but allowed for comments at any point. Responses were recorded by the researcher on the questionnaire as the interview progressed, and she transcribed lengthy comments on separate pages. At the completion of each interview, the researcher reviewed the comments (which were, by necessity, abbreviated) and added clarification while the conversation was still fresh in memory.

### 2.1.2. Data Collection and Organization

All data from the completed questionnaires were entered into a Fox Pro database. The database contained 125 separate fields. The structure of the database is presented in Appendix C. After responses from the final telephone interview were entered, the data were compiled and sorted. Data from the previous surveys were used for comparison.

### 2.1.3. Sample Size and Response Rate

For the telephone interviews, the goal was to interview 40 active EREN customers. This required polling 400 members of the EREN Users Group, to find 40 that agreed to participate. Each name from a list of 1468 members of the EREN Users Group was assigned a random number by using a standard random number generator. The numbers were listed in order and electronic messages were sent to the first 50 names on the list on April 1, 1997. Messages were not sent to previous survey participants, nor to present EREN developers.

Immediate notices were returned from System Automailers informing the researchers that six of the messages were undeliverable, with faulty addresses or addresses that were no longer valid. In the following week, messages were received from two members declining to participate and four from members willing to participate. This sort of response was typical from the batches of messages sent out in the following weeks.

Additional e-mail messages requesting participation were transmitted every few days. The last requests were sent on May 23, 1997. In all, 400 messages were sent out, 52 were returned as undeliverable, 11 declined to participate, and 46 respondents agreed to participate in the telephone survey. Five of these participants were subsequently unable to participate. One of the people who agreed to participate in the survey was unable to provide usable data for analysis. The respondent could not remember the last time he had used EREN, and could rate none of the resources, as he could not recall having used any of them. While he may be representative of some of EREN's users (i.e. those who use the service once, sign on to the Users Group, then forget about it) it was felt that a regular user could provide more helpful information about the use of EREN.

### **3. SCOPE AND LIMITATIONS OF THE STUDY**

The sample population consisted of all of the members of the EREN Users Group. These are people who have registered their names using the form available on EREN and who regularly receive information about new resources available through EREN. Individuals register by providing their names and their electronic mail addresses through a form linked to EREN. A copy of the registration form is provided in Appendix D. It should be noted that many others use the service but do not register as members. Because of this fact, the responses from a sample size of 40 cannot be assumed to be representative of the population of EREN users. However, the results represent customer response to EREN and the study results can be used as a guide for further analysis and management planning.

Participants in the initial telephone survey were selected in random order, but they must also be considered to be self selected by joining the Users Group and by choosing to respond to the request for participation in the survey. In addition, results are based on self-reporting with no confirming data.

#### **4. DESCRIPTION OF THE SURVEY INSTRUMENT**

The questionnaire was divided into the following sections:

- Demographics
  - Affiliation
  - Occupation
  - Areas of interest
  - Introduction to EREN
- Technical Capabilities
  - Aspects of the service
  - Portable document format (PDF)
  - Computer used for access
  - Internet access
  - Monitor size
  - Audio/Video capability
  - World Wide Web (WWW) Browser use
- Usage Patterns
  - Number of times accessed in the past 30 days
  - Purposes for searching
  - Most recent use
  - Length of time searching
  - Information value
    - activities initiated
    - alternatives
    - time saved by using EREN
- General Use
  - Accuracy
  - Currency
  - Benefits
  - Savings from benefits
  - Shared information
- Importance of and Satisfaction with Resources
  - Ask an Energy Expert
  - EE Offices
  - Partnering with EE
  - News and Events
  - International
  - Education and Training
  - Energy Efficiency Technologies

- Renewable Energy Technologies
- Energy and Environment
- What's New on EREN
- Alphabetical list of EREN resources
- Search Feature
- Users Group Messages
- EREC Fact Sheets
- Visuals

- Added Information
- Comments

## 5. FINDINGS

The following sections provide the results from the 1997 Customer Satisfaction Survey. They will be presented in the pattern of the questionnaire. Discussion and analysis of the data is offered. Comparison is made to the results of the combined 1995-96 Surveys (Telephone and Electronic) where applicable. The number of participants in the surveys varies. There were 40 telephone interviews conducted for the 1995 Survey. Fifty seven questionnaires were completed electronically in 1996. To facilitate comparison, results are presented as total percentages.

### 5.1. Demographics

The answers to the first two questions were included to identify EREN users by affiliation and occupation. Additional information about the users, such as gender and the country or state of residency or employment was determined by analysis of the telephone numbers provided by the respondents, as well as obvious identification of the respondents themselves.

There were forty (40) participants in this survey. Thirty-six males and four females responded to the request for participation. Thirty-four people reside in the United States, while six reside in foreign countries. The following is a list of the states and countries from which the participants responded.

**Table 5.1-1 Geographic Locations of Respondents**

United States of America	Other Countries
Alabama	Brazil
California (2)	Greece
Colorado (3)	Mexico
Delaware	New Zealan
District of Columbia (2)	Portugal
Illinois (2)	Tasmania
Kansas (2)	
Maryland (2)	
Massachusetts (2)	
Minnesota	
New Jersey	
New York	
Oregon (2)	
Pennsylvania	
South Carolina	
Tennessee (2)	
Texas (2)	
Virginia (3)	
Washington	
Wisconsin	

### 5.1.1. Affiliation

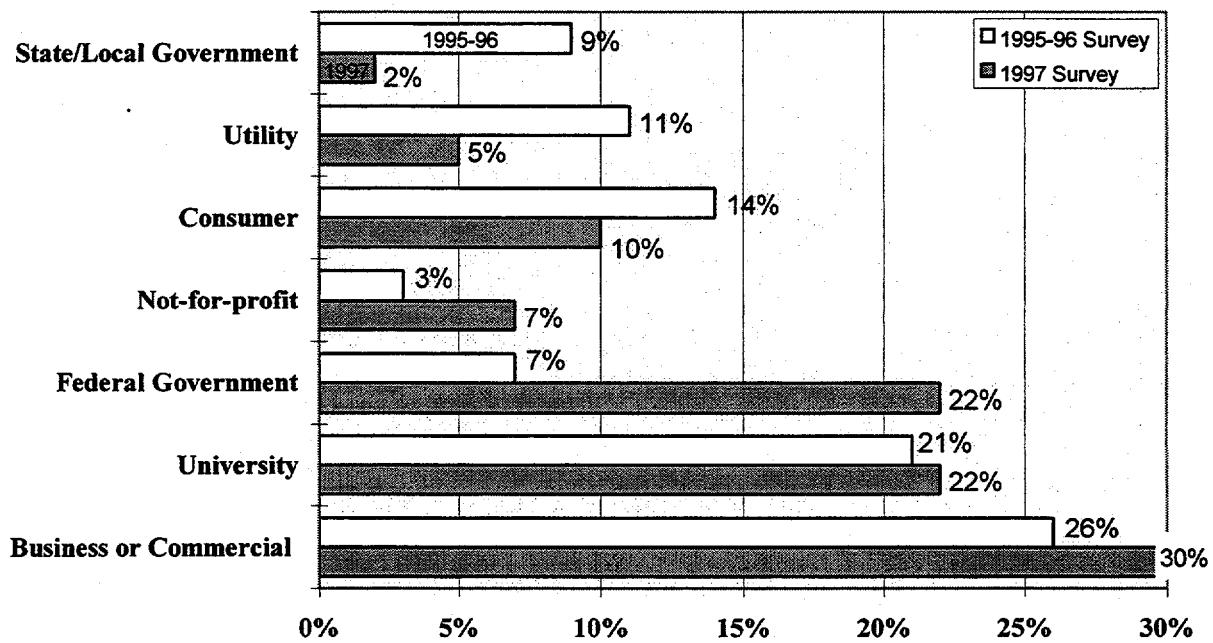
**(Question 1) Which one of these groups best describes your affiliation?**  
**(Please check only one)**

Responses highlight the diversity of EREN's customer base. As reflected by this survey, the greatest percentage of users (30 percent) are affiliated with a business or commercial organization.

Twenty-two percent of the users are affiliated with universities or other post-secondary institutions, and 22 percent are affiliated with the federal government.

Seven percent of respondents are consumers or private citizens, and two percent are affiliated with state and local governments. One of the users was affiliated with the federal government of a foreign country.

**Figure 5.1.1-1 Affiliations of Respondents, Comparison of 1995-96 and 1997 Surveys**



### 5.1.2. Occupation

#### *(Question 2) What is your occupation?*

Respondents were asked to choose from a list of occupations and instructed to choose the one that best describes their occupation.

At thirty-two percent, the most represented occupation is Engineer. Occupations represented at seven percent are Consultant, Manager, Scientist/Researcher, Teacher or Academic, and Small Business Owner. Five percent of the users are Supervisors and five percent are Technicians.

Also represented in the survey group were the occupations of Architect, Administrator, Banking or Finance, Environmental Activist, Librarian, Student. For two of the respondents, none of the categories were applicable. These were Environmental Policy Analyst/Regulator and Energy Journalist.

**Table 5.1.2-1 Occupations of Respondents**

Occupation	1995-96 Surveys N=97		1997 Survey N=40	
	No.	Percentage	No.	Percentage
Engineer	21	21	13	33
Consultant	18	18	3	8
Manager	16	16	3	8
Scientist/Researcher	14	14	3	8
Teacher/Academic/Student	11	11	4	10
Small Business Owner	n/a	-	3	8
Supervisor	n/a	-	2	5
Technician	3	3	2	5
Architect	n/a	-	1	2
Administrator	4	4	1	2
Banking/Finance	n/a	-	1	2
Environmental Activist	3	3	1	2
Librarian	n/a	-	1	2
Compliance Officer	1	1	n/a	-
Environmental Policy Analyst/Regulator	n/a	-	1	1
Energy Journalist	1	1	1	1
Sales/Marketing	4	4	n/a	-
Lawyer	1	1	n/a	-

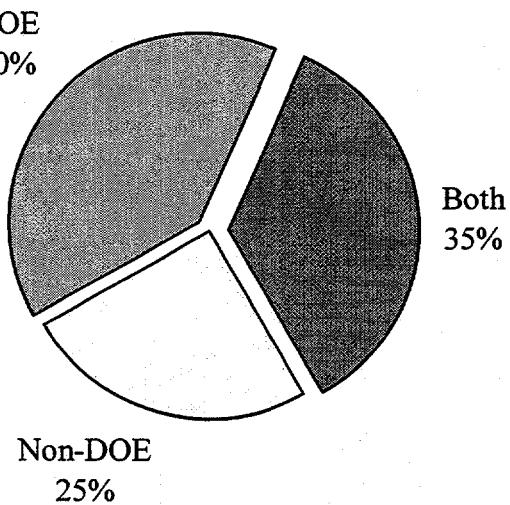
### 5.1.3. DOE and Non-DOE Resources

*(Question 3) Do you use EREN primarily as a gateway to non-Department of Energy sites - or to access DOE and Energy Efficiency and Renewable Energy (EE) departmental resources?*

This question asked for a differentiation between EREN resources, dividing them into DOE and non-DOE. Many users do not think of EREN resources in this way. When asked to identify just one as the primary use, 35 percent of EREN users would not, or could not, draw a distinction for two reasons: 1) some respondents said that they use the resources without regard to the source, and in fact, without even noticing the source; 2) others said that they use both types of resources equally. Of those who were able to distinguish a primary use, 35 percent said that they primarily use EREN to access DOE resources, while 25 percent said that they primarily use EREN to access non-DOE resources.

Respondents from foreign countries were most likely to use non-DOE resources.

**Figure 5.1.3-1      Reported Primary Access for Source of EREN's Resources**



While there are users who rely specifically on DOE information, and others who access EREN only for commercial resources, some users are interested in energy technologies in general and do not keep track of the source of the information. Those who use EREN in their roles of information intermediaries look for all sorts of information, whether it is DOE or not, using both to answer the questions about energy efficiency or renewable energy.

### 5.1.4. Energy Topic

**(Question 4) What kind of information do you look for when using EREN?**

EREN is a gateway to a variety of information resources, within the context of Energy Efficiency and Renewable Energy. Some users come to EREN looking for information on specific energy types, while others prefer to browse the spectrum of resources available.

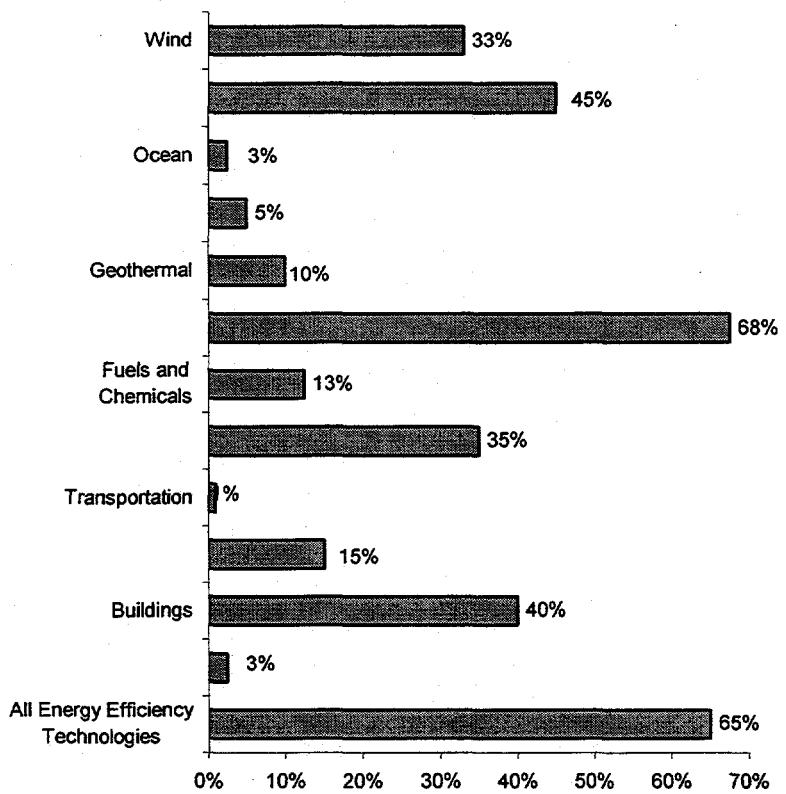
The following table lists the energy topics available through EREN in the first column, and in the second column are number of respondents indicating that they use EREN to look for that energy topic. In the third column are the results of the 1995-96 Surveys, given for comparison to the fourth column which contains the calculated percentage of 1997 respondents selecting an energy topic. In some cases, direct comparison could not be made. The topics used in EREN have changed over time, as the result of Web page redesign.

**Table 5.1.4-1 1997 Survey - Number of Respondents Reporting Areas of Interest  
1995-96 Surveys and 1997 Survey - Comparison of Percentages**

Topic	N=40 1997 Survey		Total percent 1995-96	Total percent 1997
	No.	Percentage	Percentage	Percentage
All Energy Efficiency Technologies	26	64	65	
Agriculture	1	14	2.5	
Buildings	16	40	40	
Industrial	6	32	15	
Transportation	4	29	10	
Utilities	14	n/a	35	
Fuels and Chemicals	5	n/a	12.5	
All Renewable Energy Technologies	27	58	67.5	
Geothermal	4	n/a	10	
Hydrogen	0	n/a	0	
Hydropower	2	27	5	
Ocean	1	20	2.5	
Solar (including Photovoltaics)	18	47	45	
Wind	13	14	32.5	
Other: Software, Biomass, General	3	n/a	7.5	

Users who reported interest in All Renewable Energy and All Energy Efficiency Technologies, spoke about their varied interests. Some users come to EREN with a broad curiosity, wanting to review everything. They investigate whatever interests them at the moment.

**Figure 5.1.4-1** Areas of Interest in Energy Topics, 1997 Survey



**Figure 5.1.4-2** Proportional Areas of Interest in Main Energy Topics, 1997 Survey

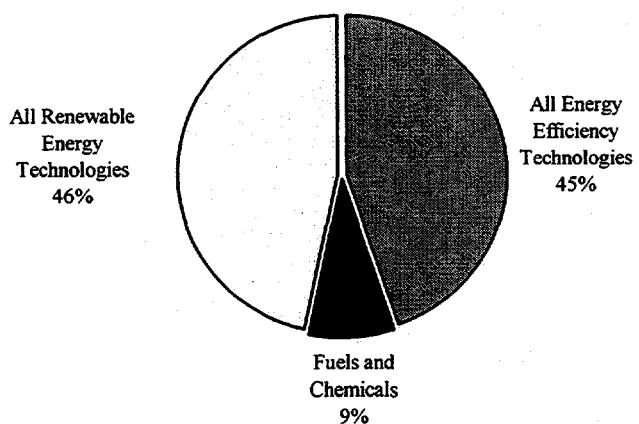


Figure 5.1.4-3 Energy Efficiency Technologies - Areas of Interest, 1997 Survey

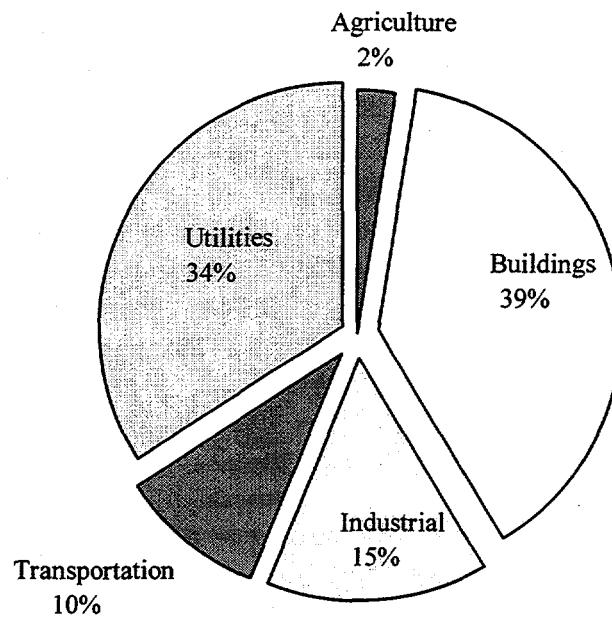
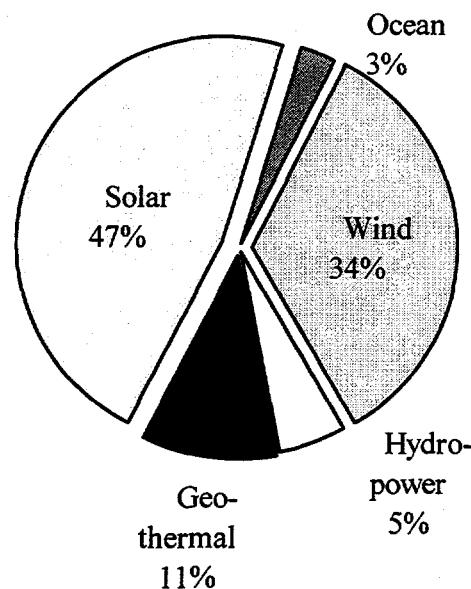


Figure 5.1.4-4 Renewable Energy Technologies, Areas of Interest, 1997 Survey



### 5.1.5. EREN Awareness

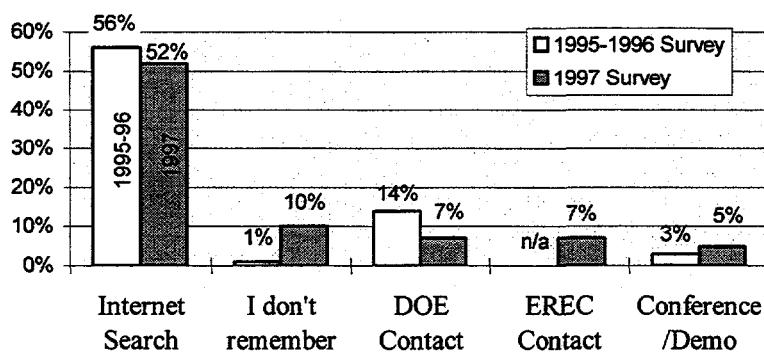
**(Question 5) How did you become aware of the Energy Efficiency and Renewable Energy Network? (Please check only one)**

The predominant means of becoming aware of EREN is by the process of Internet exploration, either through a keyword search, using widely available search engines such as Alta Vista, or the process of discovery through Internet navigation: hypertext linking from one site to another. When respondents indicated their method of discovery, they were asked if they had a "favorite" search engine. Infoseek, Alta Vista, Open Text Index, Yahoo, and Lycos were all mentioned. In addition, direct hypertext links to EREN were made through other Internet resources, such as the NREL homepage and the University of Oklahoma's IGSHPA. Postings on the 'Alt-Energy' list led one user to EREN.

While four respondents could not remember how they became aware of EREN, three users were made aware of EREN through direct contact with the Department of Energy in conjunction with their work. Referral from EREC resulted in three contacts. Three respondents became aware of EREN through a demonstration at a conference, and one learned of EREN through a personal recommendation. There were two users who learned of EREN in a print publication, one learned about EREN in a FEMP brochure, and the other could not recall the name of the magazine.

These avenues of introduction to EREN are very similar to last year's survey results, where EREN was discovered most often through Internet exploration. EREN awareness through DOE and EREC (a DOE agency) makes the percentage of users becoming aware of EREN through DOE contact the same over both surveys.

**Figure 5.1.5-1 Avenues of Introduction to EREN  
1995-96 Surveys and 1997 Survey Comparison**



The number of respondents who could not remember how they became aware of EREN rose in the second year of the survey. This may be due to the length of time users have been using the gateway. In the 1995-96 survey, the average length of time survey respondents had been using EREN was 7.4 months. The 1997 Survey did not include a question concerning the start of

EREN use. - EREN has been available for a longer time, increasing the length of experience, and we can assume, blurring the memory of first use.

## 5.2. Section 2. Technical Capabilities

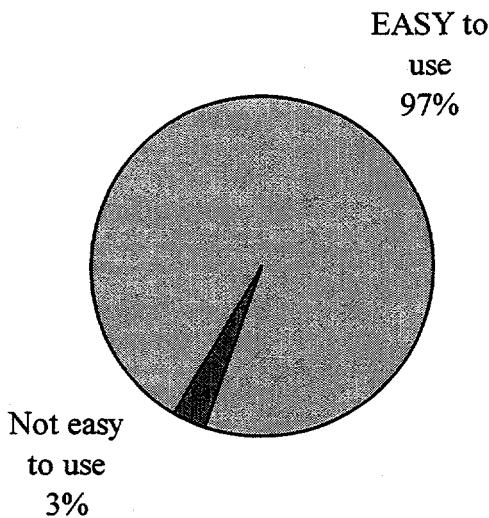
In the highly technical environment of the World Wide Web, there are many aspects to the provision of a service as complex as EREN. Each user is accessing the network from a different configuration, and users have differing expectations of service provision. If anything gets in the way of a user's involvement with EREN, usefulness is diminished. As EREN is continuously upgraded, making use of the latest technology, users without the capabilities will be left behind. One user recommended keeping EREN as democratic as possible, and admonished EREN developers not to use technology to shut out the ones who can't afford the high end computers.

### 5.2.1. Ease of Use

#### *(Question 6. a) Is EREN easy to use?*

This question seemed easy for respondents to answer. Without hesitation, 97 percent of the respondents said that EREN is easy to use. When asked if there are any aspects that need improvement, 45 percent of the users said that there were none.

**Figure 5.2.1-1**      **Proportionate Responses on EREN Ease of Use**  
**1997 Survey**



In the 1995-96 surveys, 48 percent of respondents indicated that there were no barriers to using the service. The questions were asked slightly differently in the two survey instruments being compared. The 1995-96 questionnaire asked "Does any particular aspect of the service make it difficult to use?" The 1997 questionnaire broke the question into two parts: "Is EREN easy to

use?" and "Are there aspects that need improvement?" Just because these areas are singled out for improvement does not necessarily mean the service is difficult to use.

Respondents were as vocal in their approval of EREN as they were in offering suggestions for improvement, indicating their concern and involvement. Nearly every improvement was given along with the affirmation that EREN is already a good service.

Some general comments were that EREN is very easy to use. Users find a great deal of information available and there is no problem finding it. Users have seen improvements in EREN over the years. Some applaud the graphics, calling them conservative and tastefully done. Others have noted that "the front page is difficult to navigate, with small pictures taking too long to load." The suggestion was made that there should be descriptive text first, then pictures. Some of the difficulty with the homepage is that it is not straightforward, and it's not clear where to go for different topics. Users gave suggestions for reorganization of the main page. While observing that the current page is better than the previous, one respondent felt that the links should be easier to follow. One respondent observed that the organization of the site should be clear from the main page, but that is not true with EREN. He said that he had to link to a site to see what is meant by each button. His suggestion was that it would be easier to use if there were a summary of what's available, not just a title, and a little bit better organization, so that you can see clearly which are links and which are just graphics.

The suggestion of a textual summary for each link was voiced by several users. It would be helpful, some say, if there were a three sentence summary about each item or title on the homepage. Familiarity with DOE programs and offices cannot be taken for granted. These comments would suggest to EREN developers the addition of a site map link and a tree map.

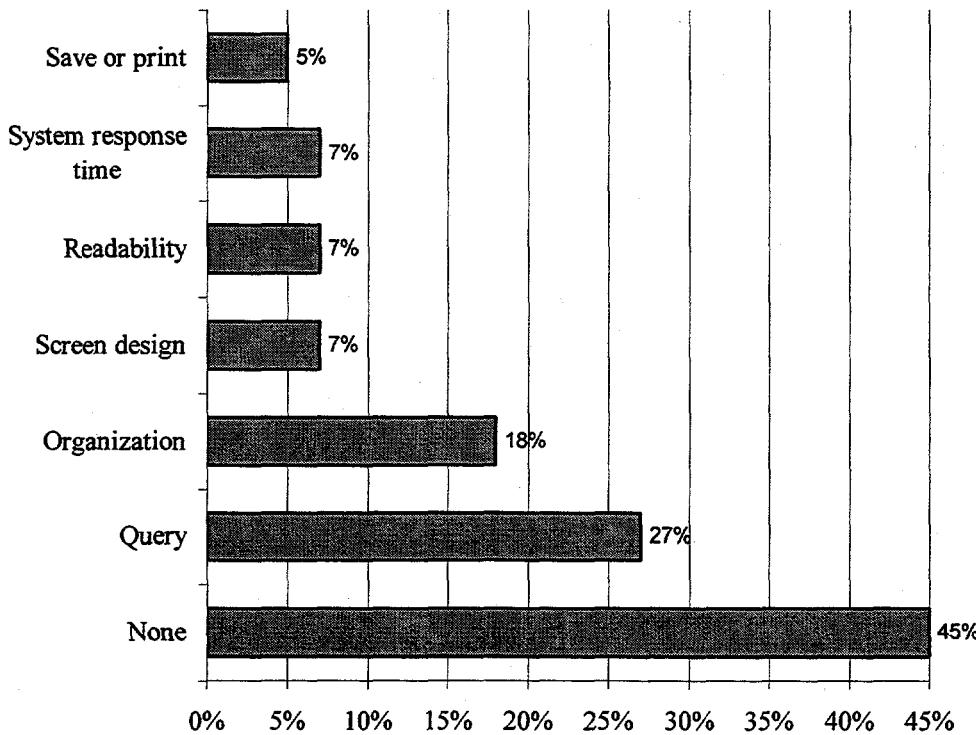
### 5.2.2. Improvements

**(Question 6.b) Please check any aspect of EREN that needs improvement. (Please check all that apply)**

Eighteen percent of respondents in the 1997 Survey commented on the ability to query, defined as "searchability, key concepts indexed, ability to retrieve relevant information."

In the 1995-96 Surveys, 13 percent of respondents mentioned the ability to query as a problem; however, these results cannot be directly compared because the list of aspects was modified in the latest questionnaire. Modifications were made as a result of lessons learned in the 1995-96 study, where it was reported that ambiguities in the concepts of "vocabulary" and "organization" may have contributed to a lack of well defined parameters for comparison.

**Figure 5.2.2-1      Aspects of EREN that need improvement  
1997 Survey**



Query

For many, the greatest difficulty is with searching the site to locate a predetermined item or relevant information. It should be remembered that if a user is looking for information and gets no response, or an odd response to a query, s/he may give up entirely, especially if there are no aids for reformulating the search.

Again, familiarity with DOE programs is a problem, with one user voicing frustration, "Is it DOE? Is it Industrial?" The ability to query, to retrieve relevant information, is compromised by the organization within a hierarchy of DOE programs.

One user felt that EREN was difficult to search using the search engine available at the EREN site. Typing in a name was difficult; if you didn't use the correct terminology in either the name or the topic, how could you know what to search? Searching the alphabetical list was only slightly more satisfying because it gives the ability to browse. Clearly, customers want a standardized search mechanism across all sources. A search engine running against (1) full text sources and

(2) a database of standardized metadata about all sources would address this problem.

Participants expressed preference for Yahoo and Alta Vista as search engines, saying that the search engine for EREN is not practical, because it is too complex.

To improve the ability to query, one user recommended providing a list of key words for browsing. In some searches, he tried to find an installation or a product and, although he knew the name of it, he couldn't determine the proper key word for searching. If he could pick from a list, it would be better. Clearly, the selected fields in the database of standardized metadata would support browsing as requested by the customers.

Organization

Several respondents noted that EREN needs improvement in the organization of the material, saying that the logical flow is poor.

One user gave specific ideas about how to organize the site, saying that EREN should organize links into groups by organization type; for example, DOE links, National Lab links, Organization links, and Association links.

Other suggestions were that EREN needs better organization for DOE sites. Start with main DOE, then divide by departments, including sub groups under each.

One respondent said he would like to see lists of categories; for example, Solar, with everything associated to Solar under it, so that he could go directly to a certain category. The earlier versions of the EREN homepage were in fact organized more closely with this scenario than the current design.

System Response Time

Interviews with EREN users spanned the globe and were arranged across many time zones. It was humorous to be time traveling and talking with a user whose calendar was flipped to the next day, and to hear that the response time of a minute and a half as unacceptable! Even closer to home, it was observed that the Internet backbone between Brazil and North America is poor and that system response time made use of EREN frustrating.

Some respondents attributed the slow response time to the use of graphics. While it is possible to configure a browser to provide text only, sometimes the result makes it difficult to navigate a site, when textual information embedded in a graphic is lost. One respondent made the comment that a site like EREN does not need to have graphics; pictures do not add that much more value to a product, they just slow the connection. Many users still want text only and would like to see that option added to the front page.

Of course, it is recognized by respondents that if you're dealing with technical images, then it's good to see a graphic. Otherwise, when it's textual information, respondents prefer that things are not slowed down by including graphics as design elements.

One user put it this way: "Ask first, 'Are graphics really necessary?' If there, they'll be used. You should ask people, 'Would you just like the facts, or do you want pretty pictures?' The information content is what's important."

One user warned that "important stuff may be left out in order to put in cutesy graphics."

"Text only" pages should be developed for users who prefer quicker loading times, as recommended in the report on web maintenance technologies included in the Strategic and CQI planning documents. There are products available that can produce versions of a site, including those with text only, no frames, no graphics, etc.

Ability to Save or Print

The ability to save or print is a function that is largely outside of EREN control. Nevertheless, it is a problem for users that has an impact on their use of EREN. Difficulties with computers are symptomatic of problems with technology. This fact must be taken into account when people with advanced knowledge of technology are providing services for a range of users who may be largely technically disadvantaged. For example, one user said that he has a problem with getting the information to "come" to the printer. He is not sure whether that is an EREN problem, or just his problem with printing. Sometimes, he thinks he has printed out something, but nothing appears.

### 5.2.3. Portable Document Format (PDF) Option

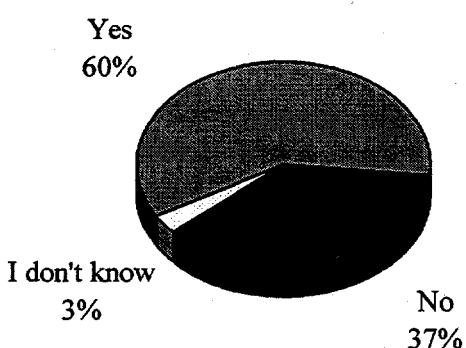
#### *(Question 7.1) Have you used the PDF option?*

Sixty percent, or 24 of the 40 respondents, have used the Adobe Portable Document Format option for viewing documents. Several noted that they initially had difficulties downloading and using the software, but that when those problems were mastered, using PDF was not a problem.

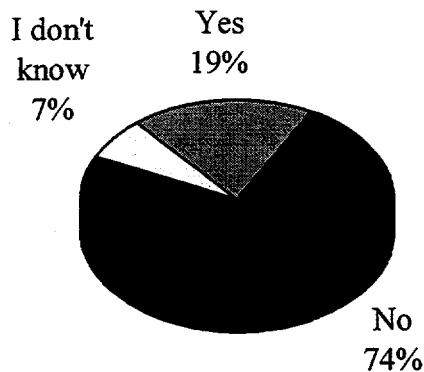
Of the remaining 16 users, only one was totally unfamiliar with PDF and did not know whether he had used it.

**Figure 5.2.3-1      Have you used the PDF Option?**

*1997 Survey*



*1995-96 Surveys*



In comparison with the 1995-96 Surveys, where only 19 percent of the respondents had used the PDF option, it is apparent that PDF is becoming better known and accepted. During the telephone interviews conducted in 1995, interviewers had to explain the Portable Document Format, and provide information on how to find the freely available software for its use. This was unnecessary in 1997. Even those who had not used PDF were aware of it.

However, users did note that although PDF intends to make things easier, it is only understood by the technically literate. "You want information, but you have to download something else, then figure out how to install it, and then how to use it." The PDF benefits of being freely available and usable across all platforms are only apparent after you have jumped the first few hurdles. Once it's installed, it is an effective way to print; however, users do not necessarily intend to print out documents, and they dislike going through the extra step involved in configuring PDF, just to view a document. Users pointed out other sites that give the option of viewing documents in text or PDF, and suggested that EREN resources would be more accessible if that option were provided.

#### 5.2.4. Increased use of PDF on EREN

**(Question 7.2) Would you like to see more documents in PDF posted on EREN?**

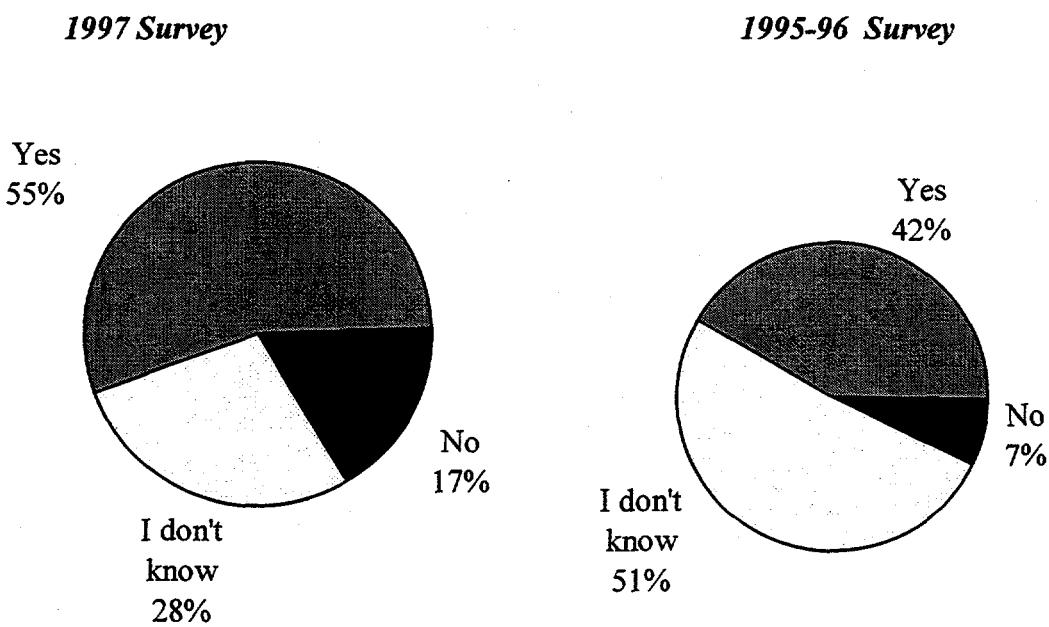
Some users prefer the PDF format because it is the most general format and report that they find it convenient for large documents. One respondent pointed out that she definitely wanted to see more PDF documents, because she had been able to get DOE publications to download very easily.

There was an ambivalence in other users, who do not care what the format is, saying that, if it is available and accessible, the format is not important. Some only view text onscreen and really do not care whether PDF is used.

Of the 24 users who had used the PDF option, only two were adamant about not wanting to see its use extended. They expressed displeasure at having to go a step further to view documents. Of the 16 users who had not used PDF for viewing documents, 11 said that they didn't have an opinion, and seven said that they did not want to use PDF.

In the previous survey, there was more uncertainty about wanting to see documents in PDF, owing to less recognition of its use.

**Figure 5.2.4-1 Proportion of Respondents who would like to see more use of PDF**



### 5.2.5. Configuration: Computer

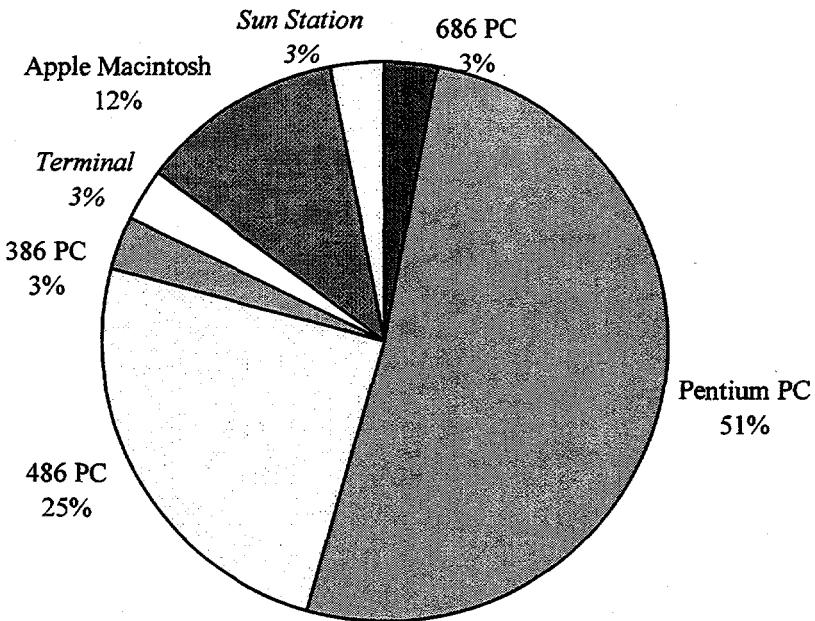
*(Question 8) What type of computer do you use to access EREN? (please describe only one computer)*

Of the respondents in this survey, 52 percent use Pentium PCs. These are considered high-end equipment, compared with 286 and 386 technology, although the user who reported having a 686 PC is clearly on the cutting edge. Another 25 percent of respondents use 486 PC's, and only three percent of survey participants reported using a 386 PC.

Twelve percent of respondents access EREN on Apple Macintosh computers (Quadra 650, Power Mac 7200 120.)

Other computers mentioned once each were Sun Station (a UNIX-based system) and a dumb terminal, with limited, text-only access.

**Figure 5.2.5-1**      **Types of Computers used to Access EREN**  
**1997 Survey**

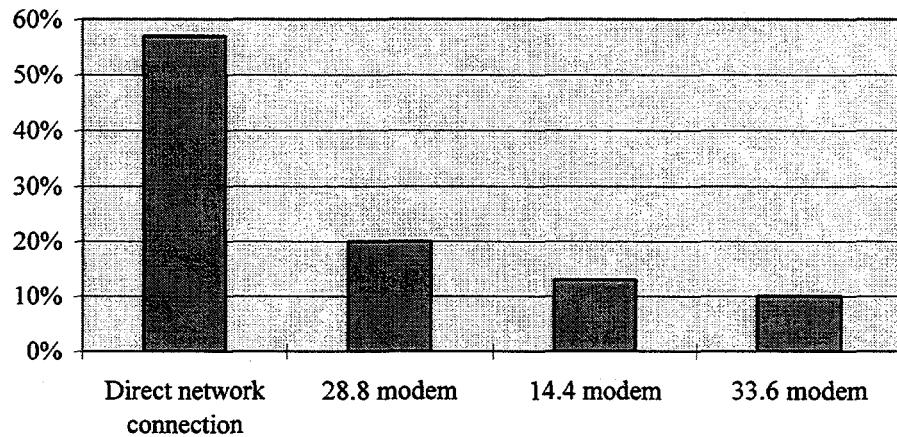


### 5.2.6. Configuration: Internet Connection

#### ***(Question 9) What type of Internet connection do you use to access EREN?***

A direct connection was used to access the Internet by 57 percent of the respondents. For 20 percent of the respondents, a 28.8 kilobaud modem was their link to the Internet. Eight percent used 14.4kilobaud modems, and 10 percent were using modems at the transfer rate measured in 33.6 kilobauds per second.

**Figure 5.2.6-1**      **Connection for Internet Access**  
**1997 Survey**

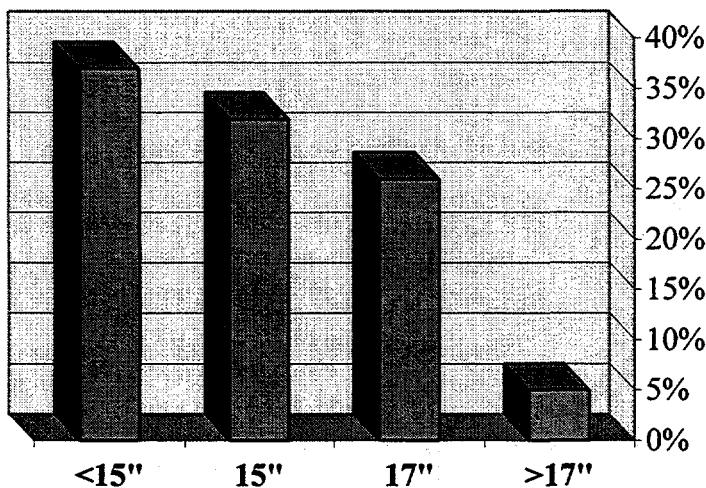


### 5.2.7. Screen Size

#### *(Question 10) What size is your monitor?*

While they are for the most part working on up-to-date computers, using fast Internet connections, most users could not boast of having large easy-viewing monitors. Thirty-seven percent viewed EREN on monitors sized at less than fifteen inches. Thirty-two percent use monitors with fifteen-inch screens. Twenty-six percent use the larger monitors with seventeen inch screens, and only five percent have larger screens.

**Figure 5.2.7-1**      **Monitor Size**  
**1997 Survey**

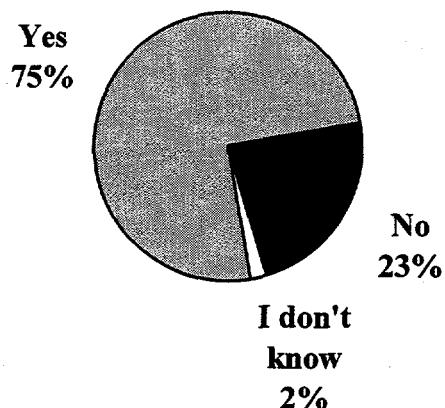


### 5.2.8. Video

#### *(Question 11) Can you view videos, or animated files on your computer?*

The greatest proportion of EREN users (75 percent ), as reflected in the survey participants, have computers with the capability to process videos and animated files. Several respondents remarked that still pictures take too long to download, and that videos are *much* too slow to deal with. Twenty-three percent of users do not have computers that can process animated files. Another two percent are unaware of this functionality.

**Figure 5.2.8-1**      **Can you view videos or animated files?**  
**1997 Survey**

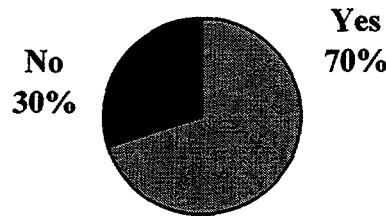


#### 5.2.9. Audio

**(Question 12) Can you use audio files?**

Seventy percent of the survey participants can use audio files, leaving 30 percent who do not have the capability, lacking a sound card, or who do not know how to use audio files.

**Figure 5.2.9-1**      **Can you use audio files?**  
**1997 Survey**



#### 5.2.10. Web Browser

**(Question 13) Are you using a character-based or graphical browser?**

As shown in Table 5.2.10-1, 97.5 percent of survey respondents (39 users) access EREN through a graphical browser. The remaining participant uses a dumb terminal which provides a text-only link. Two respondents didn't know whether they used a graphical browser or not. The interviewer cleared up the question with a description of the interface, but felt that it was important to note here that there is a certain level of technical jargon that is not always clear. Not

all of EREN's users are savvy with computers or Internet technology as noted by survey respondents themselves. This point arose most often in conjunction with use of the Adobe Portable Document Format (PDF).

**Table 5.2.10-1      Type of Internet Browser Used to Access EREN  
1997 Survey**

<b>Type of Browser</b>	<b>1997 Survey N=40</b>	<b>1997 Survey Total percent</b>
	No.	Percentage
Graphical	39	97.5
Character-based	1	2.5
I don't know	(2)	(5%)

The one respondent using a character based browser said that using Netscape takes too much time, loading images and graphics. She prefers the all text LYNX. The transmission rate she experienced was not affected by the configuration of the connection to the Internet, as this user reported connection via direct line.

Of those respondents using a graphical browser, 27 use Netscape, another nine use Microsoft Internet Explorer, one is using NCSA Mosaic, and the other two did not know what browser software they were using. Several noted that their computers were equipped with both Microsoft Internet Explorer and Netscape, but they answered this question by naming the one they use most frequently.

### 5.3. Section 3. Usage Patterns

This section of the questionnaire focused on identifying which resources were used the most, determined from data on the frequency and duration of EREN access.

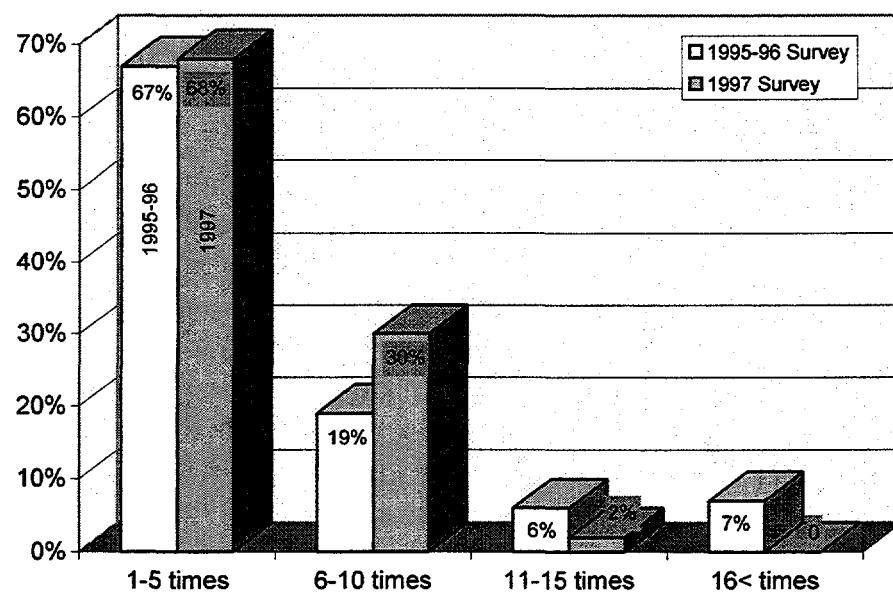
#### *(Question 14) In the past 30 days, how often have you used EREN?*

As shown in Table 5.3-1 and Figure 5.3-1, the majority of respondents use EREN once or twice a week. This assumes that each use occurs on a single day, although multiple uses could occur on one day. Comparison to the 1995-96 Surveys shows that the number of respondents reporting weekly use is similar, while respondents reporting more frequent use seem to have leveled off at 6-10 uses per month.

**Table 5.3-1 Frequency of use in the past 30 days  
1995-96 Surveys and 1997 Survey Comparison**

Rate of use	1997 survey N=40	1995-96 Surveys percent	1997 Survey percent
1-5 times	27	67	68
6-10 times	12	19	30
11-15 times	1	6	2
16 times or more	0	7	0

**Figure 5.3-1 Number of times EREN was used in the past 30 days.  
1995-96 Surveys and 1997 Survey Comparison**



## 5.3.1. Purpose

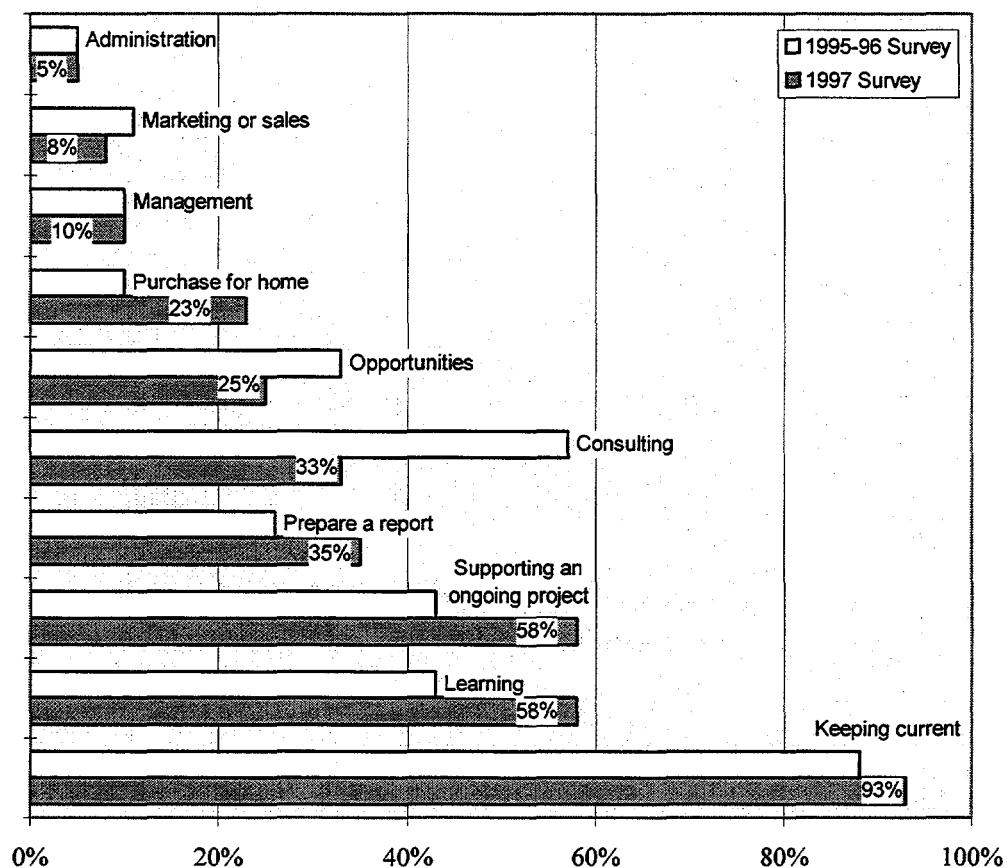
**(Question 15) For what purposes do you search using EREN?**  
**(Please check all that apply)**

For both the 1995-96 and 1997 Surveys, the leading reason for using EREN is for keeping current on EE issues, topics, and technologies. There is a minor variation in ranking of "purpose" between the two surveys. The remaining three top ranking purposes: Consulting, Developing Competencies/Learning, Supporting an Ongoing Project, are indicative of work performed by professionals working at the technical level and include learning, project support, and consulting. At the bottom of the ranking are Legal and Patent research which likely are tasks performed by highly specialized professionals using specialized resources (e.g., patent lawyers). As we would expect, EREN is seldom used for tasks associated with management, administration, sales and finance.

**Table 5.3.1-1 Number of responses of specific purposes for using EREN.  
1995-96 Surveys and 1997 Survey Comparison**

Purpose	1995-96 Surveys N=97		1997 Survey N=40	
	No.	Percentage	No.	Percentage
Keeping Current	85	88	37	93
Developing competencies/learning	42	43	23	58
Supporting an ongoing project	42	43	23	58
Preparing a report for a meeting or publication	25	26	14	35
Patent application	1	1	0	0
Identify opportunities	32	33	10	25
Making a purchase for home use	10	10	9	23
Consulting, or giving advice to others	55	57	13	33
Management or executive work	10	10	4	10
Administration or finance	5	5	2	5
Marketing, sales, or sales management	11	11	3	8
Legal work	3	3	0	0
Other:				
-Casual interest in the information	13	13	6	15
-Access to phone directory - EE at DOE HQ				
-Searches EREN for general library work, to answer questions				
-He develops Energy Web Sites				
-Scientific research on Energy issues				
-He's curious about a lot of things.				

**Figure 5.3.1-1** Purposes for using EREN.  
1995-96 Surveys and 1997 Survey Comparison



## Critical Incident

Questions 16 through 20 use the "critical incident" technique. Respondents were asked to consider the last time they used EREN to locate information resources, or to consider just one particular time that stands out in their mind, and to answer the questions with that incident in mind. This helps to focus the respondent on a particular point in time so that specific details can be recalled.

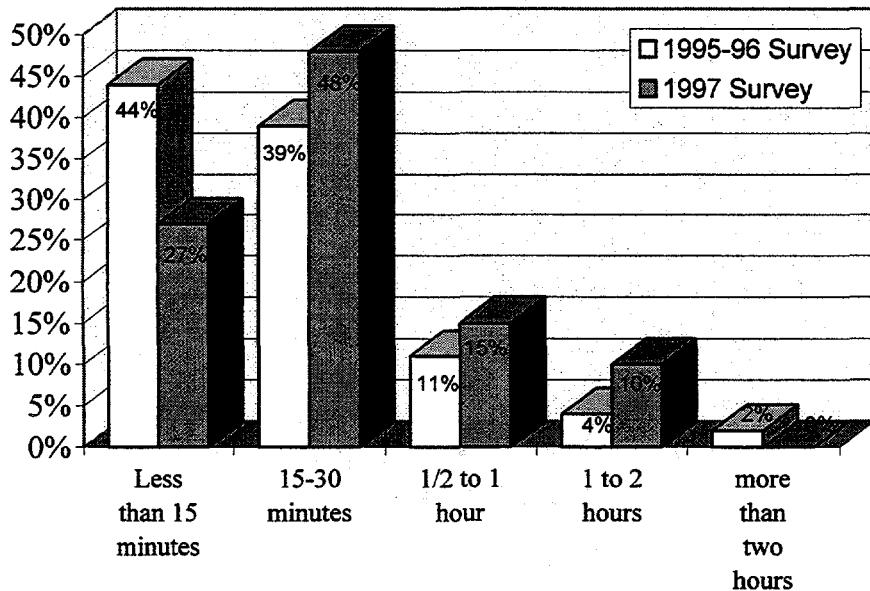
### 5.3.2. Duration

#### *(Question 16) Considering your most recent access, how long did you spend using EREN?*

Figure 5.3.2-1 shows the amount of time spent using EREN by the percentage of respondents. Comparison is made between data collected during the two surveys. The data show that 75 percent of the 1997 Survey respondents used EREN for less than 30 minutes. This compares to 83 percent reported in the 1995-96 Surveys. While no user reported accessing EREN for two hours or more, it is apparent from Figure 5.3.2-1 that the amount of time has grown. This finding may be accounted for by the increasing number of resources available through EREN links covering a broader range of topics, and containing valuable information content.

The median for time spent using EREN is more than 15 but less than 30 minutes.

**Figure 5.3.2-1** **Amount of time spent using EREN**  
**1995-96 Surveys and 1997 Survey Comparison**

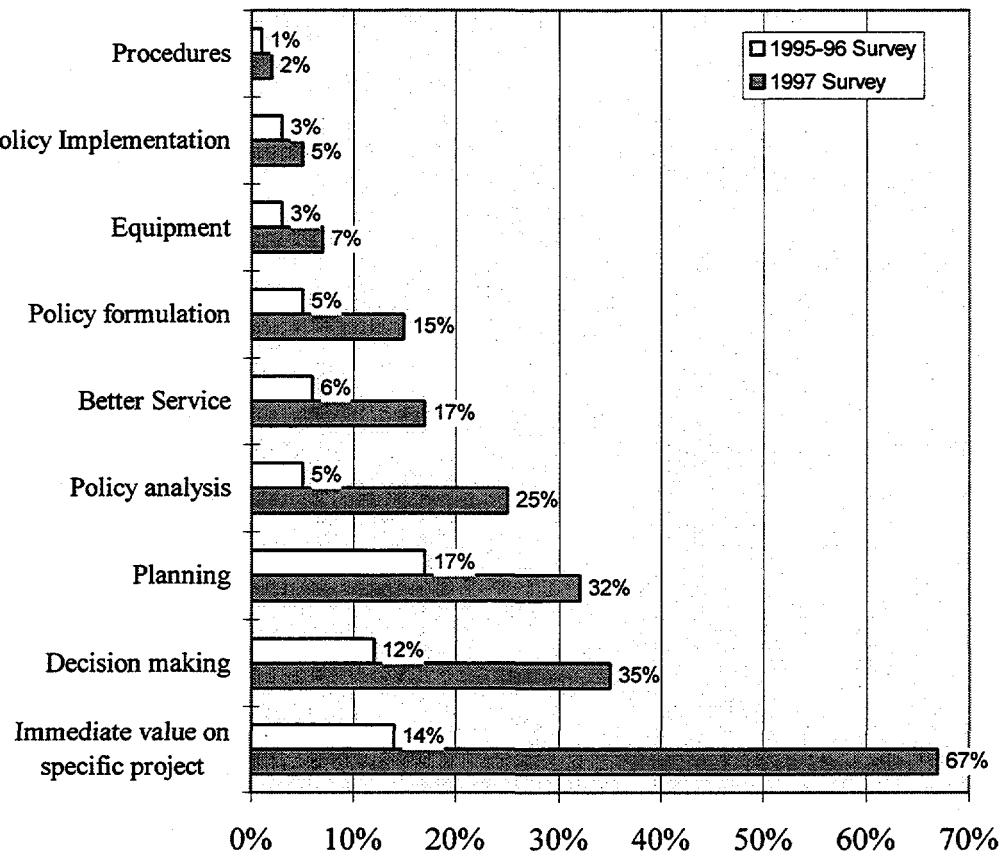


### 5.3.3. Application

**(Question 17) How will you use the information you found through EREN? (in the most recent search) (Please check all that apply)**

Significant differences appeared in the 1995-96 and 1997 Survey results relevant to how respondents applied the information found in EREN. The primary application in 1995-96 was planning (17%). In 1997 the primary application by a significant margin (67%) was project specific. This application suggests that the growth of authoritative technical resources in EREN contributed to the successful evolution of the gateway into a specialized information resource supporting EE professionals worldwide.

**Figure 5.3.3-1      Uses for Information Found Through EREN  
1995-96 Surveys and 1997 Survey Comparison**



## Alternatives to EREN

Evaluation of EREN includes comparison with other resources that may be used in place of access to EREN. Alternatives to the use of the service were elicited by Questions 18 and 19. Question 18 asks if EREN was the first source consulted in a recent incident of information need. If the answer to that question is 'no,' a second part of the question requests information on the source of information. A list of alternatives, including an open-ended 'other' category is provided. The user is asked to choose among alternatives or to name another source.

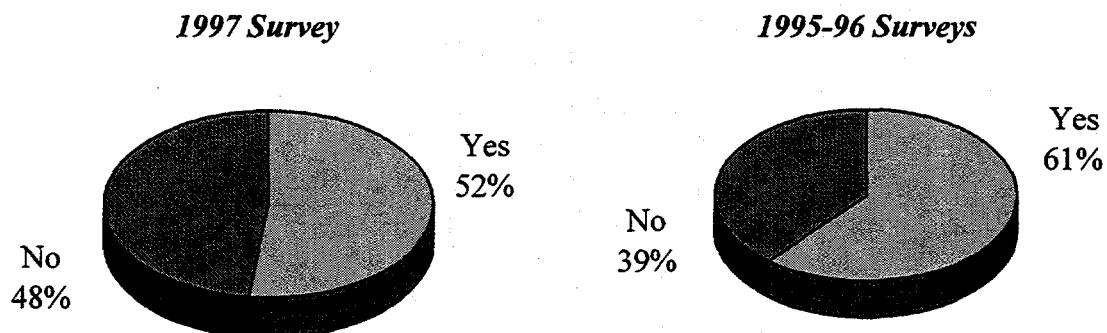
Question 19 asks users who consulted EREN as a first source to name another source that would be used if EREN were not available. The sources named can be used to compare with EREN and are important for consideration in understanding how to improve EREN, and can be used in benchmarking and strategic planning. Copies of the initial screens of Internet resources named as alternatives are available in Appendix F.

### 5.3.4. EREN as Initial Source of Information

*(Question 18) Was EREN the first source you consulted to find the information on your recent search?*

In the 1995-96 Surveys, more respondents said that EREN was the initial information source - 61 percent - as compared with 52 percent using EREN first in the more recent 1997 Survey. Along with the growth of the Internet comes an increase in Internet resources available as alternatives to EREN use. On the other hand, some of the resources named as alternatives to EREN are actually information resources linked through EREN, making EREN the first source.

**Figure 5.3.4-1** EREN as the Initial Information Source



### 5.3.5. Alternative Sources

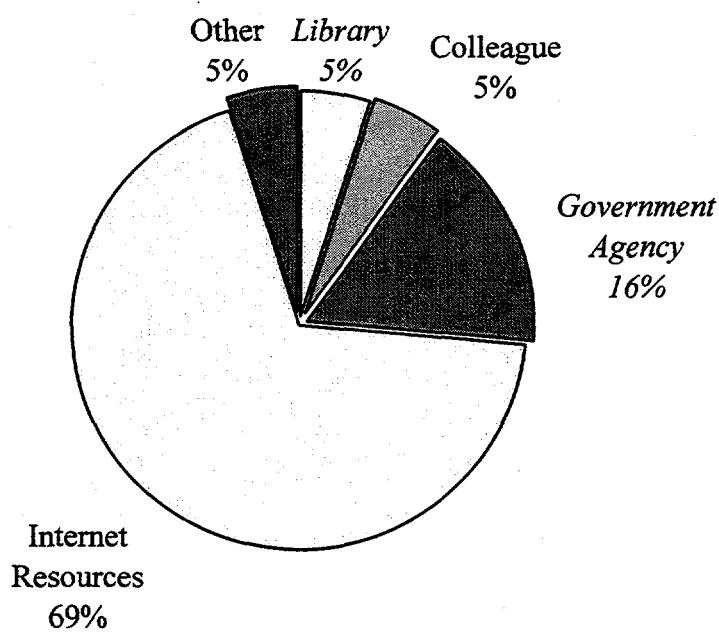
#### *If you answered no, what was the first source?*

Of the nineteen respondents in the 1997 Survey who initially used other sources than EREN, 68 percent reported using "other Internet Resources," compared with only 40 percent in the 1995-96 Surveys. One of the categories included in the 1995-96 questionnaire was "book or other document." This category was not included in 1997, but it was possible for respondents to put it in the "other" category.

**Table 5.3.5-1 Number and Percentage of Respondents Reporting the Use of Various Sources of Information. 1995-96 Surveys and 1997 Survey Comparison**

First Source (other than EREN)	1995-96 Surveys N=55		1997 Survey N=19	
	No.	Percentage	No.	Percentage
Library - Librarian mediated search	4	7	1	5
Colleague	5	9	1	5
Government Agency	2	4	3	16
Internet Resources	22	40	13	68
Book or other Document	21	36	n/a	n/a
Other : (1997) EPRI Agency Office	2	4	1	5

**Figure 5.3.5-1 Proportions of Various Sources of Information Reported in the 1997 Survey**



### 5.3.6. Other Alternatives

**(Question 19) What would have been your source for information if EREN were not available for that recent search? (Please name or describe)**

The following is a list of alternatives to EREN named by 1997 Survey Respondents. For those that are web-based resources, homepages have been downloaded and printed, and are available in Appendix F.

**Table 5.3.6-1      Alternatives to EREN**

"Some search engine (unnamed)" (8)	Other DOE government labs: NREL;
Alta Vista (5)	Sandia; Argonne; LBL (3); LBL Crossroads
Yahoo (4)	<i>Comment: EREN gives a broader search, NREL, Sandia are narrower searches.</i>
InfoSeek	Morgantown Energy
Excite (2)	Energy Information Administration (2)
Lycos (3)	FEMP focus (from DOE)
Open.txt	<i>Home Power magazine</i>
There is no other source like EREN (5)	Electric Power Research Institute (EPRI)
<i>Comments:</i>	Industry journals and catalogs
<i>"There are none as complete as EREN"</i>	Real Goods catalog
<i>"It's the only source available to me"</i>	CREST/Solstice - Solstice Q&A
<i>"There are no other sources with the same standards; content; volume; wealth of information."</i>	Colleagues
Library Search (5)	Yellow pages, phone calls
DOE Homepage (5)	IGSHPA
<i>Comments: "DOE has good publications to download; books in PDF format".</i>	E-Source
Fossil Energy Page	NIST lighting list serve (archived now)
	Lighting Resources
	Energywise
	Cutter Corporation
	Gridwise / Energy Yellow Pages
	EnergyQuest (California Government)
	CAS research
	Direct experimental station

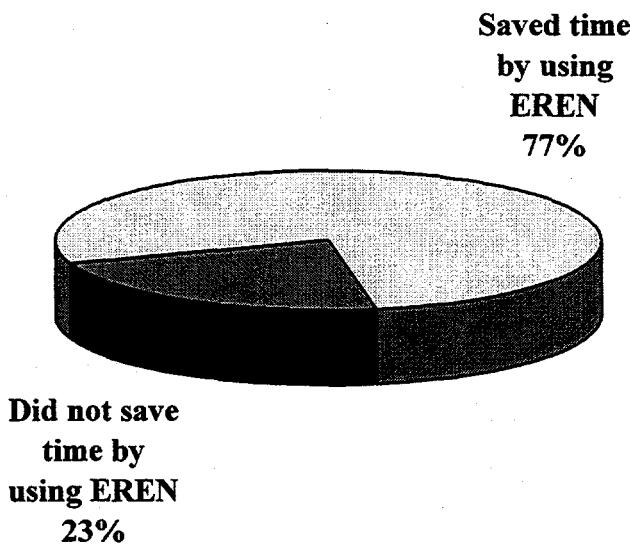
### 5.3.7. EREN as a Time Saver

**(Question 20) Please estimate how much time was saved by using EREN recently, instead of another source. (Check applicable response and quantify it.)**

The value of EREN products and services can be quantified by comparison to alternative sources of information. If the user can find something more quickly through the use of EREN than through another source, the savings can be calculated based on time and resources saved or expended.

Some respondents suggested that they did not necessarily save time by using EREN, since they often found themselves linking to other resources in EREN, led by their curiosity, spending more time than they expected. However, if this activity were investigated further, it may point to the ability to accomplish multiple tasks more efficiently.

**Figure 5.3.7-1      Proportion of Users Reporting Time Saved by Using EREN  
1997 Survey**



Finding information can be costly because searching the Internet can be a frustrating and time-consuming experience. Some respondents provided estimates of time expended by comparing the time they might have spent culling irrelevant information from searches using general search engines versus topical resources in EREN, or estimated the time they would have spent on the phone or at the library. For one respondent it was "hard to say" how much time he saved by using EREN. He guessed "hours," because he would have to look up references in past articles, and then find the source.

Nineteen respondents provided estimates of the time they saved by using EREN. Savings reported by individuals ranged from five minutes to one month. Seven people said that they

saved from five to thirty minutes. Nine respondents gave estimates ranging from one to ten hours. The higher estimates given were two to three days, one or two weeks, and one month.

#### **5.4. Section 4. General Use**

Questions 21-22 and their subparts are intended to measure the quality of EREN as a subject specific online database of sources much like commercial vendors provide access to the literature of a narrowly defined scope (e.g., Engineering Index) by means of a database that indexes and abstracts defined sources. In reviewing the literature on online database metrics for the 1995-96 Survey, we selected accuracy and timeliness as the most significant and relevant metrics for application to EREN. The analysis of findings on these metrics are presented below.

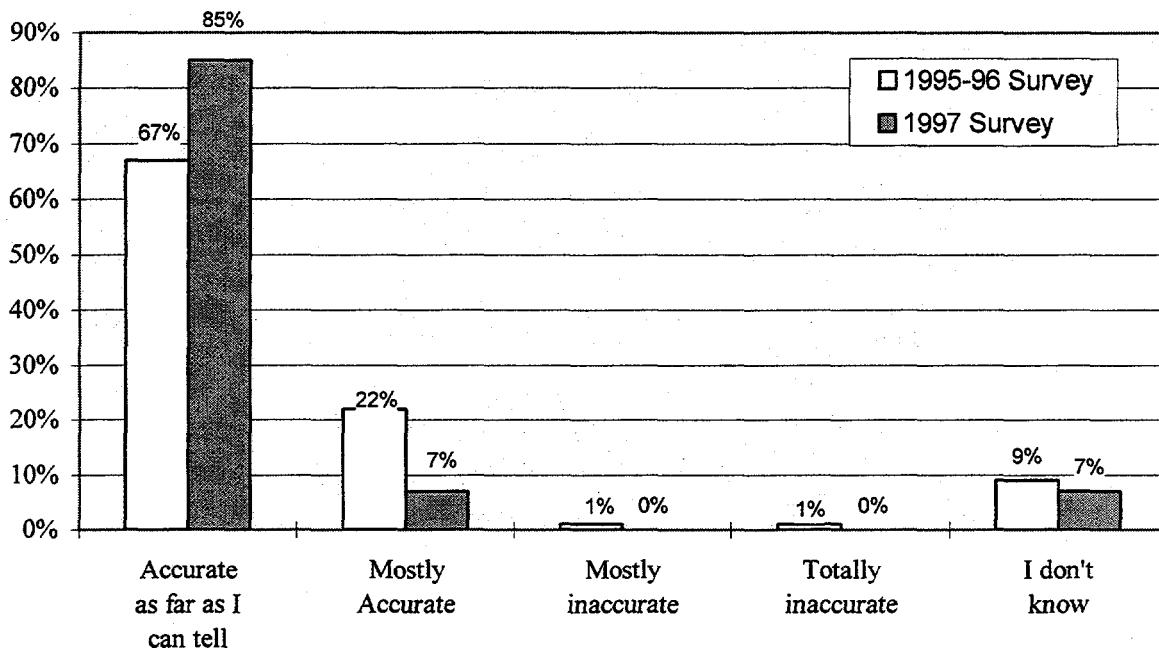
EREN provides links to information, but the information content of the linked sites is not under EREN control. On the Internet, accurate and reliable data coexist with data that is inaccurate or unreliable. There are few quality controls for the information generally available and it is difficult to tell the difference between the two types, especially for someone who is not an expert in the topic. However, it is important to maintain confidence in EREN as a trusted source of information. Maintaining quality standards for site selection is vital, as is the necessity for making distinctions between information disseminated by government agencies and that of non-governmental entities.

##### **5.4.1. Accurate Information**

###### ***(Question 21.1) Generally, are EREN's information resources ACCURATE?***

Perceptions of the accuracy of data and information content are important in determining the extent to which users trust EREN ( and by extension, DOE) and will therefore rely on EREN as an authoritative tool. The 1995-96 Survey showed a high level of confidence in the accuracy of information content of EREN information resources, and as shown in Figure 5.4.1-1, in 1997 that level has risen even higher. By comparison with the 1995-96 Surveys, respondents indicating that EREN resources are accurate rose. The combined totals of the highest two categories, "accurate" and "mostly accurate" also rose for the 1997 survey. According to respondents, EREN users can increasingly anticipate accurate information and data in the content posted to the EREN gateway.

**Figure 5.4.1-1**      **Perceived Accuracy of EREN**  
**1995-96 Surveys and 1997 Survey Comparison**



#### 5.4.2. Current Information

##### **(Question 21.2) Generally, are EREN's information resources CURRENT?**

As one respondent observed, accuracy and currency go hand in hand. He rated EREN accuracy by saying that EREN is only "sort of accurate." Its accuracy was undermined by the fact that out-of-date information is available on the site. Nevertheless, as shown in Figure 5.4.2-1, the perception of the timeliness of EREN resources has improved when compared with last year's survey results.

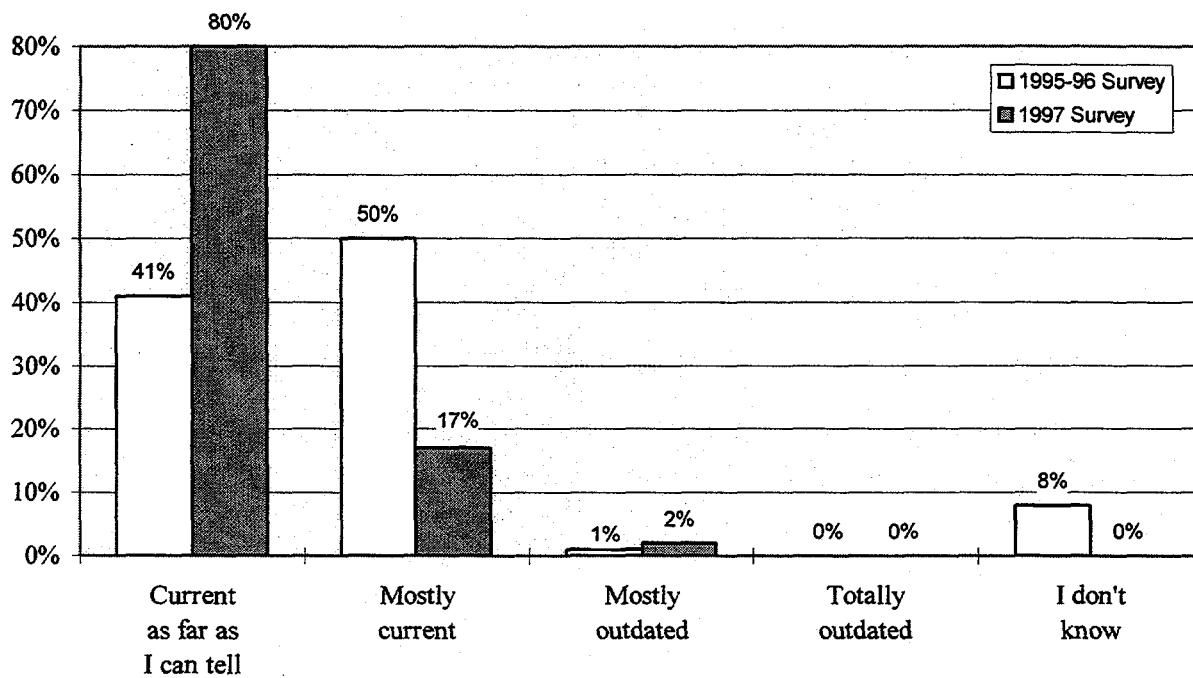
While up-to-date information is a requirement for current awareness, some feel that EREN should go even further, keeping up with advances in technologies that are still "on the drawing board." The public has an awareness of the magnitude of research being conducted by the Department of Energy, and many would like to be kept abreast of research even before any results are formally reported. The suggestion was made that Web pages should be used as a tool to get research findings out quickly. There was a request for "research in progress," and "emerging technologies," as well as the idea that EREN might cover products for energy the way *Popular Science* covers "What's New."

Updates to current information are also important. There was a request for progress reports on current projects described on the site. The example was given, "who has what in renewables, or what has 'green buildings' done lately?" Users who come to EREN in an effort to stay current in

their field rely on continual updating of information content. Some users contacted in this study are themselves energy experts, and they are aware of information that may be out, but not yet available on EREN.

**Figure 5.4.2-1**

**Perceived Currency of EREN  
1995-96 Surveys and 1997 Survey Comparison**



### 5.4.3. Benefit

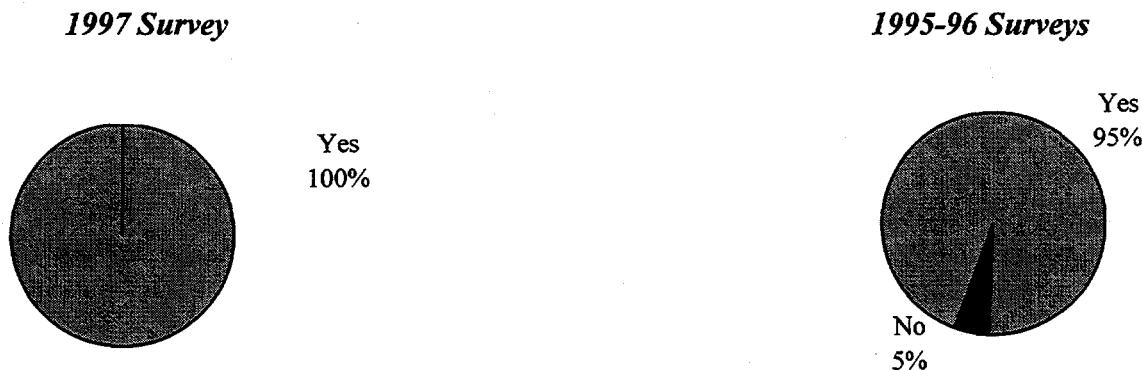
EREN provides benefits to its users, as is apparent in the increasing numbers of people who access EREN. Question 22 probes for a description of the benefits of EREN use. The first part of the question establishes whether any benefit is perceived, and the next part asks for a description of the benefit. Finally, the request for a monetary estimate is made. Question 23 asks if the information or benefits from the information are shared with others. The impact of EREN reaches farther than the numbers recorded as accessing the site. EREN users pass the information on, and recommend it to others. This is an affirmation of a high level of satisfaction with EREN resources.

**(Question 22) In general, do the information resources available through EREN provide some benefit to you or your organization?**

The worth of information is not always reckoned in dollars and cents, but that does not mean that it lacks value. The descriptions provided by users make it clear that they place a high value on EREN, and that the value extends beyond the users themselves.

**Figure 5.4.3-1**

**Does EREN Provide Some Benefit?  
1995-96 Surveys and 1997 Survey Comparison**



#### 5.4.4. Description of Benefits

*(Question 22.1) Please describe the benefits gained from information provided through EREN. (Benefits from replacement of equipment, adoption of new technology, improvement of processes, etc.)*

The following comments are descriptions of benefits users reported during the 1997 interviews.

1. EREN provides benefits because he's trying to use what information he can to find more energy efficient products, for example, compact fluorescent lights.
2. There is a benefit in the personal, general knowledge gained through EREN.
3. In her field, she needs to be as up to date as possible. A web page is up-to-date information.
4. The benefit is in improved knowledge and in being kept updated.
5. EREN saves research time for certain projects. In developing new technologies, it's a link to other resources.
6. EREN is useful as an entry level place to start for information.
7. EREN allows us to evaluate new technologies, provides new information affecting the status of technology developments and projects in process.
8. There is a benefit in helping with better planning for making the right choice in energy decisions
9. The benefit is the ability to learn current information on sources of renewable energy. EREN is like a directory.
10. The benefit is in finding lists of technologies for renewable energy, expanding the knowledge base.
11. There is a benefit in being able to back up the information given to the public. When it comes from governmental sources, it is believed to be reliable. He uses EREN information to educate the public making purchases from his company.
12. He uses it for research, to find out about renewable energy technologies, in estimating costs, looking at other projects, and international policies.
13. EREN provides a benefit when researching new technologies, financing, marketing, programs, current manufacturers and supporting technologies.

14. EREN provides the benefit of linking to DOE, NREL people for assistance.
15. EREN helps as a quick jump-start to other websites and phone numbers that help us out.
16. The benefit is in finding useful software.
17. The reference librarian sends people to her with questions about energy. EREN helps to answer the questions, get them going in some direction.
18. EREN gives access to information not known about otherwise. "I found that in my area, EREN is definitely on top with what's most current. Journals are a couple of weeks late."
19. EREN helps to identify new projects, updates within technology areas, updates to existing projects.
20. There is a benefit in the awareness of new programs and information sources.
21. The benefit of EREN is that it's there when you need it.
22. EREN is a great place to find links to energy organizations and companies, DOE offices.
23. Provides links to other sources of information.
24. Current information on renewable (Esp. PV) Technologies
25. Helps in providing information for a publication serving as a regional information source
26. The benefit is in providing networking to information sources
27. The benefit of EREN is information. As an energy engineer for a gas company, he looks at "Energy User News" (newspaper) for what is going on in general. EREN provides additional information.
28. The benefit is in the time saved. . He didn't waste time in a library, researching, figures, facts, tables graphs.
29. He lives in a small town, and the library isn't very big, so EREN information really helps.
30. Able to stay current, finding out what manufacturers are offering or what others are doing.
31. The benefit of EREN is in providing accurate information for studies, new technologies and products
32. In providing customer service, she uses EREN for energy related inquiries, end user requests.

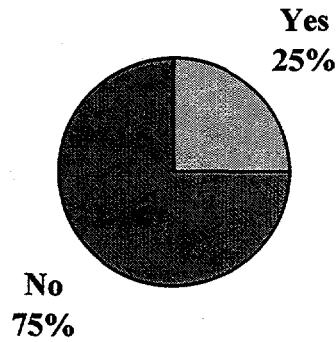
33. He's on the other side of the planet, there's no library to go to, so the Internet becomes more important, especially for up-to-date access.
34. EREN is beneficial for information gathering, and creating competence within the company.
35. EREN provided information that led to the adoption of solar energy, and information on new insulation technologies.
36. EREN saves time in tracking down information. As a federal agency energy manager, he refers clients to EREN, and it seems to be a good source.
37. For one manager, EREN enables him to keep engineers focused on what's new in the energy field.
38. He found some very good information for the house, and will be better able to build a house that will conserve energy.
39. The benefit of EREN is in the free flow of information about solar technologies. That gets lots of people involved in solar energy. Grass roots organizations are getting access to information, and people are figuring out that they can use solar energy themselves.
40. He learned about using solar energy, which he will use to replace the heating system in his home. He also developed an interest in photovoltaics.

#### 5.4.5. Savings Estimate

*(Question 22.2.) Can you estimate how much savings will result from the benefits described above?*

One user based his estimate of \$101-500 savings on the cost of the journals that he can do without because of EREN. Others based their estimates on the time they saved by using EREN at their desktops rather than traveling to a library. Some saved research time in their projects, by having current information, and were only able to make wild guesses at the monetary value. Respondents talked about future savings in heating costs because of the replacement of insulation, having learned of a new technology through EREN, or in converting to the use of solar energy. It was clear that while the users may not have been able to pin down a dollar figure, they were aware that information about, and use of, energy efficiency and renewable energy saves money.

**Figure 5.4.5-1** **Can you Estimate Savings from the Benefits?**  
**1997 Survey**



**Table 5.4.5-1** **Estimate of Savings, 1997 Survey**

Savings Estimated	Number of responses	Total estimated savings range
less than \$100.00	1	<\$100.00
\$101.00- \$500.00	3	\$101.00-\$1500.00
\$500.01 - \$1,000.00	3	\$1,500.03-\$3,000.00
\$1000.01 - \$5,000.00	1	\$1,000.01 - \$5,000.00
\$5,000.01-\$25,000.00	2	\$10,000.02 - \$50,000.00
<b>Totals:</b>	<b>10</b>	<b>\$12,601.03 - \$59,600.00</b>

Only ten respondents were able to estimate an amount of money they saved through using information about energy efficiency and renewable energy, but the range of savings they reported can be used to form an idea of the value they place on energy information. It is possible to

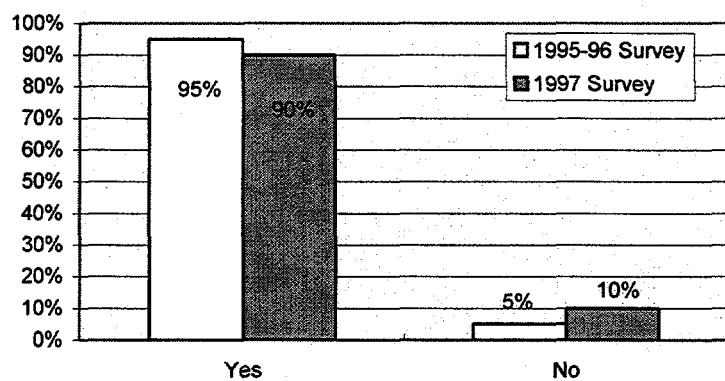
estimate that with the most conservative figures, \$12,601.03 was saved by using EREN, and with the most generous, \$59,600 was saved by these 10 users, for an average savings of from \$1,260 up to as high as \$5960 per user.

#### 5.4.6. EREN Audience

***(Question 23) Do you pass the information or benefits from the information found through EREN to others?***

There are limitations on measuring usage by counting the number of web-page accesses, as recorded systematically. People who've 'bookmarked' some site after discovering the site through the EREN gateway are still making use of EREN, even though they've circumvented the statistical software used to record access. Even activity that has been recorded doesn't take into account secondary dissemination that reaches a wider audience than statistics may indicate. Although statistically each 'hit' is recorded as a single use, it is clear from this survey of EREN users that each represents a far greater number of indirect users. These estimates of use provide a more accurate quantitative assessment.

**Figure 5.4.6-1      Information or Benefits of EREN Shared With Others  
1995-96 Surveys and 1997 Survey Comparison**



**Table 5.4.6-1 If the answer is yes, how many others receive the information or benefits from the information?**

1997 Survey		
Answer	N=36	Range of EREN's Reach
1 - 5	15	15 -75
6 - 10	5	30 - 50
11 - 50	5	55 -250
51 - 100	2	102 - 200
100 - 500	4	400 -20,000
501 - 1,000	2	1,002 - 2,000
1,001 - 5,000	1	1,001 - 5,000
5,001 - 25,000	0	
more than 25,000	2	50,000<
<b>Totals:</b>	<b>36</b>	<b>52,605&lt; (130,180)</b>

One estimate for the number of people with whom the information is shared was figured in this way: The user is an information intermediary who responds to at least 250 requests a year, that makes at least 20 hours spent and 250 people who benefit from EREN resources.

Another user shares the benefits of information he finds on EREN by virtue of his own website, which gets more than 6,000 hits a month.

A journalist for an energy efficiency publication on the web spreads the information to many, many more people, and he would not even hazard a guess as to the number.

Calculating from the numbers reported to share in the information, or benefits from the information (as shown in Table 5.4.6-1) at the very least, 36 users of EREN represent 52,605 people! This is an average of 1,460 people represented, by extension, by one EREN user. This validates the data from the 1995-96 Surveys, where it was reported that at the least, 84 users represent 120,530 people. This is an average of 1,430 people represented by one recorded EREN user. By using only 90 percent of that value, taking into account that 90 percent of EREN users share the information or benefits from the information, it still means that each user extends the value of the information found on EREN with an average of 1,287 others.

These estimates are based on the lower figure in each category. If the higher figure is used, (and no higher figure used than 50,000) each user, in the 1997 Survey, on average, may represent as many as 3,616 people. In the 1995-96 Surveys, each user, on average, may represent as many as 2,339 people who are made aware of EREN resources through professional and personal communications.

This sharing of resources and information is an example of the grand scale of EREN's influence.

## 5.5. Section 6. Importance of and Satisfaction with Resources

Survey participants were asked if they had used each information link, and to name a resource they found through the link. They were then asked to rate the information resources as "Very Important," "Moderately Important," or "Not Important." In addition, they were asked to rate their satisfaction with the information resource or link on a scale of 1 to 5 (1=Very Dissatisfied; 2=Dissatisfied; 3=Neither Satisfied nor Dissatisfied; 4=Satisfied; 5=Very Satisfied).

If the respondent had not used a link, s/he was asked if the link had potential for use and importance.

### 5.5.1. Usefulness of EREN information links

*(Question 24) How important are these links to information resources provided by EREN?*

Table 5.5.1-1 Information Links Rated

Information Link	N=Used by	N=Rating Very Important	N=Rating Moderately Important	N =Not used, Potentially important	Average Satisfaction Rating
	No.	Respondents/ Percentage	No.	Respondents /Percentage	
a)Ask an Energy Expert	12	6 (50)	6	28	3.5833
b)EE Offices	15	7 (47)	8	11	4.00
c)Partnering with EE	6	4 (67)	2	15	3.333
d)News and Events	24	12 (50)	11	9	4.2083
e)International	11	5 (45)	6	17	4.00
f)Education and Training	14	9 (64)	5	17	4.1428
g)Energy Efficiency Technologies	25	22 (88)	3	9	4.16
h)Renewable Energy Technologies	31	25 (81)	6	6	4.1935
i)Energy and Environment	19	14 (74)	5	11	4.1052
j)What's New on EREN	19	16 (84)	3	11	4.42
k)Alphabetical list of EREN resources	21	15 (71)	5	11	4.4285
l)Search Feature	25	20 (80)	5	9	4.00
m)Users Group Messages	40	30 (75)	10		4.475
n)EREC Fact Sheets	12	10 (83)	2	9	4.0833
o)Visuals	12	8 (73)	4	13	4.0833

Because the survey sample consisted of members of the Users Group, it follows that all of the participants would be familiar with the Users Group Messages. This is shown in Table 5.5.1-1. The search feature is also heavily used, as would be expected, being the way to find the rest of the information links.

**Table 5.5.1-2 Information Links Listed in Descending Order of Use**

Information Link	Number of Users
m) Users Group Messages	40
h) Renewable Energy Technologies	31
l) Search Feature	25
g) Energy Efficiency Technologies	25
d) News and Events	24
k) Alphabetical list of EREN resources	21
i) Energy and Environment	19
j) What's new on EREN	19
b) EE Offices	15
f) Education and Training	14
n) EREC Fact Sheets	12
a) Ask an Energy Expert	12
o) Visuals	12
e) International	11
c) Partnering with EE	6

Satisfaction ratings for the information links, as shown in Table 5.5.1-2 mostly fall within the descriptions of "Satisfied" to "Very Satisfied," with only small differences between them. None of the links received unanimous endorsement.

**Table 5.5.1-3 Information Links Listed in Descending Order of Satisfaction Rating**

Information Link	Satisfaction Rating
m) Users Group Messages	4.475
k) Alphabetical List of EREN Resources	4.4285
j) What's New on EREN	4.42
d) News and Events	4.2083
h) Renewable Energy Technologies	4.1935
g) Energy Efficiency Technologies	4.16
f) Education and Training	4.1428
i) Energy and Environment	4.1052
n) EREC Fact Sheets	4.0833
o) Visuals	4.0833
l) Search Feature	4.
e) International	4.
b) EE Offices	4.
a) Ask an Energy Expert	3.5833
c) Partnering with EE	3.333

Figure 5.1-1

Number of Respondents Reporting Use of Resources - Number of Respondents Rating the Resource as Very Important

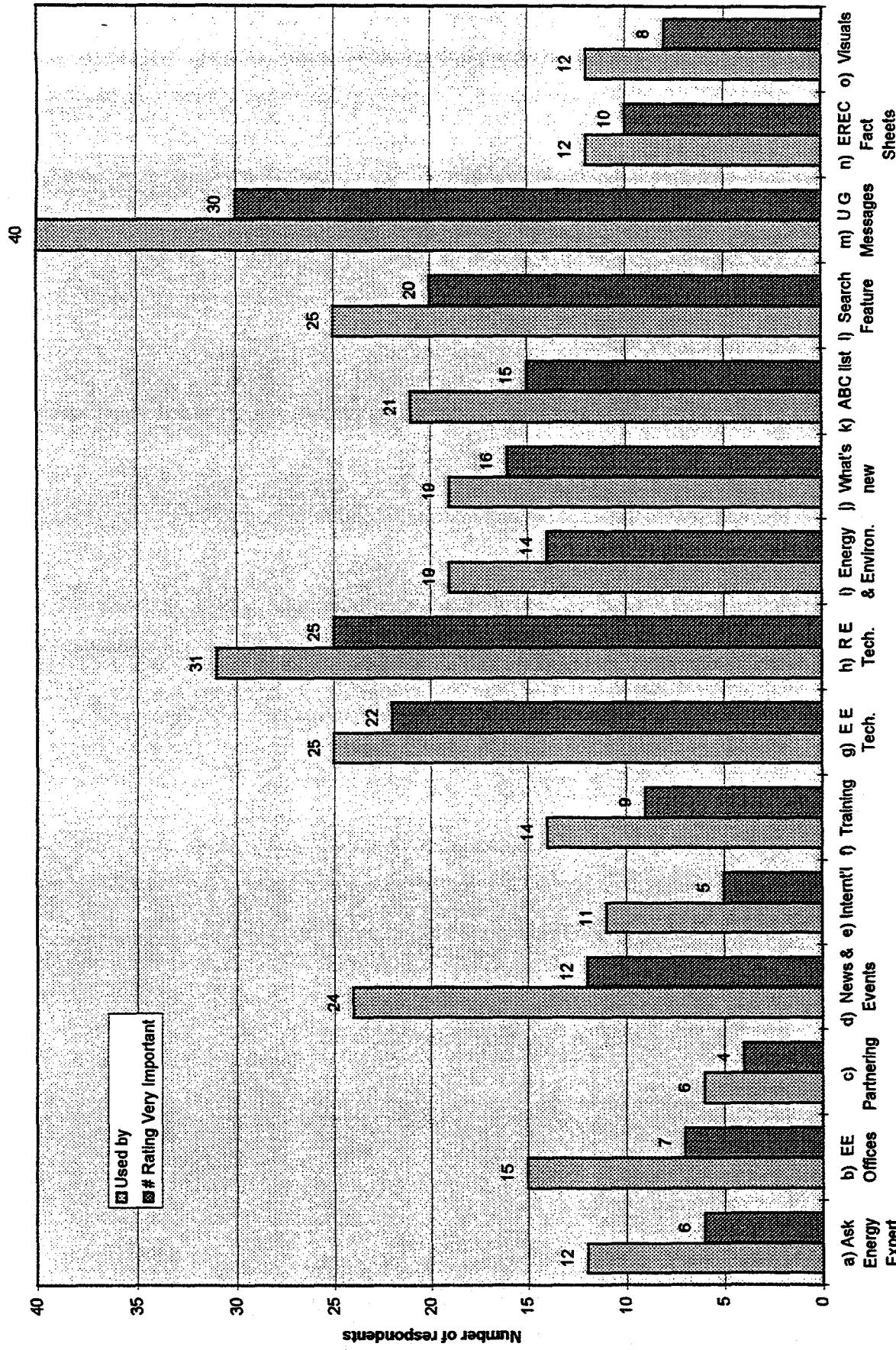
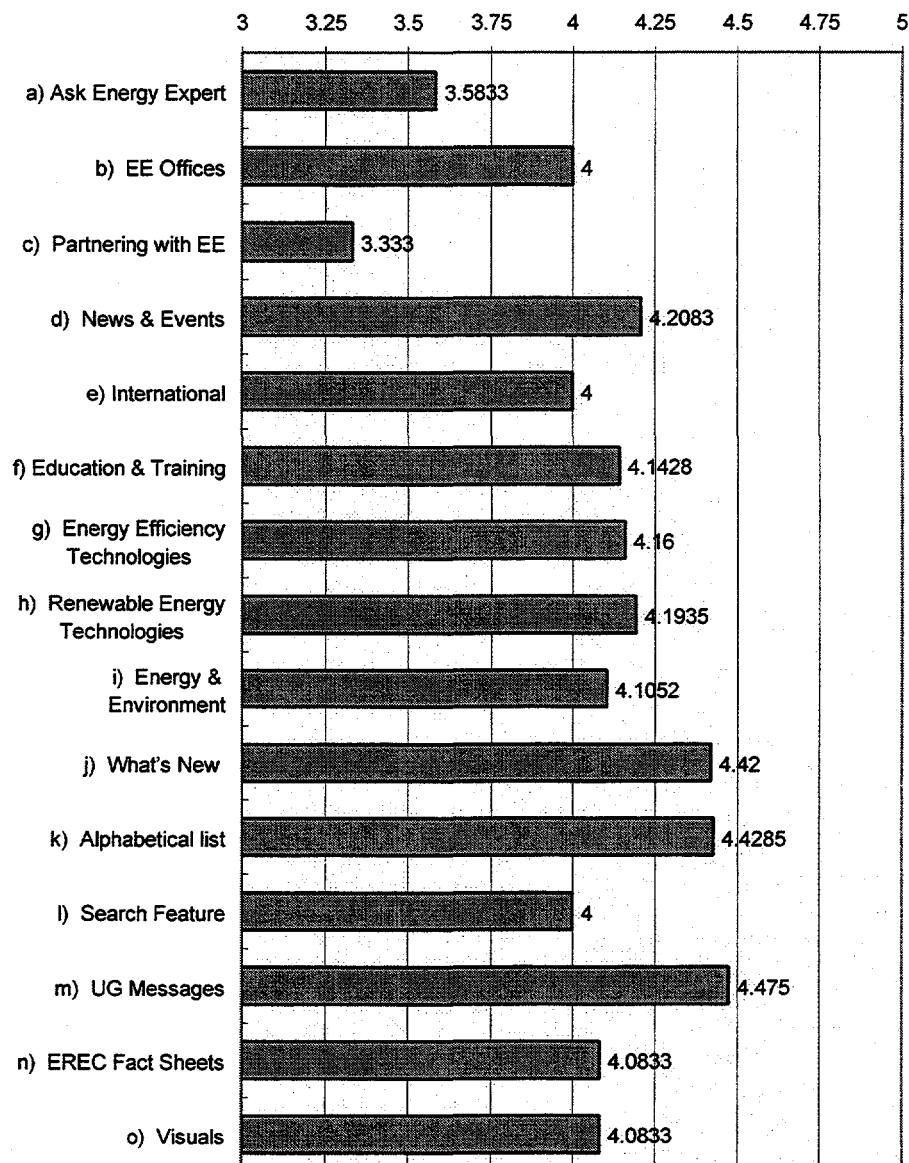


Figure 5.5.1-2      Average Satisfaction Ratings



## Comments on Specific Resources

Respondents were asked to name specific resources for each link as they rated them in Question 24. These resources, or the topics for which the respondent was seeking information, as well as comments about the resources, are included in the following section.

Not many of the respondents were able to name specific resources that they'd accessed, nor were they necessarily familiar with the major heading under which they were grouped. The interviewer worked with copies of the lists of resources under each heading, as they appeared on EREN pages. If the respondent was unable to associate the link heading with any resources, the list was read to them. Downloaded pages from EREN are included in Appendix E.

In the following list, the **title of the information link** is printed in bold and underlined, and the ***names of specific resources*** will be in bold print and italicized. Some resources were only described and not named.

### a) Ask an Energy Expert

- 1) Ask an energy expert is a very nice feature.
- 2) Through the Internet, you can get to great spots. Energy Expert is a valuable service.
- 3) Energy Expert referred me to other sources, but the information from those sources costs money. Most of the information ends up being commercial, and you have to join or buy.
- 4) If this is an international service, why is the Ask an Energy Expert feature limited to US citizens and companies?
- 5) I asked a question, never got a reply. I think it was because I'm out of the country, or maybe there was a problem with the form.
- 6) I assume Ask an Energy Expert is not available internationally.

[Note: Ask an Energy Expert is not limited to US citizens. This information was verified and the users were informed.]

### b) EE Offices

- 1) EE offices are hard to find your way around. Transportation, Office of Transportation, where do you find *Clean Cities*? High profile projects aren't easy to find.
- 2) I looked at the *Center of Excellence in Sustainable Development* -The information provided wasn't practical information. It was too 'talky.' instead of facts and figures.

**c) Partnering with EE**

- 1) I can't find information about grants, or teaming opportunities.
- 2) I had a hard time finding the *Volume Purchase program*. It is difficult to get to the right program.

**d) News and Events**

- 1) I looked at information about *Sunrayce '97*.
- 2) I was looking for information on conferences and news releases.
- 3) I found information from *CREST*, and about financing new ideas.
- 4) I looked in News and Events to find the *Calendar*, but it was hard to find and use.
- 5) Why are *codes and regulations* in News and Events? It doesn't apply.
- 6) There should be a central place for the calendar; it should be prominent, not a text file. It should be better organized, easier to find events. I found the name of a conference, but not when it would be held. As the conference is arranged now, things are in time order, but the calendar should have its own search engine. It should be converted to HTML, and at least add bolding to make it look nicer.

**e) International**

- 1) I found information about some organization in Australia for energy saving windows.
- 2) Add more information about international projects.
- 3) I found information about rural village technologies.
- 4) I was looking for conferences held internationally.
- 5) I was looking for international projects dealing with photovoltaics.

**f) Education and Training**

- 1) Possibly the Education/Training feature could be improved, encompassing both student and teacher needs.
- 2) I found information from *CREST, Solstice*.

- 3) I found interactive demos and spent an hour using them with 7 year old kids.
- 4) Add more education and training information.
- 5) I found information a college in Colorado.
- 6) I found information from the *California Energy Office*.
- 7) I found information about daylighting domes.
- 8) I was looking at information in *Energy Quest* - the color is good, it attracts interest.

**g) Energy Efficiency Technologies**

- 1) I was looking at information about solar panels, photovoltaics: but the chart and terminology confusing.
- 2) I was looking at Wind Technologies / Manufacturers.
- 3) I followed a link to *vivid.net.corp*, and branched out from there, looking at other links.
- 4) I was looking for PV Powered high efficiency lighting.
- 5) There are so many branches too go out, it's hard to name just one.
- 6) I would rather have the option to look at Energy Efficiency Technologies by type of organization, rather than by type of energy.
- 7) I want more information about Energy Efficiency Technologies than I find through this link, like stressed skin panels, high efficiency wall systems.
- 8) I was looking at information in *CADDET*.
- 9) I was looking at Lighting resources.

**h) Renewable Energy Technologies**

- 1) I was looking for information on wind and sun but the charts are baffling. Specifically, I was looking for wind speed data, but it is site specific, and there was no information for my specific site.
- 2) I was looking at information about internal renewable energy, general sources.
- 3) I found information about several people who made power plants.

- 4) I found information from *Berkeley Labs*.
- 5) I found information from *Sandia National Lab*, and *Fact sheets*.
- 6) I was looking through links to lighting, low energy photovoltaics; *CREST*, and other places.
- 7) I was looking at wind turbine technologies.
- 8) I was looking at information about photovoltaics.
- 9) Renewable Energy Technologies is EREN's strong point.
- 10) I was looking at information about solar, thermal, wind, and photovoltaics
- 11) I was looking at information in *Solstice*.
- 12) I was looking at information about photovoltaics.

**i) Energy and Environment**

- 1) I'm interested in information about wind.
- 2) I was looking at the pollution prevention aspects of photovoltaics, hybrid with existing diesel generators.
- 3) I didn't find enough information on the embodied energy content of materials.
- 4) I was looking at the *Sustainable Energy Guide*.

**i) What's new on EREN**

[Note: This heading was the most confusing for respondents. Most assumed it referred to the Users Group messages. Not many were aware of the link from the first screen in EREN. In the time during which the interviews were conducted, the Users Group messages began to carry the URL for the "What's New on EREN" link.]

- 1) The first page should give a brief summary of the new items
- 2) Put links to What's New in the e-mail message. The extra step shouldn't be necessary. It's better to be as useful as possible. If it were easier to use, people would use it more.
- 3) I was looking at information about solar energy interaction.

**k) Alphabetical list of EREN Resources**

- 1) The alphabetical search is my main search tool.
- 2) If you're looking for a specific thing, it's easier to find in a list.
- 3) The alphabetical list needs better organization
- 4) I was looking for *Wind Power Monthly* but the alphabetical list is too long.  
Things are listed by topic, in the alphabetical list, but it might be helpful if it were listed by geographic area, or type of organization such as: Magazine, Practical advice, Organization

**l) Search Feature**

- 1) Using the search feature takes too long. I gave up because of it.
- 2) The search feature has lots of 'noise.' It's hard to find what you want.
- 3) The search feature needs an "Advanced Search" option, with the ability to do a Boolean search.
- 4) In looking for information about low E-glass for windows, the search brings up too many documents. With *'Power Search'*, each line is a word in the URL, and/or Title, etc.
- 5) Spelling help is needed. I would suggest a search engine that recognizes or prompts for misspellings.

**m) Users Group Messages**

[Note: Not many respondents were aware that the weekly e-mail was a Users Group Message. Many thought that these were the 'What's new on EREN' messages. Many respondents expressed a dislike of Users Groups, thinking of them as list-serves, where the member receives daily postings from other members. The idea that these lists inundate you with chatty messages was the cause of a bad connotation for many in the EREN Users Group. When the researcher explained that what some referred to as "weekly e-mails," (and had spoken in praise of) were the same as the Users Group Messages, it came as a surprise.]

- 1) The Users group messages are a "good nag" item. It prompts you to check out EREN again.
- 2) I use the weekly messages by passing them along to others, and posting them to a bulletin board.
- 3) I especially like your e-mail announcements on EREN news and the offered newlinks on your homepage. Mailing the news is very helpful, and easy to use through the EREN shortcuts in the What's New section."

- 4) I look at the messages to know if new groups have been submitted, and as a web page developer, to see if there are any that I've created being added to EREN.
- 5) The weekly e-mail notices are excellent.
- 6) In the e-mail message, it would be nice to have a bar that fits into one screen, to look at what's available in that mailing, without scrolling through pages of information. I would suggest a brief summary on one screen to glance at briefly, then click to go there.
- 7) The notices should have the web address of the new sites, so you can go right to them.
- 8) They're very convenient, and they cause me to go to the sites that are new.
- 9) The e-mail feature as a reminder of what's new is helpful.
- 10) I really like the e-mail messages. They are a good reminder.
- 11) I use the EREN Users Group Messages by posting them for others in my department to see.
- 12) Each week I check out the new links.
- 13) Even when I have no time to look at the link, it reminds me of what's happening
- 14) They come just often enough to remind, not often enough to annoy.
- 15) Through the Users group messages, I found out about the *Export Council for Energy Efficiency*.
- 16) I am very happy about the e-mail I get weekly.
- 17) I put the Users Group messages into a text file for reference.
- 18) The e-mail messages come too often. It seems like they come twice a week.

**EREC Fact Sheets**

- 1) Most EREC fact sheets do not appear to be aware of building science and performance. Some repeat outdated information.
- 2) I would like to see more EREC fact sheets.
- 3) I was looking at photovoltaic services networks.
- 4) EREC fact sheets are not easy to find. They should have a prominent link.

- 5) I was looking at information about energy efficient windows.
- 6) Add more fact sheets!
- 7) I've downloaded EREC fact sheets, but I think they're too big; I'd like it to be quicker to download.

**o) Visuals**

- 1) I looked at pictures of mountain home with stream and dam. It's good to get an idea of what was done.
- 2) I downloaded a picture as an example of photovoltaic use.
- 3) I looked at pictures of integrated photovoltaic installations.

## 5.6. Section 6. Added Information

*(Question 25) How could EREN better meet your needs? What additional information would you like to see added to EREN?*

### 5.6.1. General Comments

- 1) Emerging Technologies: it takes time to really find contacts, and that's expensive. How do you know when people are doing something new?
- 2) EREN should provide a conduit for DOE projects and information.
- 3) Use Web Page as a tool to get research findings out quickly... are Wind Turbine prices dropping?
- 4) Would like more information, and summaries of links.
- 5) Would like to see more documents - reports, studies, DOE labs, NREL has good reports that he'd like access to over the web.
- 6) The DOD Photovoltaic review committee is putting together their own website. When it's ready, they'll ask for a link to EREN.
- 7) Concentrate on content, not on glitz. Use few icons, just for navigational purposes, and to let people know where in the site they are.
- 8) EREN has general things, but not specifics. It's useful, but really needs more specific information, like prices.
- 9) This being a government site, you should be able to find specific, free information, not commercial stuff that costs money to get.

### 5.6.2. Additional Subject Information

- 1) Specifically looking for vendors, didn't see any, but wonders if it's appropriate for a DOE site. He'd like to know how to contact, where they are, do they have an Internet site, linked to EREN? Summarize in just a few words, what kind of energy efficiency technology it is. There might be two lists, one geographical, sorted by state, so he could see if there were anybody close. Then, another list, sorted by the service that's provided.
- 2) Would like to see information about who has gotten what awards for projects, grants.

- 3) Needs energy modeling software, comparisons, and recommendations based on laboratory analysis.
- 4) His county is moving to a model energy code, and he needs more information on it.
- 5) What are the research programs in the labs? He'd like to see the mission statement, goals, what funding they have, what contribution they think they'll make to industry.
- 6) There should be legislative information for each of the states, so that instead of big, expensive legislative solutions, we can have easy and affordable solutions made available.
- 7) Add information about electric industry restructuring- public funding of conservation and renewables, formation from the state legislature or congress, specifically how it affects funding.
- 8) Everybody can get into solar energy. They need to understand simple solar energy devices and concepts. He's looking to cutting- edge sunlight applications: thermo-siphon solar collectors and sun-driven fluid and evaporative coolant towers.
- 9) Add market transformation initiatives.
- 10) Climatological Information, coordinating with NOAA, weather files for specific locations. He's always trying to find pertinent climatic data, with details ranging from summaries of heat/degree day indexes to hour by hour weather data.

#### 5.6.3. More Emphasis

- 1) Would like to see better cost breakdowns and pay backs, by manufacturers.
- 2) Would like to see more stuff on what people have done - case studies There aren't enough people in there, private citizens have to take the lead.
- 3) In looking at EREC fact sheets, he'd like to see more on Solar Energy.
- 4) EPRI/DOE Wind turbines. Follow up on things, give an informational update on who has what in renewable, or, for example, green buildings has done \_\_\_\_\_ this, whatever \_\_\_\_\_.
- 5) He'd like to see a lot more of 'what is the 'final word'; for example on desiccants, amorphous silicon photovoltaics. What are the latest and greatest trends, and who is there to talk to?
- 6) Everybody needs conservation education. There should be more information in EREN about Finance, Policy, Defense, Health....they're all related to energy.

- 7) More information on straw bales construction.
- 8) Add more PDF data, including graphics and charts.
  - more statistics
  - more information on solar energy/photovoltaics
  - more information on solar energy/photovoltaic current projects
  - more scientific information
  - more international data
  - more comparative data
- 9) The problem is that information on photovoltaics and utilities is not very deep.
- 10) Add a status report on wind and solar energy development nationwide. Where is it happening? What's the size of the project? Give the status of actual projects.
- 11) He'd like to see more product information, including prices.
- 12) More basic energy information.
- 13) EREN could better meet his needs by becoming more oriented to the needs of individuals, along with the needs of commercial organizations and others. People who do things around their homes, like he does, like to start from scratch. As a retired designer, he designs the work himself, and he wants to do it right. He needs information about how much pipe to lay for a closed loop heat pump. This kind of information should be available as a table. He tried extensively to locate the nuts and bolts information about water source heat pump installation, but it costs \$75.00 to buy the manual, or \$50 to join an organization. He can't find it for free. If he goes to the school to get it, it will cost \$400-500. It's easy to find somebody who wants to sell you a product, but hard to find information that should be available for free.
- 14) Would like to know the international availability of resources. Sometimes, he reads about materials or technology for building, but they take it for granted that all over the world the classification of materials is the same. For example, insulating materials. It is given Grade 11, but what is that? It's not graded like that in his country. It would be better to give the conditions, and tell the conductivity of the insulation, as any engineer would understand. Sure, the grade may be common in the US, but that's not true all over the world. Give measurements in common units, not specific grades.
- 15) Would like to see more involvement in solar networking.
- 16) Would like to see more government policy-making information added. He'd like to be able to respond to committee suggestions, to give feedback on government policy.

#### 5.6.4. Possible Applications

- 1) People don't know how to look for appropriate technologies, that are low tech, inexpensive, like window solar cookers, so people feel helpless. Affordable solutions should be designed and marketed, and EREN could help with that.
- 2) Note that in Texas, the National High School Debate topic for next year will be Renewable Energy. EREN ought to capitalize on it, extend it.
- 3) Would like access to physical experiments using the Internet, for example, photovoltaic array information collected, (solar radiation, temperature, voltage, power) recorded and fed into the Internet, so that this type of thing can be brought into schools, such as community colleges, who might not be able to afford the experimental instrumentation. You could have wind generator or photovoltaic arrays, to demonstrate in classrooms. Could participate in "tele-experimentation."
- 4) This summer, his school will be putting up information on small wind generator and thermal test cells: they have a 120-foot building with individual rooms, all oriented to the south, to test wall cells. These tests could be monitored through a remote location, via the Internet.
- 5) Would like to see experiments where the remote experimenter could physically take control, for example, putting on a 100 watt load, to see what changes.
- 6) Right now, they have their PV array information fed into the Internet. It's accessible through an IP address for the installation. It's viewable through a special software package, a Netscape add-in called a "Timbuktu viewer".

#### 5.6.5. Additional Features

- 1) Would like access to documents, especially in PDF. An additional access, with the ability to download documents - for various DOE reports.
- 2) Would like to see energy-related Requests for Quote (RFQ) e-mailed to EREN users.
- 3) EREN should keep up with advances in technologies that are still "on the drawing board." For example, rooftop PV panels w/blue light (translucent) as sky lights. It would be good if EREN covered products for energy the way Popular Science covers "What's New."
- 4) He'd like more information of a review type, basic documents on technology, or fact sheets. Straightforward facts on how the technology evolved, what it costs per kilowatt/hour.
- 5) Real time information, figures about things happening. Representative projects would make people sensitive on environmental issues.

- 6) There's no cross-referencing. He'd like to know about chemical processes for both methane and alcohol, for example.
- 7) Would like tables and figures so that he can calculate how a technology will save money, and how much it will save.
- 8) Would like to see organization charts with names and phone numbers, or to whom you would go to find out. They should be up to date, and he should know they're up to date, with the updated date visible.
- 9) Found it difficult to find grant opportunities, teaming opportunities, networking opportunities. She'd like to see RFP's linked to EREN.
- 10) "I subscribe to *Merc.com*. It's newspaper-like, and you can design your own interests. It responds to your own interests. I get it every morning, it filters the information for you. EREN could do that, too."
- 11) Would like to see research in progress., like <[www.nas.edu/rips](http://www.nas.edu/rips)> which has 3,000 records, and is searchable.
- 12) Renewable energy, how much energy used, how much energy saved, vs. coal, for example. Figures that move, so that people can see that the energy savings are happening now. For example, a note that says that the numbers were updated 10 minutes ago, there will be a new figure in an hour, reloading.
- 13) At Colorado State, they had the availability of 'boilerplate' and calculations listed on the web page.
- 14) Rutgers has public domain TMY-1 weather data. NREL has TMY-2 data set. Completely different format, can't use the data that was based on the TMY-1 format. A private company has taken TMY-2 and put it in TMY-1 format. You can get it from the Industrial Assessment Center, or \$100 a site with a disk or download free from.... LBL publication has the information. Does EREN have a link?
- 15) Some basic technical information on energy technologies and energy efficiency technologies would be useful. Perhaps some links to other sites grouped under "Basic Technical Information." As an example, see AWEA.
- 16) Add links to grass roots organizations and stand alone projects.

#### 5.6.6. Ease of Use

- 1) EREN should have more user friendly information for people just getting involved in the technology - those that are completely in the dark. Like a basic crash course in a couple of

screens, about specific technologies. Most people won't take the time to wade through a lot of technical stuff.

- 2) It would be better to have a tabular column format under each heading, for example, see the Real Goods home page. They have a list under each category that makes it easy to find what you're looking for.
- 3) Need a summary format, with the latest body of knowledge from the labs. It's hard to know, from out in the field, what the labs are working on, and what conclusions they're coming to. These are things that will impact people using the technologies. It would be good to report, for example, "Efficiency is up to...." That's good information.
- 4) He prefers the old page format. The newer one is less intuitive.
- 5) Recommends looking at AWEA site for excellent layout.
- 6) The number of sites related to Energy have grown enormously in a short time. That makes them hard to manage. He'd like to see lists grouped by topics, then in alphabetical order.
- 7) Doesn't like frames, he'd rather scroll.
- 8) Add advanced searching capabilities.
- 9) The list of renewable energy resources could be organized by manufacturer, and type of energy.
- 10) Would like to see a more structured interface, with very clearly defined information elements.
- 11) More easy-to-read, self-explanatory graphs and diagrams.
- 12) Would like to see a search engine that would recognize Australian, English, British and American English spelling of words such as : summarize, summarise.
- 13) Would like to see a search engine that would recognize misspellings. He was looking for the "Stirling" engine, but was spelling it Sterling, and he couldn't find anything, and had no way of knowing why, or how to correct it.
- 14) He'd like to see more information on a elementary level, more interactive things, more JPEGs.

## 5.7. Section 7. Comments

*(Question 26) Do you have any other comments?*

### 5.7.1. General Site Value

1. "You're doing a good job!"
2. It's good to see the Government doing something positive. People need to know that. They need to know what Energy Researchers already know about.
3. Lots of web sites let things fall after they're up. Not EREN.
4. There's nothing he can think of that he'd like added to EREN. What he's used, he has liked.
5. "Perhaps I'm easy to please, but I'm quite happy with the services EREN provides at present, especially as there is continuous updating and upgrading."
6. EREN is a very good resource, very useful to him. It's interesting to know about the kinds of technology available.
7. "I think that EREN is a quite a good resource"
8. "EREN has been very useful." He's happy to see it. It's very useful to people working in renewable energy.
9. "Good site, very well done."
10. "It's a really good service, keep up the good work, you're doing a good job. You do a good job at keeping things updated, so keep it up."
11. "EREN is an excellent information resource."
12. "EREN is generally excellent and is extremely useful."
13. "I'm happy with what I've gotten so far."
14. "Thanks for all the valuable information."
15. "I think that EREN is organized and informative. It has to be, with so much information, compared to the content that comes out in newsletters."

16. "I'd like to thank EREN providers for the service. This is the future!" [EREN and information on the Internet]
17. "If EREN weren't available, there would be no other source for this kind of information."
18. "Congratulations on a job well done!"

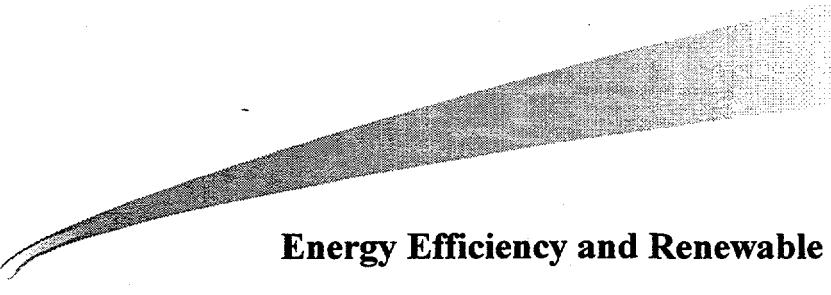
### 5.7.2. Use of EREN

1. "This survey is a great marketing piece, to educate people about EREN, and a great way to publicize the site." It made him realize he should use it more. In the past he's relied on the Western Power Administration's "Power Line," by call or e-mail. He'd always get a phone call, then a written response. It was a valuable two-step process. Immediate follow-up, clarification of the question, then a longer response, with written references, or copies of information sent.
2. He's used EREN more since being contacted about the survey. He thinks the survey is a good way to educate people about the services available. In preparing for answering the questions, he's started using EREN a lot.
3. He has shared information about EREN, and from EREN, with someone else who will be using Solar to power a church in Chicago. Now that person is an EREN user, too.
4. For my purposes, it seems fine. I don't use it enough myself to think of what else should be added. It's a very good service, I just need time to use it.
5. She looks in EREN for whatever looks interesting. *Geo-Cities* caught her eye.
6. He's fairly new to using EREN, hasn't learned all he can do with it yet, imagines he'll be doing more as he learns more.
7. "Excellent links, well organized, thorough." He refers people to EREN when he gives talks about energy.
8. "I'm very pleased with the EREN site, it's well managed. I'm always happy to refer people to it, and they find something valuable in it."
9. "There's a learning curve with the Internet, when I see the e-mail, and see the Http: I know to go out to the Internet to check it out. Not everybody knows that! I've had access for years through the university, so I was surprised that many people don't know how to use E-mail or the Internet."
10. "I use EREN like a newsletter, just go in to check things out."

11. "I am an energy consultant and find your site so useful and interesting that it's defined as the Home site for my Internet browser."
12. "This really saves me a lot of time checking out and not missing any important news of your homepage. I wish we had something comparable in my country."
13. "I use EREN for both business and pleasure. I try to look at systems for work - in energy efficiency. I'm looking for the biggest bang for the buck."
14. "People's interests grow; for example, I may look at first for a site because I'm interested in wind energy, then I look at other sites that grab my interest."
15. "I'd use EREN more, except for time constraints. I seldom get on as often as I'd like."

#### 5.7.3. EREN Recommendations

1. Sometimes the information is too detailed. EREN is "probably one of the best government sites for currency, updating." It's the best run site he's seen.
2. "The new homepage isn't much of an improvement. The old one was better organized."
3. "Please, do NOT start to charge users for information / searches on a fee since I use EREN for nonprofit research only."
4. "Is EREN is listed in directories on the Web? It would get more people visiting the site, and wouldn't cost, like ads on home pages do."
5. "EREN is a great beginning, there's a lot of stuff there, but there's lots under construction... has been for some time now."



## **Energy Efficiency and Renewable Energy Network (EREN)**

### **Appendix A**

### **Survey Instrument**

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**Energy Efficiency and Renewable Energy Network**

**EREN**

*Customer Satisfaction Survey - 1997*

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Public reporting burden for this collection of information is estimated to average 15 minutes per response, including the time for reviewing the instructions. Send comments regarding this estimate or any other aspect of this collection of information to the Office of Scientific and Technical Information, Oak Ridge, TN, or to the Office of Information and Regulatory Affairs, Office of management and Budget, Washington, D.C. 20503.

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**PURPOSE OF THIS SURVEY**

The Office of Energy Efficiency and Renewable Energy (EE) is eager to gather feedback from its customers about its performance. This information is useful in evaluating and improving its programs and services.

The Energy Efficiency and Renewable Energy Network (EREN) is a World Wide Web site developed for the Department of Energy's Office of Energy Efficiency and Renewable Energy to make information available to support the Department of Energy's (DOE) goals for increased U.S. industrial competitiveness, energy resources, science and technology, and environmental quality. It provides a gateway to online efficiency and renewable energy information sources. It is a multimedia network with links to maps, images, video, sound and text.

The purpose of this survey is to identify and define actual EREN users, to determine the kind and quality of services that users want and their level of satisfaction with existing services, to determine users preferences in both the sources of service and the means of delivery, and to determine the value of benefits derived from the use of EREN. This information will help to establish measures of performance for the continuous quality improvement of EREN.

We appreciate your taking the time to complete this questionnaire. When you provide us with this information, we can become more familiar with your interests and can develop EREN to better serve your needs.

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**CONFIDENTIALITY**

Response to this survey is voluntary, and all responses will be held in complete confidentiality. Responses will be collected and the respondent's name and other identifying information will be separated from his/her responses for reporting purposes.

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Telephone: (423) 481-0388  
Fax: (423)481-0390

## Customer Satisfaction Survey-1997

### Energy Efficiency and Renewable Energy Network EREN

The Energy Efficiency and Renewable Energy Network (EREN) is a gateway to worldwide information sources providing access to information about renewable energy and energy efficient technologies. It was developed to make information available to support the mission of the Department of Energy's (DOE) Office of Energy Efficiency and Renewable Energy to lead the Nation to a stronger economy, a cleaner environment and a more secure future through the development and deployment of sustainable energy technologies.

**To help us monitor and improve the services provided, would you please consider your use of EREN, and answer the following questions:**

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#### DEMOGRAPHICS

**1. Which one of these groups best describes your affiliation? (Please check only one)**

- a) University / College / other post-secondary institution
- b) Elementary or Secondary School
- c) Consumer / Private Citizen
- d) Federal Government
- e) Utility - (State/Local Government or Commercial)
- f) State / Local Government (other than Utility)
- g) Business or Commercial (other than Utility)
- h) Not-for-Profit Organization
- i) Other: *please describe* \_\_\_\_\_

**2. What is your occupation? (Please check only one)**

- a) Architect
- b) Administrator
- c) Banking or Finance
- d) Consultant
- e) Engineer
- f) Environmental activist
- g) Farm operator
- h) Inspector or compliance officer
- i) Insurance
- j) Lawyer
- k) Librarian
- l) Manager
- m) Power generating plant Operator, Distributor, or Dispatcher
- n) Regional or urban planner
- o) Sales and marketing
- p) Scientist / Researcher
- q) Student
- r) Supervisor
- s) Teacher / Academic
- t) Technician
- u) Small Business Owner
- v) Other: *please describe* \_\_\_\_\_

**3. Do you use EREN primarily as a gateway to non-Department of Energy (DOE) sites - or to access DOE and Energy Efficiency and Renewable Energy (EE) departmental resources?**

- a) gateway to non-DOE sites
- b) DOE and EE departmental resources

**4. What kind of information do you look for when using EREN? (Please check all that apply)**

- a) Agriculture
- b) Buildings
- c) Industrial
- d) Transportation
- e) Utilities
- f) All Energy Efficiency Technologies
- g) Fuels and Chemicals
- h) Geothermal
- i) Hydrogen
- j) Hydropower
- k) Ocean
- l) Solar
- m) Wind
- n) All Renewable Energy Technologies
- o) Other \_\_\_\_\_

**5. How did you become aware of the Energy Efficiency and Renewable Energy Network? (Please check only one)**

- a) Contacted by the Department of Energy
- b) Personal Recommendation
- c) Professional Society Publication *Name of Publication?* \_\_\_\_\_
- d) Magazine Article *Name of Publication?* \_\_\_\_\_
- e) Through a keyword search, or by browsing on the Internet
- f) Conference / Demonstration
- g) Referred by EREC (DOE's Energy Efficiency and Renewable Energy Clearinghouse)
- h) I don't remember
- i) Other: *please describe* \_\_\_\_\_

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## TECHNICAL CAPABILITIES

**6. a) Is EREN easy to use?**

a) yes       b) no

**b) Please check any aspect of EREN that needs improvement?**

*(Please check all that apply)*

a) Screen design (Page layout, clear presentation)  
 b) Readability (Ease of interpretation)  
 c) Ability to query (Searchability, key concepts indexed, ability to retrieve relevant information)  
 d) Organization of material (Logical flow, ease of navigation)  
 e) Ability to save or print the results  
 f) System response time  
 g) Other: *please describe* \_\_\_\_\_  
 h) None

Some documents are posted on EREN using the Portable Document Format (PDF) .

**7. 1. Have you used the PDF option?**

a) yes  
 b) no  
 c) I don't know

**7. 2. Would you like to see more documents in PDF posted on EREN?**

a) yes  
 b) no  
 c) I don't know

**8. What type of computer do you use to access EREN? (please describe only one computer)**

a) UNIX workstation  
 b) Pentium PC  
 c) 486 PC  
 d) 386 PC  
 e) Apple Macintosh (*please specify type*) \_\_\_\_\_  
 f) Other \_\_\_\_\_  
 g) I don't know

**9. What type of Internet connection do you use to access EREN?**

a) direct network connection  
 b) ISDN line  
 c) 28.8 modem  
 d) 14.4 modem  
 e) 9.600modem  
 f) Other \_\_\_\_\_  
 g) I don't know

**10. What size is your monitor?**

- a) less than 15"
- b) 15"
- c) 17"
- d) greater than 17"
- e) I don't know

**11. Can you view videos, or animated files on your computer?**

- a) yes
- b) no
- c) I don't know

**12. Can you use audio files?**

- a) yes
- b) no
- c) I don't know

**13. Are you using a character-based or graphical browser?**

- a) Character-based (e.g. Lynx)
- b) Graphical (e.g. Microsoft Explorer, Netscape)
- c) What is the name of the Graphical Browser you use? \_\_\_\_\_
- d) I don't know

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**USAGE PATTERNS**

**14. In the past 30 days, how often have you used EREN?**

- a) 5 times or less
- b) 6 - 10 times
- c) 11 - 15 times
- d) 16 times or more

**15. For what purpose(s) do you search using EREN? (Please check all that apply)**

- a) Keeping current, learning about new developments in Energy
- b) Developing competencies/learning
- c) Supporting an ongoing project
- d) Preparing a report for a meeting or publication
- e) Patent application
- f) To identify new opportunities, finding potential partners or projects
- g) Making a purchase for home use
- h) Consulting or giving advice to others
- i) Management or executive work
- j) Administration or finance
- k) Marketing, sales, or sales management
- l) Legal work
- m) Other *please describe* \_\_\_\_\_

Please consider the last time you used EREN to locate information resources, and answer questions 16 - 20 with that incident in mind.

**16. Considering your most recent access, how long did you spend using EREN?**

- a) less than 15 minutes
- b) 15 minutes or more, but less than 30 minutes
- c) 30 minutes or more, but less than an hour
- d) one hour or more, but less than two hours
- e) two hours or more: *please quantify* \_\_\_\_\_

**17. How will you use the information you found through EREN? (in the most recent search)**  
*(Please check all that apply)*

- a) Of immediate value on a specific project
- b) Improved decision making
- c) Better service
- d) Equipment replacement
- e) Policy analysis
- f) Policy formulation
- g) Policy implementation
- h) Procedures
- i) Planning
- j) Other: *please describe* \_\_\_\_\_

**18. Was EREN the first source you consulted to find the information, on your recent search?**

- a) yes
- b) no

**If you answered no, what was the first source?**

- c) Library - Librarian mediated search; book or other document
- d) Colleague
- e) Government agency
  - Federal
  - State
  - Local
- f) Internet resources - other than through EREN (please - identify on next line)
- g) Other: *please describe* \_\_\_\_\_

**19. What would have been your source for information if EREN were not available for that recent search?**  
*(Please name or describe)*

**20. Please estimate how much time was saved by using EREN recently, instead of another source.**  
*(Check applicable response and quantify it)*

- a) none
- b) minutes \_\_\_\_\_
- c) hours \_\_\_\_\_
- d) days \_\_\_\_\_
- e) weeks \_\_\_\_\_

Please consider your overall use of the information resources available through EREN, and answer the following questions with your general use in mind.

**21.1. Generally, are EREN's information resources ACCURATE?**

- a) accurate as far as I can tell
- b) mostly accurate
- c) mostly inaccurate
- d) totally inaccurate
- e) I don't know

**21.2 Generally, are EREN's information resources CURRENT?**

- a) current as far as I can tell
- b) mostly current
- c) mostly outdated
- d) totally outdated
- e) I don't know

**22. In general, do the information resources available through EREN provide some benefit to you or your organization?**

- a) yes
- b) no [Skip to question 25]

**22.1. Please describe the benefits gained from information provided through EREN. (Benefits from replacement of equipment, adoption of new technology, improvement of processes, etc.)**

**22.2. Can you estimate how much savings will result from the benefits described above?**

- a) yes
- b) no

If you answered yes, please estimate:

- d) none
- e) less than \$100.00
- f) \$101.00 - \$500.00
- g) \$500.01 - \$1,000.00
- h) \$1,000.01 - \$5,000.00
- i) \$5,000.01 - \$25,000.00
- j) \$25,000.01 - \$50,000.00
- k) \$50,000.01 - \$100,000.00
- l) \$100,000.01 - \$1,000,000.00
- m) Greater than \$1 million:

*please quantify* \_\_\_\_\_

**23. Do you pass the information or benefits from the information found through EREN on to others?**

- a) yes
- b) no [Skip to question 24]

If the answer is yes, How many others receive the information or benefits from the information?

- c) 1 - 5
- d) 6 - 10
- e) 11 - 50
- f) 51 - 100
- g) 100 - 500
- h) 501 - 1,000
- i) 1,001 - 5,000
- j) 5,001 - 25,000
- k) more than 25,000: *please quantify* \_\_\_\_\_

**24. How important are these links to information resources provided by EREN?**

If you have used a link, mark one of the boxes, "Very Important," "Moderately Important," "Not Important".

**Please name a resource you have most recently used.**

Even if you haven't used a link, you may indicate that the link may have some potential importance to you.

**How satisfied are you with the information resources available through EREN?**

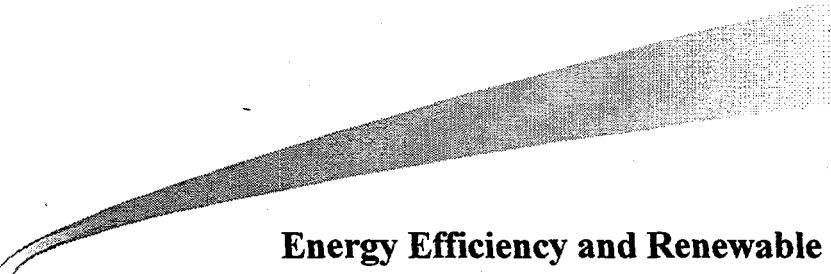
If you have used these links, please rate your satisfaction with each one. [1 is worst, 5 is best].

1 = Very Dissatisfied; 2 = Dissatisfied; 3 = Neither Satisfied nor Dissatisfied; 4 = Satisfied; 5 = Very Satisfied.

<b>Information Link name of resource used</b>	<b>Have you used it?</b>	<b>Importance</b>	<b>Satisfaction Rating 1-5</b>	<b>Potentially Important</b>
(a) Ask an Energy Expert	<input type="radio"/> Yes <input type="radio"/> No	<input type="radio"/> Very <input type="radio"/> Moderately <input type="radio"/> Not		<input type="radio"/> Yes
(b) EE Offices	<input type="radio"/> Yes <input type="radio"/> No	<input type="radio"/> Very <input type="radio"/> Moderately <input type="radio"/> Not		<input type="radio"/> Yes
(c) Partnering with EE	<input type="radio"/> Yes <input type="radio"/> No	<input type="radio"/> Very <input type="radio"/> Moderately <input type="radio"/> Not		<input type="radio"/> Yes
(d) News and Events	<input type="radio"/> Yes <input type="radio"/> No	<input type="radio"/> Very <input type="radio"/> Moderately <input type="radio"/> Not		<input type="radio"/> Yes
(e) International	<input type="radio"/> Yes <input type="radio"/> No	<input type="radio"/> Very <input type="radio"/> Moderately <input type="radio"/> Not		<input type="radio"/> Yes
(f) Education and Training	<input type="radio"/> Yes <input type="radio"/> No	<input type="radio"/> Very <input type="radio"/> Moderately <input type="radio"/> Not		<input type="radio"/> Yes
(g) Energy Efficiency Technologies	<input type="radio"/> Yes <input type="radio"/> No	<input type="radio"/> Very <input type="radio"/> Moderately <input type="radio"/> Not		<input type="radio"/> Yes
(h) Renewable Energy Technologies	<input type="radio"/> Yes <input type="radio"/> No	<input type="radio"/> Very <input type="radio"/> Moderately <input type="radio"/> Not		<input type="radio"/> Yes
(i) Energy and Environment	<input type="radio"/> Yes <input type="radio"/> No	<input type="radio"/> Very <input type="radio"/> Moderately <input type="radio"/> Not		<input type="radio"/> Yes
(j) What's New on EREN	<input type="radio"/> Yes <input type="radio"/> No	<input type="radio"/> Very <input type="radio"/> Moderately <input type="radio"/> Not		<input type="radio"/> Yes
(k) Alphabetical list of EREN resources	<input type="radio"/> Yes <input type="radio"/> No	<input type="radio"/> Very <input type="radio"/> Moderately <input type="radio"/> Not		<input type="radio"/> Yes
(l) Search Feature	<input type="radio"/> Yes <input type="radio"/> No	<input type="radio"/> Very <input type="radio"/> Moderately <input type="radio"/> Not		<input type="radio"/> Yes
(m) Users Group Messages	<input type="radio"/> Yes <input type="radio"/> No	<input type="radio"/> Very <input type="radio"/> Moderately <input type="radio"/> Not		<input type="radio"/> Yes
(n) EREC Fact Sheets	<input type="radio"/> Yes <input type="radio"/> No	<input type="radio"/> Very <input type="radio"/> Moderately <input type="radio"/> Not		<input type="radio"/> Yes
(o) Visuals	<input type="radio"/> Yes <input type="radio"/> No	<input type="radio"/> Very <input type="radio"/> Moderately <input type="radio"/> Not		<input type="radio"/> Yes

**25. How could EREN better meet your needs?  
What additional information would you like to see added to EREN?**

**26. Do you have any other comments? (Feel free to use additional sheets.)**



## **Energy Efficiency and Renewable Energy Network (EREN)**

### **Appendix B**

### **Request for Participation**

Energy Efficiency and Renewable Energy Network  
EREN  
Customer Satisfaction Survey

Dear EREN User,

As a registered EREN user, we hope that you will be interested in assisting the Office of Energy Efficiency and Renewable Energy. We are conducting a study whose purpose is to determine the kind and quality of services that you want, and your level of satisfaction with existing services available through EREN.

We need to know what you think. This is the second year we have conducted a survey of EREN users. Results of the first year's survey have helped EREN's developers to understand users, and to improve the EREN gateway. This year, you have been chosen to be part of a special study group. Would you be willing to participate in a brief telephone interview? The interview would take about 15 minutes of your time. I would like to schedule a time - at your convenience - when I could call you to conduct the interview. A copy of the questionnaire will be sent to you, in advance of the telephone call, to guide your responses.

If you are willing to participate in the telephone interview, please reply via e-mail, to me at  
< [AANDERSO@INFOINTL.COM](mailto:AANDERSO@INFOINTL.COM) >.

Please provide your name and your phone number, and let me know when it would be a good time to call you. Also, please include your fax number or mailing address, so that I may send the questionnaire to you.

Response to this survey is voluntary, and all responses will be held in complete confidentiality. Respondents' names and other identifying information will be separated from her/his responses for reporting purposes.

If you are not interested, please let me know with a reply to this e-mail message so that we can choose another participant for this study.

Please help us to serve you better. Thank you for your consideration.

Alice Anderson

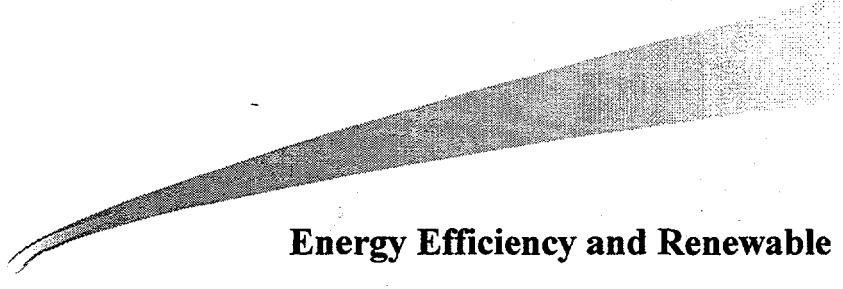
\*\*\*\*\*

Alice Anderson

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FAX: (423) 576-2865



## **Energy Efficiency and Renewable Energy Network (EREN)**

### **Appendix C**

### **Fields for Database Survey Responses**

Structure for table: u:\eren97\survey~1\97survey.dbf

Number of data records: 41

Date of last update: 06/16/97

Memo file block size: 64

Field	Field Name	Type	Width
1	I_D_NUMBER	Numeric	2
2	GENDER	Character	1
3	STATE	Character	2
4	COUNTRY	Character	10
5	Q_1AFFIL	Character	9
6	Q1AFFILOTH	Character	30
7	Q_2OCCUP	Character	1
8	Q2OCCOTH	Character	30
9	Q_3DOE_NON	Character	1
10	Q_4LOOK	Character	15
11	Q4LOOKOTH	Character	10
12	Q5_AWARE	Character	1
13	Q5PUB	Character	30
14	Q5AWAREOTH	Character	30
15	Q_6A_EASY	Character	1
16	Q_6B_ASPEC	Character	8
17	Q6ASPECOTH	Character	10
18	Q_7_1PDF	Character	1
19	Q_7_2MORE	Character	1
20	Q_8COMPUTE	Character	1
21	Q_8COMPNAME	Character	30
22	Q_9INTERNE	Character	1
23	Q_9OTHER	Character	30
24	Q_10MONITO	Character	1
25	Q_11VIDEO	Character	1
26	Q_12AUDIO	Character	1
27	Q_13BROWSE	Character	1
28	Q13CNAME	Character	30
29	Q_14USED	Character	1
30	Q_15PURPOS	Character	13
31	Q15DESCRI	Memo	10
32	Q_16TIME	Character	5
33	Q16MORE	Character	10
34	Q_17FOUND	Character	10
35	Q17FOUNDOT	Character	30
36	Q_18EREN1	Character	1
37	Q18EREN2	Character	1
38	Q18OTHERER	Character	30
39	Q_19SOURCE	Memo	10
40	Q_20ESTTIM	Character	30
41	Q_21_1_ACC	Character	1
42	Q_21_2_CUR	Character	1

43	Q_22BENEFI	Character	1
44	Q22_1	Memo	10
45	Q22_2	Character	1
46	Q22ESTIMAT	Character	10
47	Q_23PASS	Character	1
48	Q23NUMBER	Character	10
49	Q_24A_ASK	Logical	1
50	A_NAME	Memo	10
51	A_IMP	Character	1
52	A_SATIS	Numeric	1
53	A_POTEN	Logical	1
54	Q_24B_EEOF	Logical	1
55	B_NAME	Memo	10
56	B_IMP	Character	1
57	B_SATIS	Numeric	1
58	B_POTEN	Logical	1
59	Q_24C_PART	Logical	1
60	C_NAME	Memo	10
61	C_IMP	Character	1
62	C_SATIS	Numeric	1
63	C_POTEN	Logical	1
64	Q_24D_NEWS	Logical	1
65	D_NAME	Memo	10
66	D_IMP	Character	1
67	D_SATIS	Numeric	1
68	D_POTEN	Logical	1
69	Q_24E_INTL	Logical	1
70	E_NAME	Memo	10
71	E_IMP	Character	1
72	E_SATIS	Numeric	1
73	E_POTEN	Logical	1
74	Q_24F_EDUC	Logical	1
75	F_NAME	Memo	10
76	F_IMP	Character	1
77	F_SATIS	Numeric	1
78	F_POTEN	Logical	1
79	Q_24G_EET	Logical	1
80	G_NAME	Memo	10
81	G_IMP	Character	1
82	G_SATIS	Numeric	1
83	G_POTEN	Logical	1
84	Q_24H_RENE	Logical	1
85	H_NAME	Memo	10
86	H_IMP	Character	1
87	H_SATIS	Numeric	1
88	H_POTEN	Logical	1
89	Q_24I_ENVI	Logical	1
90	I_NAME	Memo	10
91	I_IMP	Character	1
92	I_SATIS	Numeric	1

93	I_POTEN	Logical	1
94	Q_24J_WHAT	Logical	1
95	J_NAME	Memo	10
96	J_IMP	Character	1
97	J_SATIS	Numeric	1
98	J_POTEN	Logical	1
99	Q_24K_ABC	Logical	1
100	K_NAME	Memo	10
101	K_IMP	Character	1
102	K_SATIS	Numeric	1
103	K_POTEN	Logical	1
104	Q_24L_SRCH	Logical	1
105	L_NAME	Memo	10
106	L_IMP	Character	1
107	L_SATIS	Numeric	1
108	L_POTEN	Logical	1
109	Q_24M_UG	Logical	1
110	M_NAME	Memo	10
111	M_IMP	Character	1
112	M_SATIS	Numeric	1
113	M_POTEN	Logical	1
114	Q_24N_EREC	Logical	1
115	N_NAME	Memo	10
116	N_IMP	Character	1
117	N_SATIS	Numeric	1
118	N_POTEN	Logical	1
119	Q_24O_VISU	Logical	1
120	O_NAME	Memo	10
121	O_IMPT	Character	1
122	O_SATIS	Numeric	1
123	O_POTEN	Logical	1
124	Q25ADDED	Memo	10
125	Q26COMMENT	Memo	10

**Energy Efficiency and Renewable Energy Network (EREN)**

**Appendix D**

**EREN User Group Registration Form**



EREN Home

## Energy Efficiency and Renewable Energy Network (EREN)

- Energy Efficiency and Renewable Energy Programs and Offices
- Links to Related Sites • Search • Ask an Energy Expert

# Registration Form

This is a form for registering for the EREN Users Group mailing list. Users Group members are sent e-mail messages about new resources on EREN on a weekly basis.

To register here, your Web browser must support forms. If it does not, please send an e-mail message to [webmaster.eren@nrel.gov](mailto:webmaster.eren@nrel.gov) to register. Please include your complete e-mail address so that we may e-mail messages to you.

The information you provide will help us develop EREN to better serve your needs, and is only for use by developers of EREN.

---

**NAME:**

**COMPLETE E-MAIL ADDRESS:**

**AFFILIATION:**

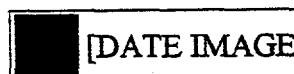
**TYPE OF AFFILIATION/ORGANIZATION**

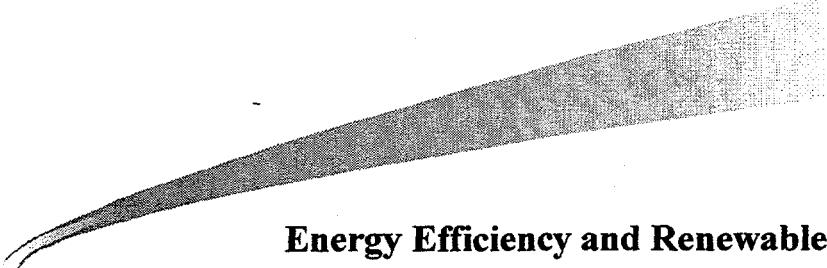
- Academia
- Commercial
- Consumer/Private Citizen
- Federal Government
- State/Local Government
- Utility
- Other

**AREAS OF INTEREST (You may select as many as apply)**

- Agriculture
- Biomass
- Buildings
- Geothermal
- Hydropower
- Industrial
- Ocean Energy
- Photovoltaics
- Solar Thermal
- Transportation
- Wind
- All Energy Efficiency Sectors
- All Renewable Energy Technologies

[EREN Home](#) | [Users Group](#) | [Feedback](#) | [Webmaster](#)

Last updated:  [DATE IMAGE]



## **Energy Efficiency and Renewable Energy Network (EREN)**

### **Appendix E**

#### **EREN Resource Pages**



EREN Home

## Energy Efficiency and Renewable Energy Network (EREN)

- Energy Efficiency and Renewable Energy Programs and Offices
- Links to Related Sites
- Search
- Ask an Energy Expert

### Ask an Energy Expert

Please use the form below to submit your questions on energy-efficient and renewable energy technologies. A specialist at the Energy Efficiency and Renewable Energy Clearinghouse (EREC) will respond by mail, e-mail, or telephone as soon as possible. To request assistance or information directly, you may contact EREC by calling 1-800-363-3732, writing EREC, P.O. Box 3048, Merrifield, VA 22116-0121, sending e-mail to [doe.erec@nciinc.com](mailto:doe.erec@nciinc.com), by fax at 1-703-893-0400, or through our computer bulletin board system at 1-800-273-2955.

Please submit comments pertaining to EREN content and resources to the EREN webmaster at [webmaster.eren@nrel.gov](mailto:webmaster.eren@nrel.gov).

**Note: Entering your e-mail address below will ensure a faster response from an EREC specialist. If you do not enter your e-mail address, you will receive a response in the mail in 2-3 weeks.**

**First Name:****MI:****Last Name:****Organization:****Address:****City:****State: Zip Code:****Country:****Phone:** (For example : 7035551234)**Fax:** (For example : 7035551234)**E-mail:****Profession:****Please input your question:**

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Last updated: [DATE IMAGE]



## Energy Efficiency and Renewable Energy Network (EREN)

- Energy Efficiency and Renewable Energy Programs and Offices
- Links to Related Sites • Search • Ask an Energy Expert

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We reserve the right to make all decisions in regard to what material is added to EREN, including the right to reject submissions.

Although this site is Netscape enhanced, EREN is currently checked for proper display on all commonly available browsers. This site is best viewed with monitors that display 256 or more colors.

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Last updated: [DATE IMAGE]



## Energy Efficiency and Renewable Energy Network (EREN)

- Energy Efficiency and Renewable Energy Programs and Offices
- Links to Related Sites • Search • Ask an Energy Expert

[EREN Home](#)

# Alphabetical Listing of All Sites

## A

- [AAA Solar Service and Supply](#)
- [AES Alternative Energy Systems Inc.](#)
- [AESPA-Net mailing list](#)
- [AFDC Update](#)
- [Affordable Comfort Housing Performance Association](#)
- [Aircomp Engineering Ltd.](#)
- [Alliance to Save Energy](#)
- [alt.energy.homepower news group](#)
- [alt.energy.renewable news group](#)
- [alt.solar.photovoltaic news group](#)
- [alt.solar.thermal news group](#)
- [Alternative Energy Engineering](#)
- [Alternative Energy mailing list](#)
- [Alternative Fueled Vehicle Acquisition Requirements for Private and Local Government Fleets](#)
- [Alternative Fuels Data Center](#)
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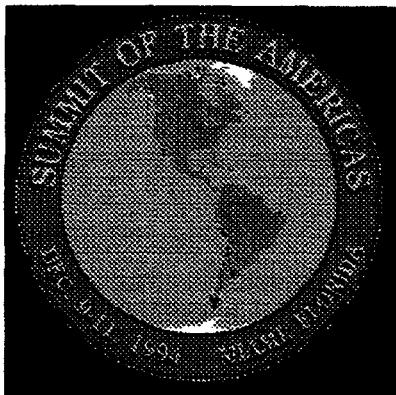
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## Website on Hemispheric Experiences in Energy Efficiency and Renewable Energy

*Prepared by the U.S. Department of Energy, Office of Energy Efficiency and Renewable Energy*

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The Declaration of Principles from the Summit of the Americas, held in December 1994, strongly endorsed the need to "create cooperative partnerships...to encourage clean, efficient, and sustainable energy production and use". As a partner in the subsequent Hemispheric Energy Symposium, the Office of Energy Efficiency and Renewable Energy of the U.S. Department of Energy has created this Internet website to share experiences in the Western Hemisphere in implementing energy efficiency and renewable energy. While the initial information is primarily focused on the U.S. because the Office has the most information on U.S. experiences, over time experiences throughout the hemisphere will be added to this website.

- For further information about hemispheric experiences in energy efficiency and renewable energy throughout the hemisphere, [go here](#).
- For further information within the Department of Energy on energy efficiency and renewable energy in the U.S. and abroad, please visit the [Energy Efficiency and Renewable Energy Network \(EREN\)](#)

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- [sci.energy news group](#)
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- [Centre for the Analysis and Dissemination of Demonstrated Energy Technologies - Renewable Energy Centre](#)
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- [alt.energy.renewable.news.group](#)
- [Alternative Energy Engineering](#)
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# Ocean

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- [AES Alternative Energy Systems Inc.](#)
- [alt.energy.homepower news group](#)
- [alt.energy.renewable news group](#)
- [alt.solar.photovoltaic news group](#)
- [alt.solar.thermal news group](#)
- [Alternative Energy Engineering](#)
- [Alternative Energy mailing list](#)
- [American Solar Energy Society](#)
- [Ananda Power Technologies](#)
- [Ascension Technology, Inc.](#)
- [Association of State Energy Research and Technology Transfer Institutions \(ASERTTI\)](#)
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- [NOAA National Environmental Data Referral Service \(NEDRES\)](#)
- [North Carolina Solar Center](#)

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- [Passive Solar Industries Council](#)
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- [Photovoltaics Program - U.S. Department of Energy](#)
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- [Thermomax USA](#)
- [Three-D Software Solar Energy and Architecture Index](#)
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## Wind

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- [alt.energy.renewable news group](#)
- [Alternative Energy Engineering](#)
- [Alternative Energy mailing list](#)
- [American Wind Energy Association](#)
- [Association of State Energy Research and Technology Transfer Institutions \(ASERTTI\)](#)
- [Berkeley Windpower Co.](#)
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- [HOME TEAM \(HOME Technology Education and Marketing\)](#)
- [House of Straw: Straw Bale Construction Comes of Age](#)
- [Howard Associates](#)
- [Hy-Save, Inc.](#)
- [IAEEL Newsletter](#)
- [inter.Light](#)
- [International Association for Energy-Efficient Lighting](#)
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- [International Energy Agency Energy Conservation in Buildings and Community Systems Programme](#)
- [International Energy Agency Heat Pump Centre](#)
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- [Office of Building Technology, State, and Community Programs](#)
- [Ohio Office of Energy Efficiency](#)
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- [Pacific Northwest National Laboratory Advanced International Studies Unit](#)
- [Passive Solar Industries Council](#)
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- [Power Smart](#)
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- [Residential Energy Efficiency Database](#)
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- [Retro-Vision](#)
- [Rocky Mountain Institute](#)
- [RSPEC: Reduce Swimming Pool Energy Costs](#)
- [sci.energy news group](#)
- [sci.engr.lighting news group](#)
- [Small Business Tips](#)
- [Solar Outdoor Lighting, Inc.](#)
- [Solar Survival Architecture](#)
- [Solar Utilities Network](#)
- [Solstice \(CREST Home Page\)](#)
- [Source \(IGSHPA Newsletter\)](#)
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- [Sunlight Homes](#)
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- [Sustainable Energy Guide: International Resources for Energy Efficiency and Renewable Energy](#)
- [Sustainable Energy Strategy: Clean and Secure Energy for a Competitive Economy](#)
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- [Technical University of Denmark Department of Buildings and Energy](#)
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- [University College Dublin Energy Research Group](#)
- [University of California Berkeley Building Science](#)
- [University of Oregon Energy Studies in Buildings Laboratory](#)
- [US Department of Energy Building Energy Tools Directory](#)

- [US Department of Energy Building Standards and Guidelines Program](#)
- [User News](#)
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- [Utah State University Energy Web](#)
- [Volt VIEWtech](#)
- [Washington State University Cooperative Extension Energy Program](#)
- [WaterFurnace International Inc.](#)
- [Wisconsin Energy Bureau](#)
- [World Bank Power Development, Efficiency and Household Fuels Division](#)
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## Industrial

Below is list of EREN's industrial-related links. For a comprehensive list of industrial-related links, access the [Office of Industrial Technologies](#)' list of [Industrial Technologies Links](#), which includes [Industries of the Future](#), [Industrial Crosscutting Technology Programs](#), and [Technology Transfer/Technology Access](#) links.

- [Aircomp Engineering Ltd.](#)
- [American Council for an Energy-Efficient Economy](#)
- [American Energy Month](#)
- [APP-TECH Inc.](#)
- [Association of Energy Engineers](#)
- [Association of State Energy Research and Technology Transfer Institutions \(ASERTID\)](#)
- [Beijing Energy Efficiency Center](#)
- [Belform Insulation Ltd.](#)
- [Benefits and Breakthroughs](#)
- [California Institute for Energy Efficiency](#)
- [Centre for the Analysis and Dissemination of Demonstrated Energy Technologies - Energy Efficiency Centre](#)
- [Centre for the Analysis and Dissemination of Demonstrated Energy Technologies - U.S. Energy Efficiency National Team](#)
- [Ceramic Technology Newsletter](#)
- [Clean Energy Finance](#)
- [COBRA: The Association of Cogeneration, Boiler, and Refrigeration Professionals](#)
- [Con.Web](#)
- [Conservation Update](#)
- [Department of Energy Boston Regional Support Office](#)
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- [Electric Power Research Institute \(EPRI\)](#)
- [Energy Center of Wisconsin](#)
- [Energy Efficiency and Renewable Energy Clearinghouse \(EREC\) BBS Web Site](#)
- [Energy Ideas Clearinghouse](#)
- [Energy Management Association of New Zealand](#)
- [Energy Partnerships for a Strong Economy \(Virtual Green Room\)](#)
- [Energy Partnerships Update](#)
- [Energy Science and Technology Database \(EDB\)](#)
- [Energy Useful Facts - October 1994](#)
- [Energy-Water Connection](#)
- [Energy-Wise News](#)
- [EUA Cogenex](#)
- [European Commission Directorate-General XVII \(Energy\)](#)
- [Hemispheric Experiences in Energy Efficiency and Renewable Energy](#)

- [Industrial Projects Locator](#)
- [Industrial Technology Institute Energy and Environmental Center](#)
- [International Energy Agency Heat Pump Centre](#)
- [International Institute for Energy Conservation](#)
- [L-Enews mailing list](#)
- [Motor Challenge Program](#)
- [National Technology Transfer Center](#)
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- [Photographic Information eXchange \(PIX\)](#)
- [Programa Andino de Integracion Energetica](#)
- [Public Technology Inc. Urban Consortium Energy Task Force](#)
- [Rutgers Office of Industrial Productivity and Energy Assessment WWW Server](#)
- [sci.energy news group](#)
- [Solstice \(CREST Home Page\)](#)
- [Sustainable Energy Guide: International Resources for Energy Efficiency and Renewable Energy](#)
- [Sustainable Energy Strategy: Clean and Secure Energy for a Competitive Economy](#)
- [Turning Point](#)
- [University of Florida Industrial Assessment Center](#)
- [Utah Office of Energy Services](#)
- [Washington State University Cooperative Extension Energy Program](#)
- [World Energy Efficiency Association](#)

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- [American Energy Month](#)
- [Association of State Energy Research and Technology Transfer Institutions \(ASERTTD\)](#)
- [California Energy Commission](#)
- [California Institute for Energy Efficiency](#)
- [CALSTART](#)
- [Center of Excellence for Sustainable Development](#)
- [Centre for the Analysis and Dissemination of Demonstrated Energy Technologies - U.S. Energy Efficiency National Team](#)
- [Ceramic Technology Newsletter](#)
- [Cities and Counties Project](#)
- [Conservation Update](#)
- [De Montfort University Institute of Energy and Sustainable Development](#)
- [Defense Advanced Research Projects Agency Electric and Hybrid Vehicle National Data Center](#)
- [Department of Energy Boston Regional Support Office](#)
- [Department of Energy Golden Field Office](#)
- [EcoElectric Corporation](#)
- [Electric Fuel Corporation](#)
- [Electric Power Research Institute \(EPRI\)](#)
- [Electric Vehicle Association of the Americas](#)
- [Electric Vehicle Images](#)
- [Electric Vehicles mailing list](#)
- [Energy Conservation Enhancement Project](#)
- [Energy Efficiency and Renewable Energy Clearinghouse \(EREC\) BBS Web Site](#)
- [Energy Ideas Clearinghouse](#)
- [Energy Quest](#)
- [Energy Science and Technology Database \(EDB\)](#)
- [Energy Useful Facts - October 1994](#)
- [Florida Solar Energy Center](#)
- [Fuel Economy Guide](#)
- [Greenhouse Gas Miser Handbook](#)
- [Hemispheric Experiences in Energy Efficiency and Renewable Energy](#)
- [Hybrid Electric Vehicle Program](#)
- [Idaho National Engineering Laboratory Hybrid and Electric Vehicle Research](#)
- [Innovative Transportation Technologies](#)
- [International Institute for Energy Conservation](#)
- [Jade Mountain, Inc.](#)
- [L-Enews mailing list](#)
- [National Technology Transfer Center](#)
- [Natural Resources Canada Energy Sector](#)
- [New York State Energy Research and Development Authority](#)

- [NREL Publications Data Base](#)
- [Oak Ridge National Laboratory Energy Efficiency and Renewable Energy Program](#)
- [Office of Transportation Technologies](#)
- [Office of Transportation Technologies Kids Page](#)
- [OTT Times](#)
- [Partnership for a New Generation of Vehicles \(PNGV\)](#)
- [Phoenix Chapter Electric Auto Association](#)
- [Photographic Information eXchange \(PIX\)](#)
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- [Real Goods](#)
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- [sci.energy news group](#)
- [Simpler Solar Systems, Inc.](#)
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- [Solstice \(CREST Home Page\)](#)
- [Southern Coalition for Advanced Transportation](#)
- [SRI International Transportation Projects and Publications](#)
- [Sustainable Energy Guide: International Resources for Energy Efficiency and Renewable Energy](#)
- [Sustainable Energy Strategy: Clean and Secure Energy for a Competitive Economy](#)
- [Tellus Institute Energy Group](#)
- [Texas State Energy Conservation Office](#)
- [Union of Concerned Scientists](#)
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- [American Council for an Energy-Efficient Economy](#)
- [American Energy Month](#)
- [Association of Energy Services Professionals](#)
- [Association of State Energy Research and Technology Transfer Institutions \(ASERTTI\)](#)
- [Beijing Energy Efficiency Center](#)
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- [California Energy Commission](#)
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- [Centre for the Analysis and Dissemination of Demonstrated Energy Technologies - U.S. Energy Efficiency National Team](#)
- [Cities and Counties Project](#)
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- [Climate Challenge](#)
- [COBRA: The Association of Cogeneration, Boiler, and Refrigeration Professionals](#)
- [Con. Web](#)
- [Conservation Update](#)
- [Department of Energy Boston Regional Support Office](#)
- [Department of Energy Golden Field Office](#)
- [Electric Power Research Institute \(EPRI\)](#)
- [Energy and Regulatory Matters Information Service](#)
- [Energy Center of Wisconsin](#)
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- [Iowa Association of Municipal Utilities](#)
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- [Natural Resources Canada Energy Sector](#)
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- [Photographic Information eXchange \(PIX\)](#)
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- [Public Technology Inc. Urban Consortium Energy Task Force](#)
- [Quantum Consulting Inc.](#)
- [sci.energy news group](#)
- [Solstice \(CREST Home Page\)](#)
- [State Renewable Energy News](#)
- [Superconductivity for Electric Systems](#)
- [Sustainable Energy Guide: International Resources for Energy Efficiency and Renewable Energy](#)
- [Tellus Institute Energy Group](#)
- [UNEP Collaborating Centre on Energy and Environment](#)
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- [World Bank Power Development, Efficiency and Household Fuels Division](#)
- [World Energy Efficiency Association](#)

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### Education and Training

- [CENSOLAR](#)
- [Center for Environmental Education](#)
- [Centre for Alternative Technology](#)
- [Directory of Energy-Related Graduate Programs in U.S. Universities](#)
- [Earth Dog](#)
- [Energy Conservation Enhancement Project](#)
- [Energy Education Resources](#)
- [Energy Efficiency and Renewable Energy Clearinghouse \(EREC\) BBS Web Site](#)
- [Energy Quest](#)
- [EnergyNet Community Web](#)
- [Four-H Energy Education Resources Database](#)
- [Free Energy Video](#)
- [Geothermal Education Office](#)
- [IASEE-L mailing list](#)
- [National Energy Foundation](#)
- [Renewable Energy Education Module](#)
- [Solar Now](#)
- [Solar Utilities Network](#)
- [Sun's Joules](#)
- [Sustainable Energy Guide: International Resources for Energy Efficiency and Renewable Energy](#)
- [Wind Fair '96](#)

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- [Center of Excellence for Sustainable Development](#)
- [Cities and Counties Project](#)
- [Clean Cities](#)
- [Clean Cities Drive](#)
- [Climate Alliance of European Cities](#)
- [Climate Challenge](#)
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- [Global Change](#)
- [Global Change Data and Information System](#)
- [Global Network for Environment and Technology](#)
- [Greenhouse Gas Miser Handbook](#)
- [Greenhouse Gas Technology Information Exchange \(GREENTIE\)](#)
- [Industrial Technology Institute Energy and Environmental Center](#)
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- [Natural Resources Canada Energy Sector](#)
- [NOAA National Environmental Data Referral Service \(NEDRES\)](#)
- [Office of Industrial Technologies](#)
- [Public Utilities Commission of Ohio Global Climate Change Site](#)
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- [Sustainable Energy Guide: International Resources for Energy Efficiency and Renewable Energy](#)
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- [Union of Concerned Scientists](#)
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- [AES Alternative Energy Systems Inc.](#)
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- [Ananda Power Technologies](#)
- [APP-TECH Inc.](#)
- [Arkenol Inc.](#)
- [Ascension Technology, Inc.](#)
- [Belform Insulation Ltd.](#)
- [Bergey Windpower Co.](#)
- [Building Load Analysis and System Thermodynamics \(BLAST\) Worldwide](#)
- [CALSTART](#)
- [Center for Resourceful Building Technology](#)
- [Centre for Alternative Technology](#)
- [CleanEnergy](#)
- [Communications International Inc.](#)
- [Conserval SOLARWALL](#)
- [EASY: The Whole House Energy Audit](#)
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- [Enchanted Tree Software](#)
- [ENCO](#)
- [Eneraction, Inc.](#)
- [Energy Federation, Inc.](#)
- [Energy Information Administration \(EIA\)](#)
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- [Engineered Systems Inc.](#)
- [Environmental Building News](#)
- [EUA Cogenex](#)
- [EUA Nova](#)
- [Florida Heat Pump](#)
- [Florida Solar Energy Center Building Design Assistance Center](#)
- [Go Solar](#)
- [Goshen Timber Frames](#)
- [Graywater Heat Recovery System: GFX](#)

- [Holly Solar Power Products](#)
- [HOME TEAM \(HOME Technology Education and Marketing\)](#)
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- [Industrial Technology Institute Energy and Environmental Center](#)
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- [National Affordable Housing Network](#)
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- [PC Application Systems](#)
- [Photocomm, Inc.](#)
- [Photon Technologies, Inc.](#)
- [Polysteel Forms](#)
- [Power Smart](#)
- [Prairie Wind & Sun](#)
- [Proctor Engineering Group](#)
- [Quantum Consulting Inc.](#)
- [Rainbow Power Company Ltd.](#)
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- [Residential Energy Efficiency Database](#)
- [Siemens Solar Industries](#)
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- [Solar Design Associates, Inc.](#)
- [Solar Electric Specialties Co.](#)
- [Solar Energy Industries Association Members Database](#)
- [Solar Outdoor Lighting, Inc.](#)
- [Solar Plus](#)
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- [This Whole House](#)
- [Three-D Software Solar Energy and Architecture Index](#)
- [VoltVIEWtech](#)
- [WaterFurnace International Inc.](#)
- [World Directory of Renewable Energy Suppliers and Services](#)
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- [Enchanted Tree Software](#)
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- [Energy Design Tools](#)
- [Energy Efficiency and Renewable Energy Clearinghouse \(EREC\) BBS Web Site](#)
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- [Laboratoire d'Energie Solaire et de Physique du Bâtiment](#)
- [Lawrence Berkeley National Laboratory Center for Building Science](#)
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# Energy Efficiency and Renewable Energy (EE) Programs and Offices

Learn About EE here.

Here is what we're doing in:

### Building Technology, State, and Community Programs

Information about advanced building technologies, systems, and partnership opportunities that promote energy efficiency, renewable energy, and pollution prevention are posted here. This site is under development and currently contains links to software for evaluating energy efficiency and renewable energy options in buildings.

### Federal Energy Management

The Federal Energy Management Program (FEMP) provides information and technical assistance, creates partnerships, and leverages resources for reducing energy use in Federal buildings and operations. This site also provides information on project financing, descriptions of FEMP greening initiatives, and guidelines for Federal procurement of energy efficient products.

### Industrial Technologies

The Office of Industrial Technologies (OIT) site focuses on applying energy efficiency, renewable energy, and other pollution prevention options in the industrial sector. Information on OIT programs such as Industries of the Future and Motor Challenge, its research and development activities, and inventions can be found here.

### Transportation Technologies

This site provides a gateway to information about transportation energy efficiency measures in the U.S. You can find transportation rules and legislation, information on the latest technological advances, and tips on how to drive greener today.

### Utility Technologies

The Office of Utility Technologies (OUT) site is under construction. While only some of the OUT programs are currently represented, information about hydrogen, wind

energy, and solar power generation initiatives, case studies of successful renewable energy projects by utilities, and details on other OUT projects are presented.

Here are links to our:

Golden Field Office

Regional Support Offices

Center of Excellence for Sustainable Development

International Initiatives

National Laboratories

Learn about Partnering with EE.

View the Photographic Information eXchange (PIX) collection of energy efficiency and renewable energy photographs.

And to apply energy-saving or clean energy generation technologies, try the consumer information available from EE's Energy Efficiency and Renewable Energy Clearinghouse (EREC).

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# Codes and Regulations

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- [Energy Ideas Clearinghouse](#)
- [Federal Register](#)
- [Final Rule and Guidebook for the Alternative Fuel Transportation Program](#)
- [Home Energy Rating System Guidelines](#)
- [Minnesota Department of Public Service Energy Information Center](#)
- [National Association of State Energy Officials](#)
- [Oregon Office of Energy](#)
- [State and Federal Alternative Fuel Vehicle Laws and Tax Incentives](#)
- [US Department of Energy Building Standards and Guidelines Program](#)
- [Washington State University Cooperative Extension Energy Program](#)

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- [Cities and Counties Project](#)
- [Federal Budget](#)
- [National Awards Program for Energy Efficiency and Renewable Energy](#)
- [Olympics - Team Energy](#)
- [R&D 100 Awards](#)
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- [Sustainable Energy Strategy: Clean and Secure Energy for a Competitive Economy](#)

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- Energy Efficiency and Renewable Energy Programs and Offices
- Links to Related Sites • Search • Ask an Energy Expert

---

## Newsletters and Magazines

- [AFDC Update](#)
- [Alternative Fuels in Trucking](#)
- [Benefits and Breakthroughs](#)
- [Biofuels Update](#)
- [CADDET Renewable Energy Newsletter](#)
- [Center for Building Science News](#)
- [Ceramic Technology Newsletter](#)
- [Clean Cities Drive](#)
- [Clean Energy Finance](#)
- [Con. Web](#)
- [Conservation News](#)
- [Conservation Update](#)
- [e-design Online](#)
- [Energy Crops Forum Newsletter](#)
- [Energy Currents](#)
- [Energy Design Update](#)
- [Energy Partnerships Update](#)
- [Energy Source Builder Newsletter](#)
- [Energy-Wise News](#)
- [Environmental Building News](#)
- [Federal Register](#)
- [Global Change](#)
- [Home Energy Online](#)
- [Home Power Magazine](#)
- [IAEEL Newsletter](#)
- [IEA Wind Newsletter](#)
- [OTT Times](#)
- [Renewable Energy for Development](#)
- [RESNET Notes](#)
- [Retro-Vision](#)
- [Source \(GSHPA Newsletter\)](#)
- [State Renewable Energy News](#)
- [Sustainable Energy News](#)
- [Sustainable Minnesota Newsletter](#)
- [Technologies for Energy Management](#)
- [Turning Point](#)
- [User News](#)
- [Windpower Monthly News Magazine](#)

Last updated: [DATE IMAGE]



## Energy Efficiency and Renewable Energy Network (EREN)

- Energy Efficiency and Renewable Energy Programs and Offices
- Links to Related Sites • Search • Ask an Energy Expert

## About EREN

Welcome to EREN -- the Office of Energy Efficiency and Renewable Energy's (EE) premier resource for information on the Internet about renewable energy and energy efficiency technologies.

EREN and the Energy Efficiency and Renewable Energy Clearinghouse (EREC) are the primary components of the EE's Customer Service Center. If you want more information about EREC and EREN, please view our brochure.

## EREN Services

Register with the EREN Users Group to receive email messages about What's New on EREN.

Use the Add a Site form to request a link to your Internet resource.

Send us your feedback to help us improve EREN.

Submit your questions on energy efficiency and renewable energy technologies to EREC specialists using the Ask an Energy Expert form.

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## Energy Efficiency and Renewable Energy Network (EREN)

- Energy Efficiency and Renewable Energy Programs and Offices
- Links to Related Sites • Search • Ask an Energy Expert

EREN Home

## Kids' Stuff

- [Earth Dog](#)
- [Energy Quest](#)
- [Learning About Renewable Energy](#)
- [Learning About Saving Energy](#)
- [Office of Transportation Technologies Kids Page](#)
- [Solar Energy Science Projects](#)
- [Solar Heating and You](#)
- [Solar Now](#)

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**Energy Efficiency and Renewable Energy Network (EREN)**

**Appendix F**

**List of Internet Sources**

## List of Internet Sources

1. American Wind Energy Association  
[www.igc.apc.org/awea](http://www.igc.apc.org/awea)
2. Argonne National Laboratory Home Page  
[www.anl.gov](http://www.anl.gov)
3. Berkeley Lab Currents  
[www.lbl.gov/publications/currents/archive/June-13-1997.html](http://www.lbl.gov/publications/currents/archive/June-13-1997.html)
4. CADDET (IEA/OEDC): renewable energy home page  
[www.cadet.co.uk](http://www.cadet.co.uk)
5. Center of Excellence for sustainable Development  
[www.sustainable.doe.gov](http://www.sustainable.doe.gov)
6. Clean Cities: partnerships for a strong economy  
[www.ccities.doe.gov](http://www.ccities.doe.gov)
7. Climate Analysis Section  
[www.cqd.ucar.edu:80/cas](http://www.cqd.ucar.edu:80/cas)
8. Department of Energy Fossil Energy Home Page  
[coal.fe.doe.gov](http://coal.fe.doe.gov)
9. Energy Information Administration (EIA)  
[www.esource.com/](http://www.esource.com/)
10. E Source  
[www.esource.com/](http://www.esource.com/)
11. E-Source, Electronics OEM's, Distributors and News  
[www.electsource.com](http://www.electsource.com)
12. Electric Power Research Institute  
[www.epri.com](http://www.epri.com)
13. Energy and Statistical Information on the Web  
[www.eia.doe.gov/links.html](http://www.eia.doe.gov/links.html)
14. Energy Conferences - June 1997 (revised 6/18/97)  
<ftp://204.243.73.5/library/main/a&c.txt>
15. Energy Information Administration  
[www.eia.doe.gov](http://www.eia.doe.gov)

16. Energy Yellow Pages  
[www.ccnet.com/~nep/yellow.htm](http://www.ccnet.com/~nep/yellow.htm)
17. Energy Quest  
[www.energy.ca.gov/education](http://www.energy.ca.gov/education)
18. EnergyWise  
[www.energywise.com](http://www.energywise.com)
19. Energy-Wise News Magazine  
[www.energywise.co.nz](http://www.energywise.co.nz)
20. Eole: les eoliennes et l'energie du vent  
[www.eole.org](http://www.eole.org)
21. EREC Fact Sheets  
[www.eren.doe.gov/eren/factsheets/factsheets.html](http://www.eren.doe.gov/eren/factsheets/factsheets.html)
22. Ernest Orlando Lawrence Berkeley National Laboratory  
[www.lbl.gov](http://www.lbl.gov)
23. Export Council for Energy Efficiency  
[www.ecee.org](http://www.ecee.org)
24. Gas Research Institute (GRI) Information Service: GRINET  
[www.gri.org](http://www.gri.org)
25. Home Power: the hands-on journal of home-made power  
[www.homepower.com/hp](http://www.homepower.com/hp)
26. Informant  
[informant.dartmouth.edu](http://informant.dartmouth.edu)
27. International Ground Source Heat Pump Association: Homepage  
[www.igshpa.okstate.edu](http://www.igshpa.okstate.edu)
28. Keep it simple systems: solar chargers for portable computers  
[wildwestweb.com/public/kiss.html](http://wildwestweb.com/public/kiss.html)
29. Lighting Resource  
[www.webcom.com/~lightsrc/](http://www.webcom.com/~lightsrc/)
30. Mercury Mail, Inc.  
[www.merc.com](http://www.merc.com)
31. METEOR: Lighting Resources  
[www.meteor-usa.com/links](http://www.meteor-usa.com/links)

32. New Resources on EREN - 1/14/97 & 6/19/97
33. Newsgroup: Alt.energy.renewable  
news.alt.energy.renewable
34. Open Text Index: the Internet's Home Page  
index.opentext.net
35. (PTTC) Petroleum Technology Transfer Council: the national technology clearinghouse for oil and gas producers  
[www.pttc.org/hq/index.html](http://www.pttc.org/hq/index.html)
36. Power Search: a service of Power Publishing  
[spring-board.com/one/powerpub/search.html](http://spring-board.com/one/powerpub/search.html)
37. Real Goods: Everything under the sun  
[www.realgoods.com](http://www.realgoods.com)
38. Small Guide: NetMagazine Renewable energy  
[www.edf.fr/html/en/mag/renouv/7.htm](http://www.edf.fr/html/en/mag/renouv/7.htm)
39. Solstice: Sustainable Energy and Development Online  
[solstice.crest.org](http://solstice.crest.org)
40. Sunrayce Central  
[www.sunrayce.com](http://www.sunrayce.com)
41. Transformation Research Information Services (TRIS)  
[www.nas.edu/trb/about/tris.html](http://www.nas.edu/trb/about/tris.html)
42. United States Department of Energy Home Page  
[www.doe.gov](http://www.doe.gov)
43. University of California Energy Institute: Home Page  
[www-ucenergy.eecs.berkeley.edu/ucenergy/](http://www-ucenergy.eecs.berkeley.edu/ucenergy/)
44. Vivid.net internet services  
[www.vivid.net/vividHome.html-ssi](http://www.vivid.net/vividHome.html-ssi)
45. Washington State University Cooperative Extension Energy Program  
[web01.energy.wsu.edu](http://web01.energy.wsu.edu)



# American Wind Energy Association

*This site last updated: 14 June 1997*

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Help the Clean Air Conservancy stop air pollution!

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**MEMBERSHIP** | **PUBLICATIONS** | **FREE NEWSLETTER** | **WRITE US** | **POLICY SHOP**  
**WIND ENERGY FAQ**

---

Wind energy, a clean and renewable source of electric power, is currently the world's fastest growing energy technology. Since 1974 the American Wind Energy Association (AWEA) has advocated the development of wind energy as a reliable, environmentally-superior energy alternative in the United States and around the world. Please join us in this effort by becoming an AWEA member.

Check What's New for the latest additions to this site.

Catalog of Wind Energy Publications. A one-stop shop for your wind energy information needs.

Events Calendar. A list of upcoming events that involve wind energy.

Frequently Asked Questions About Wind Energy. Includes a list of small wind turbine manufacturers and case studies of operating wind energy projects.

Wind Energy and Energy Policy. Information on utility restructuring and other policy issues, Congressional testimony, and more.

Wind Energy News from AWEA: News releases on topics important to the future of clean energy.

Wind Energy Technical Information: Technical papers, standards news, and other topics of interest.

Wind Energy Weekly. Follow news of the wind industry, global climate change, and energy policy with Wind Energy Weekly.

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## Other Wind Energy Links

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*American Wind Energy Association (AWEA)*  
122 C Street, NW, Fourth Floor  
Washington, DC 20001 USA  
Phone (202) 383-2500

*Fax (202) 383-2505*

*E-mail: [windmail@mcimail.com](mailto:windmail@mcimail.com)*



# American Wind Energy Association

*This site last updated: 28 April 1997*

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Help the [Clean Air Conservancy](#) stop air pollution!

---

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[FREE NEWSLETTER](#) | [WRITE US](#) | [POLICY SHOP](#)  
[WIND ENERGY FAQ](#)

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[Wind Energy Technical Information](#): Technical papers, standards news, and other topics of interest.

[Wind Energy Weekly](#). Follow news of the wind industry, global climate change, and energy policy with [Wind Energy Weekly](#).

Latest information on [Windpower '97](#), AWEA's annual conference and trade show.

[Other Wind Energy Links](#)

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[American Wind Energy Association \(AWEA\)](#)

*122 C Street, NW, Fourth Floor  
Washington, DC 20001 USA  
Phone (202) 383-2500  
Fax (202) 383-2505  
E-mail: windmail@mcimail.com*

[Text-Only Homepage](#)

---

Welcome to Argonne National Laboratory's home page, the gateway to Argonne's electronic information resources. One of the nation's largest federally funded scientific laboratories, Argonne is operated by the [University of Chicago](#) as part of the [U.S. Department of Energy](#)'s national laboratory system.

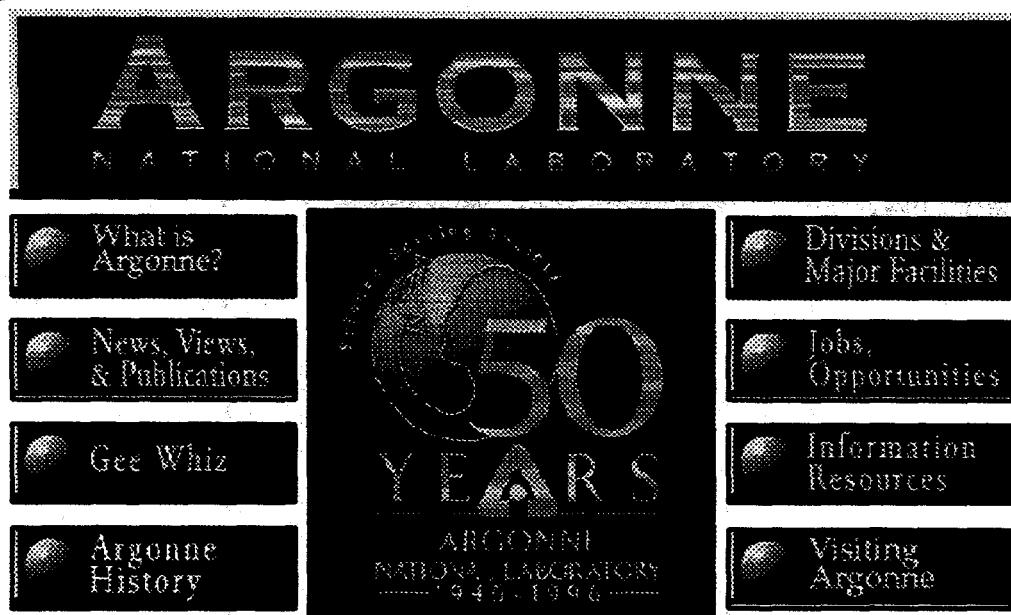
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The Argonne World Wide Web Home Page is managed by the Electronics and Computing Technologies Division. For assistance contact: [webmaster@anl.gov](mailto:webmaster@anl.gov).

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Welcome to Argonne National Laboratory's home page, the gateway to Argonne's electronic information resources. One of the nation's largest federally funded scientific laboratories, Argonne is operated by the [University of Chicago](#) as part of the [U.S. Department of Energy](#)'s national laboratory system.

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For more information on  
these events, see this week's

Conferences and  
special events now have  
their own page.

## For the week of June 9, 1997

June 9	Seminar: "GASFLOW: An Integral 3D CFD Code for Simulation of Hydrogen Distribution & Combustion ...." 10 a.m., Bldg. 208, Rm. A138.	Seminar: "Effects of Double Anharmonic Photon Excitation in $^{16}\text{O} + ^{144}\text{Sm}$ Fusion Reaction at Subbarrier Energies," 10:30 a.m., Bldg. 203, Rm. B221.	Seminar: "Calculability in Scalar Field Theory," 2 p.m., Bldg. 362, Rm. E188.	Seminar: "Fission Dynamics & Fragrant Angular Anisotropies," 3:30 p.m., Bldg. 203, Rm. R150.	Pool Opens: The ANL-East pool opens for the summer. Open swim periods are 1 p.m.-7p.m. weekdays & 11 a.m.-7 p.m.-weekends. Cost is \$2 for adults, \$1.50 for children.
June 10	Seminar: "Thermal In Situ Bioremediation: A Preliminary Evaluation," 10 a.m., Bldg. 900 Rm. A04.	Seminar: "Physico-Mechanical Properties of High-Tc Superconductors," 10:30 a.m., Bldg. 212, Rm. A157.	Introduction to Windows '95, 8:30 a.m.-11:30 a.m. or 1:30 p.m.-4:30 p.m., Bldg. 362, Rm. E188. Call 2-3410 for information.		
June 11	Mammograms, breast examinations & individual instruction on self-exam will be held in the Medical Dept. in Bldg. 201. Call 2-2813 for information.	Word 7.0 Introduction, 8:30 a.m.-11:30 a.m., Bldg. 362, Rm. E188. Call 2-3410 for information.	Word 7.0: Formatting Documents, 1:30 p.m.-4:30 p.m., Bldg. 362, Rm. E188. Call 2-3410 for information.		

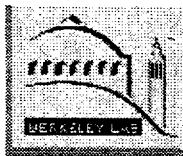
June  
12

June  
13

## For the week of June 16, 1997

June 16	Youth swimming lessons begin at 9 a.m. Call 2-7602 for more information.	Seminar: "Risk of Extreme & Catastrophic Events," 10:30 a.m., Bldg. 900, Rm. A04.	
June 17	Seminar: "Application of a Mechanistic Model for Radiation-Induced Amorphization & Crystallization of Uranium Silicide to Recrystallization of UO <sub>2</sub> ," 10:30 a.m., Bldg. 212, Rm. A157.	Intermediate Windows '95, 8:30 a.m.-11:30 a.m. or 1:30 p.m.-4:30 p.m., Bldg. 362, Rm. E188. Call 2-3410 for information.	
June 18	Excel 7.0: Managing Workbooks, 8:30 a.m.-11:30 a.m., Bldg. 362, Rm. E188. Call 2-3410 for information.	Excel 7.0: Organizational Tools, 1:30 p.m.-4:30 p.m., Bldg. 362, Rm. E188. Call 2-3410 for information.	
June 19	Seminar: "Forty Years of Tunnel-Emission Devices: From Cold Cathodes to Catalysis/Femtochemistry," 11 a.m., Bldg. 223, Rm. S105.	Excel 7.0: Creating Charts, 8:30 a.m.-11:30 a.m., Bldg. 362, Rm. E188. Call 2-3410 for information.	Excel 7.0: Advanced Functions, 1:30 p.m.-4:30 p.m., Bldg. 362, Rm. E188. Call 2-3410 for information.
June 20			

*This calendar is maintained by the Office of Public Affairs.  
For information, contact Argonne News Editor Dave Jacque.*



# Berkeley Lab Currents

## June 13, 1997

- [Secretary of Energy Peña Stresses Value of National Labs During Oakland Visit](#)
- [Community Group Sues Lab Hazardous Waste Handling Facility target of legal action](#)
- [Berkeley Lab to Offer Revamped Security Services](#)
- [Focus on Tritium](#)
- [Parking/Badging Office Becoming Site Access Office](#)
- [Spotlight on Technology](#)
- [In Memoriam-Robert Serber](#)
- [Special Report: Risk Assessment Says Lab's Tritium Emissions Well Below Safe Levels](#)
- [A Message from the Director](#)
- [Tritium Issue Under Close Scrutiny by Lab, Community](#)
- [Tritium Q & A](#)
- [New Wall Chart Brings Nuclear Science to Students, Teachers](#)
- [Of Food and Physics](#)
- [Strawberry Gate Shuttle Service Resuming](#)
- [Golf Club News](#)
- [Science Exploration Camp Promises Fun, Education for Laboratory Children](#)
- [November Date Set for Employee Craft Fair](#)
- [Recycle Currents](#)
- [Berkeley Lab Welcomes New Employees](#)
- [Calendar of Events](#)
- [Seminars & Lectures](#)
- [Cafeteria Menus](#)
- [Flea Market](#)
- [Flea Market Deadline](#)
- [Berkeley Lab Currents](#)

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## Secretary of Energy Peña Stresses Value of National Labs During Oakland Visit

*By Jon Bashor*

Saying he believes the value of the scientific and technical research carried out by the national labs "is critical to our nation," Energy Secretary Federico Peña said those contributions make DOE too valuable an agency to be abolished.

Peña spoke to employees at DOE's Oakland Operations Office after attending the May 29 groundbreaking ceremony for the National Ignition Facility at Lawrence Livermore National Lab. He drew repeated applause for his praise of efforts by the Oakland office and the three DOE labs in the



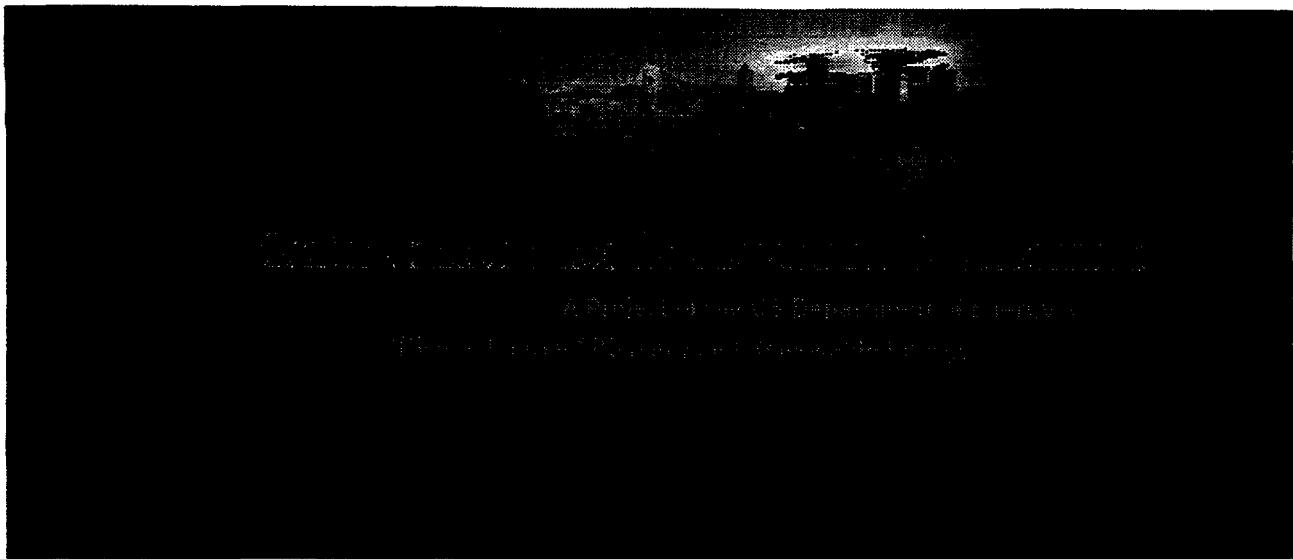
*International Information on Renewable Energy Technologies*

- [About CADDET Renewable Energy Products](#)
- [Search the CADDET Register database](#)
- [Search this Web Site for CADDET Products by Technology](#)
- [Renewable Energy Newsletter](#)
- [Renewable Energy Technical Brochures \(some in PDF\)](#) 
- [CADDET Renewables National Team Contacts](#)
- [What's New on the CADDET Renewables Web Site](#)
- [CADDET Energy Efficiency](#) 
- [Other IEA Information Centres and Activities](#)



Centre for the Analysis and Dissemination of Demonstrated Energy Technologies

Last Updated on: 26 March 1997



## **Fast Breaking News in Sustainable Development**



## **Operation Fresh Start**



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**Who We Are**



**What's New at  
the Center's  
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**Current Projects**



**Website Road Map**

**Sustainable  
Development  
ToolKit**

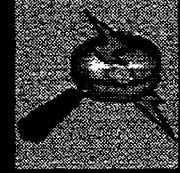
To obtain information about sustainable energy programs and opportunities at DOE's Office of Energy Efficiency and Renewable Energy, visit our sister home page, the [Energy Efficiency and Renewable Energy Network \(EREN\)](#).

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Resource Development by the [National Center for Appropriate Technology \(NCAT\)](#) and Web development by the [Center for Renewable Energy and Sustainable Technology \(CREST\)](#). Web site maintained by [Carol Kindred](#). Please send any comments or concerns about the pages to her.



## PowerSearch



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*End*



### *Partnerships for a Strong Economy*

Clean Cities is a *locally-based* government/industry partnership, coordinated by the U.S. Department of Energy (DOE) to expand the use of alternatives to gasoline and diesel fuel. By combining local decision-making with the voluntary action of *partners*, the "grass-roots" approach of Clean Cities departs from traditional "top-down" Federal programs. It creates and carries out an effective plan at the local level for establishing a sustainable, nationwide alternative fuels market.

Meet the National Clean Cities Program Staff 

Check out What's  on the Clean Cities web pages, browse through past and upcoming conferences and events.

**Attention:** You are invited to attend the Third National Clean Cities Stakeholders' Conference and Expo, June 24-26, 1997, Long Beach, California. Link to more detailed information and registration form.  
 *(Document is in PDF format)*



the entire collection of information stored on-line at the Alternative Fuels Data Center, which includes Clean Cities documents, or you may access other related web sites.



[What is Clean Cities?](#)



[Who to Call](#)



[List of Clean Cities](#)



[Transportation Specific Information](#)  
*Vehicles, Refueling Sites, Presentations*



[Hemispheric Clean Cities](#)



[The Road to Getting Started](#)



[Clean Cities Documents](#)



[In The News - The Drive Newsletters](#)  
*Success Stories, Press Releases, and Communicator*



[Alternative Fuels Information Sources](#)  
*Laws, Regulations, Incentives, etc.*

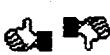
● [Alternative Fuels Data Center](#)  
Home Page

● [DOE - Energy Efficiency & Renewable Energy Network](#)  
Home Page



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**Call the Clean Cities Hotline at 1-800-CCITIES**

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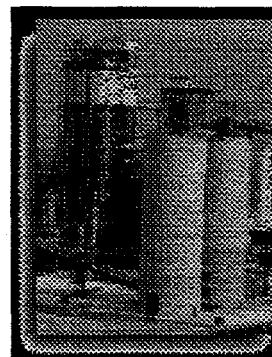
## Welcome to the Fossil Energy Web Network!

You've reached an electronic "gateway" to the Department of Energy's Office of Fossil Energy and its field centers. Please read our welcome if you're new to our site.

[\*\*FRONT PAGE\*\*](#)

## Florida Clean Coal Plant Showcases Clean, Efficient Power for 21st Century

*January 10, 1997* - The U.S. electric utility industry today took a major step into the next millennium of clean, high-efficiency electricity from coal with the dedication in Florida of one of the world's cleanest and most advanced coal power plants. Dedication of the new clean coal technology plant at Tampa Electric Company's Polk Power Station near Lakeland, FL, took place on the closing day of the Department of Energy's week-long Clean Coal Technology Conference in nearby Tampa.



The plant is the first in the United States to use integrated gasification combined cycle technology in a new, "greenfield" power station.

[\*\*SECTIONS\*\*](#)

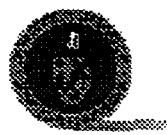
- Updates - News, Speeches and Events
- Advanced Technology Programs - Coal, Oil & Gas R&D
- Strategic Petroleum Reserve - The U.S. Emergency Oil Stockpile
- Naval Petroleum & Oil Shale Reserves - DOE Oil/Gas Fields
- Documents - Scientific and Technical Reports
- Budget - Federal Funding Status
- Procurements - Doing Business with Our Office
- Organization - Who's Who?
- International - Global Collaboration

**Links to:**

[DOE Home Page](#) | [Fossil Energy Field Office Home Pages](#)

We are interested  
in your comments on  
the Fossil Energy  
WWW Network.  
Send feedback to  
fossilweb  
@hq.doe.gov

**U.S. Department of Energy**  
**1000 Independence Ave. SW**  
**Washington, D.C. 20585**





E SOURCE is a membership-based information service company, providing timely, practical, and unbiased information on energy end-use technologies and related application and market issues. E SOURCE's clients include more than 300 utilities, energy users, government agencies, energy service companies, manufacturers, consultants, research institutions, and other organizations in over two dozen countries worldwide.

## Contents

---

### **To Contact E SOURCE**

**e-mail:**

[esource@esource.com](mailto:esource@esource.com) (general inquiries)

**tel:**

303-440-8500 (between 8 am and 5 pm Mountain time)

**fax:**

303-440-8502

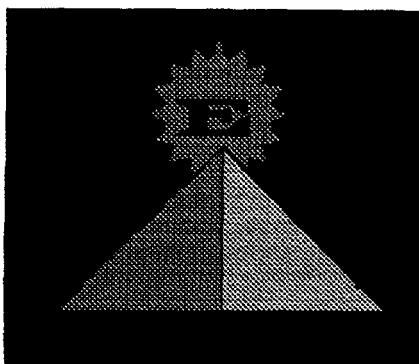
**mail:**

1033 Walnut Street  
Boulder, Colorado 80302-5114  
USA

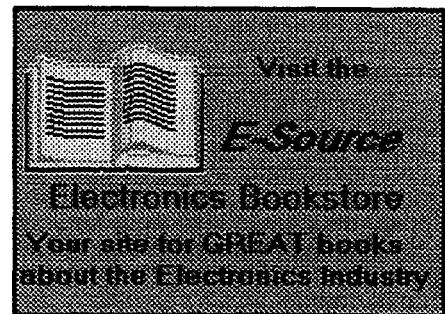
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# Energy Information Administration

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A comprehensive list of links  
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Downloadable applications,  
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[Email List](#) -- sign up to receive EIA information via Email. Choose from over 15 mailing lists.

[Energy Links](#) -- Hundreds of links to other energy related sites. This is one of the most complete lists of energy links available. If you have an energy related web site and would like to be added to our links, please contact the [EIA webmaster](#).



Statistics provided by more than 70 agencies in the United States Federal Government.

**Quiz** -- Test your knowledge of energy facts and statistics with the (partially) interactive quiz. Beginner to Advanced levels are available.

**Data Queries (also known as the Interactive Query System)** -- Tap directly into selected EIA data and perform your own queries.

**Energy Calendar** -- A listing of energy related events and activities.

## Customer Services

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**Feedback** -- Tell us what you think of our site, make suggestions for improvements, ask questions, or make general comments. We value the input of our customers.

**Press Releases** -- A catalog of previous Energy Information Administration press releases.

**EIA Contacts** -- How the Energy Information Administration is organized and who to contact for more information.

**GILS** -- Government Information Locator System.

**FAQ** -- Frequently Asked Questions about our site, both general and (computer) technical.

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**The Energy Information Administration (EIA) at the Department of Energy plans to award an EIA Omnibus support services contract.**

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*For questions about content, please contact the National Energy Information Center:*

[infoctr@eia.doe.gov](mailto:infoctr@eia.doe.gov)

Phone: (202) 586-8800

*For help with technical problems, please contact:*

[wmaster@eia.doe.gov](mailto:wmaster@eia.doe.gov)

Phone: (202) 586-2753

# Energy and Statistical Information on the Web

## Energy Links

These links are provided solely as a service to our customers, and therefore should not be construed as advocating or reflecting any position of the Energy Information Administration (EIA). In addition, EIA does not guarantee the content or accuracy of any information presented in linked sites.

### Department of Energy Resources Board

The Department of Energy has created a home page for its energy missions:

- [Energy Information, Products, and Programs](#)

Member offices: Energy Efficiency and Renewable Energy, Energy Information Administration, Energy Research, Fossil Energy, Nuclear Energy, and Policy.

Contents: energy data and analysis, energy technology, energy efficiency, outreach programs, and energy links.

### Other U.S. Department of Energy Sites

- [Department of Energy](#)
- [DOE - Energy Efficiency and Renewable Energy](#)
- [DOE - Office of Fossil Energy](#)
- [Gore-Chernomyrdin Commission](#)
- [South Africa - U.S. Data Exchange Page](#)
- [Summit of Americas Page](#)

### U.S. Department of Energy - National Laboratories

- [Argonne National Laboratory](#)
- [Brookhaven National Laboratory](#)
- [Lawrence Berkely National Laboratory](#)
- [Lawrence Livermore National Laboratory](#)
- [Los Alamos National Laboratory](#)

- [National Renewable Energy Laboratory](#)
- [Oak Ridge National Laboratory](#)
- [Pacific Northwest National Laboratory](#)
- [Sandia National Laboratory](#)

### Federal Government

- [Central Intelligence Agency World Fact](#)

- [National Science Foundation](#)

- [Central Intelligence Agency World Fact Book](#)
- [Business Information Service for the Newly Independent States](#)
- [Central and Eastern Europe Business Information Center](#)
- [International Trade Administration - Energy Division](#)
- [Minerals Management Service](#)

- [National Science Foundation](#)
- [U.S. Geological Survey \(USGS\)](#)
- [USGS Energy Resource Surveys Page](#)
- [USGS Minerals Page](#)
- [U.S. Library of Congress - Country Studies](#)
- [U.S. Dept. of State - Chile Visit](#)

## Local, State Governments, Universities & Academic

- [California Energy Commission](#)
- [Colorado School of Mines - World Energy](#)
- [Hawaii State Energy Office](#)
- [Idaho Dept. of Water Resources Energy Div.](#)
- [Michigan Energy Appraisal](#)
- [Minnesota Dept. of Public Service](#)
- [National Academy of Sciences](#)
- [Nat. Assoc. of Regulatory Utility Commissioners](#)
- [National Assoc. of State Energy Offices](#)

- [New Mexico's Go-Tech](#)
- [Petroleum Tech. Transfer Council](#)
- [Texas Bureau of Economic Geology](#)
- [U. of Illinois Arterial Blockage in Petroleum Page](#)
- [University of Tulsa](#)
- [Utah Office of Energy Services](#)
- [Energy Data Page at U. of Wisconsin](#)

## International Energy Statistics

- [African Oil Industry Statistics](#)
- [APEC](#)
- [Australian Department of Primary Industries and Energy](#)
- [British Petroleum Statistical Review](#)
- [Canadian Energy Research Institute](#)
- [Natural Resources Canada - Energy Sector](#)
- [Canadian Residential Energy Data and Analysis Center](#)
- [East-West Center](#)
- [European Energy Network](#)
- [International Energy Agency \(IEA\)](#)
- [IEA Int. Centre for Gas Technology Information](#)

- [Japan, Petroleum Association of](#)
- [Mexico - Energy Regulatory Commission](#)
- [Mexico - Ministry of Energy](#)
- [Rand Afrikaans University, South Africa \(IES\)](#)
- [Sweden, NUTEK, Dept. for Energy Economic Studies](#)
- [Embassy of Turkmenistan](#)
- [United Nations Energy Statistics](#)
- [Embassy of Saudi Arabia](#)
- [World Bank](#)

## Energy Companies

- [Agip Petroli](#)
- [Amoco Corporation](#)
- [Anadarko Petroleum Corporation](#)
- [Arco Corporation](#)
- [Ashland Inc.](#)
- [Atomic Energy Corporation of South Africa](#)
- [Bay State Gas Company](#)
- [British Petroleum](#)
- [Cabot Energy](#)
- [Canadian Hydro Developers](#)
- [Carolina Power and Light](#)
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- [Clean Fuel Network](#)
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- [CSIRO Petroleum](#)
- [Duke Power](#)
- [Eden Exploration Ltd.](#)
- [Elf Exploration Inc.](#)
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- [Grenley & Stewart Resources, Inc.](#)
- [HS Resources Inc.](#)
- [Hurricane Hydrocarbons](#)
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- [Kuwait National Petroleum Company](#)
- [LOOP LLC, Deepwater Oil Port](#)
- [Mapco](#)
- [Maraven S.A.](#)
- [Media FX Corp.](#)
- [Mobil Oil](#)
- [Neste Petroleum AS](#)
- [Norsk Hydro](#)

- [Oil & Gas Journal Online](#)
- [Oil Online](#)
- [OneOk](#)
- [Oryx Energy](#)
- [Ohio Resources Corporation](#)
- [Parker Drilling](#)
- [Peabody Coal](#)
- [PDVSA](#)
- [Petroliam Nasional Berhad \(National Oil Company of Malaysia\)](#)
- [Petrolink](#)
- [Petro Pages](#)
- [Phibro Inc.](#)
- [S&G Electric](#)
- [Schlumberger Ltd.](#)
- [Shell Oil](#)
- [Southern Oilfield Supply and Manufacturing](#)
- [Statoil](#)
- [Tejas Power Corporation](#)
- [Texaco](#)
- [Total](#)
- [Tokyo Electric Power](#)
- [Valvoline Company](#)
- [The Williams Companies, Inc.](#)
- [Ultramar- Diamond Shamrock](#)
- [Unicom](#)

## Trade Associations

- [American Boiler Manufacturers Association](#)
- [American Gas Association](#)
- [American Petroleum Institute](#)
- [American Public Works Association](#)
- [American Wind Energy Association](#)
- [Biomass Energy Alliance](#)
- [Distribution Contractors Association](#)
- [Edison Electric Institute](#)
- [Electric Power Research Institute](#)
- [EPRI: Industrial and Agricultural Bus. Unit](#)
- [Electric Vehicles for a Clean Future](#)
- [Export Council for Energy Efficiency](#)
- [Export Council for Renewable Energy](#)

- [Gas Research Institute](#)
- [Independent Petroleum Association of America](#)
- [Interstate Natural Gas Association of America](#)
- [Midwest Gas Association](#)
- [National Association of Royalty Owners](#)
- [National Petroleum Council](#)
- [National Petroleum Refiners Association](#)
- [North American Electric Reliability Council](#)
- [Oregon People's Utility District Association](#)

## Other Energy Links

- [17th Congress of the World Energy Council](#)
- [ARAL Energy News](#)
- [American Association of Petroleum Geologists](#)
- [CMS Business Intelligence](#)
- [CNN Commodities Prices](#)
- [Center for Renewable Energy and Sustainable Technology](#)
- [Common Purpose for Clean Energy](#)
- [Dwights: Energy Data, Software and Information Services](#)
- [Electricity Net Online](#)
- [Energy and Economy for a Sustainable Environment](#)
- [Energy Institute of the Americas](#)
- [Energy Central](#)
- [Energy Modeling Forum](#)
- [Global Environmental Options](#)
- [Global Hubbert Peak at EcoSystems](#)
- [John S. Herold, Inc.](#)
- [INO Global Markets](#)
- [International Association for Energy Economics](#)
- [International Energy Foundation](#)
- [International Institute for Energy Conservation](#)

- [Institute of Gas Technology](#)
- [International Building Performance Simulation Association](#)
- [International Solar Energy Society](#)
- [Kobe Steel, Energy & Chemical Plant Group](#)
- [LLoyd's List](#)
- [Moody's World Energy Group O&G Links](#)
- [National Energy Foundation](#)
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- [Offshore Oil and Gas Technology](#)
- [Oil World](#)
- [Petroleum Financial Network](#)
- [PIRA Energy Group](#)
- [Rocky Mountain Mineral Law Foundation](#)
- [Rezachek's Renewable Energy Page](#)
- [Russian Financial and Other Statistics](#)
- [Solar Energy Industries Association](#)
- [Snyder Enterprises, Energy Resource Game](#)
- [Sustainable Minnesota](#)
- [The Utility Connection](#)
- [U.S. Oil Week](#)
- [World Energy Projections](#)

## Other Federal Information and Statistics Sources

- [Bureau of the Census](#)
- [Bureau of Economic Analysis](#)
- [Bureau of Labor Statistics](#)
- [Bureau of Transportation Statistics](#)
- [Center for Disease Control](#)
- [Department of Agriculture](#)
- [Department of Commerce](#)
- [Department of Defense](#)
- [Department of Education](#)
- [Department of Health and Human Services](#)
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- [Department of Interior](#)
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- [Department of Labor](#)
- [Department of State](#)
- [Department of the Treasury](#)
- [Department of Transportation](#)
- [Department of Veteran's Affairs](#)

- [Environmental Protection Agency](#)
- [FedStat - One Stop Shopping for Federal Statistics](#)
- [FedWorld](#)
- [Internal Revenue Service](#)
- [International Trade Administration](#)
- [NASA](#)
- [National Climatic Data Center](#)
- [National Institutes of Health](#)
- [National Library of Medicine](#)
- [Social Security Administration](#)
- [U.S. House of Representatives](#)
- [U.S. Library of Congress](#)
- [U.S. Library of Congress - THOMAS Legislative Information](#)
- [U.S. Senate](#)
- [White House](#)
- [White House - Economic Briefing Room](#)

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URL: <http://www.eia.doe.gov/links.html>

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[wmaster@eia.doe.gov](mailto:wmaster@eia.doe.gov)

# Climate Analysis Section

## The CAS Mission

The mission of the Climate Analysis Section is to increase understanding of the atmosphere through empirical studies and diagnostic analyses of the atmosphere and its interactions with the earth's surface and oceans on a wide range of time scales. Emphasis is on the atmospheric general circulation, meteorological phenomena, and climate variations over several time scales, such as those in blocking events; 40- to 50-day tropical oscillations; interannual variations, such as the El Niño-Southern Oscillation phenomenon; the 1988 North American drought; solar-weather relationships; and longer-period trends.

## Publications

- [ONLINE Papers](#)
- [Abstracts of Current Works](#)
- [CAS Tech Notes](#)
  
- [An Introduction to Atmospheric and Oceanographic Datasets](#)

## Dataset Activities and Holdings

- [CAS Data Catalog](#)
- [Climate Indices](#)

## Model Validation

- [Community Climate Model, version 3 \(CCM3\)](#)

## Software

- [RD2CFM/CIRCE](#): For putting data into CCM history tape format (for local use)
- [EZPLOT](#): For Publication-Quality Plots (for local use)

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See also, [The Geophysical Statistics Project](#) which is administratively colocated with the Climate Analysis Section.

[To the CGD Home Page](#)

Doug Lindholm: [lind@ncar.ucar.edu](mailto:lind@ncar.ucar.edu) / Last modified: 04/16/97

# Electric Power Research Institute

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- [The EPRI Journal](#)
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## Business Groups

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## Search

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3412 Hillview Ave., Palo Alto, CA 94304-1395  
(415) 855-2000

ENERGY CONFERENCES - June 1997 (revised 6/18/97)

Title: 42ND ANNUAL CONGRESS OF THE INTERNATIONAL GAS TURBINE INSTITUTE OF THE AMERICAN SOCIETY OF MECHANICAL ENGINEERS

Sponsor(s): American Society of Mechanical Engineers (AMSE)

Date: June 2-5, 1997

Location: Orlando, Florida

For Information: Contact AMSE, International Gas Turbine Institute, 5801 Peachtree Dunwoody Rd., Suite 100, Atlanta, GA 30342-1503, or Telefax: 847-0151

Title: 14TH INTERNATIONAL CONFERENCE AND EXHIBITION ON

ELECTRICITY DISTRIBUTION: Distributing Power for the Millennium

Sponsor(s): Centre International de Recherche sur l'Environnement et le Developpement (CIRED)

Date: June 2-5, 1997

Location: Birmingham, United Kingdom

For Information: Contact CIRED German National Committee, c/o Energietechnische Gesellschaft im VDE, Stremannallee 15, D-60596, Frankfurt am Main, Germany Scientific Contact CIRED British National Committee, c/o IEE, Savoy Place, London, WC2R 0BL, UK

Title: 14TH BIENNIAL INTERNATIONAL CONFERENCE ON

ELECTRICITY DISTRIBUTION

Date: June 2-7, 1997

Location: Brighton, United Kingdom

For Information: Contact CIRED, Rue de la Pepiniere 20, Brussels, B-1000, Belgium, Telefax: 5 18 65 37

Title: IMPLEMENTING SUSTAINABLE ENERGY IN A CHANGING WORLD

Sponsor(s): Canadian Wind Energy association, Canadian Solar Industries Association, B.C. Renewable Energy Association, Energy Research Group at Simon Fraser University, Science world B.C.

Date: June 5-7, 1997

Location: Vancouver, British Columbia

For Information: Contact Richard Kadulski, #208 - 1280 Seymour Street, Vancouver, B.C., Canada V6B 3N9, Phone: (604) 689-1841; Fax: (604) 689-1841; E-mail: kadulski@cyberstore.ca; Website: <http://www.newenergy.org/newenergy/sesci.html>

Title: 7TH INTERNATIONAL CONFERENCE ON SOLAR ENERGY

AT HIGH LATITUDES AND SOLAR EXHIBITION

Date: June 9-13, 1997

Location: Espoo, Finland

For Information: Contact Helsinki University of Technology, Advanced Energy Systems and Technologies, Prof. P. Lund, Rakentajanaukio 2 C, SF-02150, Espoo, Finland, Tele-fax +358-9- 4513195, E-Mail Peter.Lund@hut.fi

Title: 27th NORTH AMERICAN HEATING & ENERGY EXPOSITION

Date: June 10-12, 1997

Location: Boston, Massachusetts

For Information: Contact Exposition Manager, New England Fuel Institute, 20 Summer St., P.O. Box 9137, Watertown, MA 02272-9137; Phone: (617) 924-1000; Fax: (617) 924-1022

Title: 8TH NATIONAL ENERGY SERVICES CONFERENCE AND

EXPOSITION: Leading the Retail Revolution

Sponsor(s): The Association of Energy Services Professionals (AESP); Edison Electric Institute; Electric Power Research Institute; U.S. Department

of Energy

Date: June 11-13, 1997

Location: Washington, District of Columbia

For Information: Contact AESP, 7040 W. Palmetto Park Road, Suite 4315, Boca Raton, FL 33433, Phone: (561) 361-0027

**Title: THE INTERNATIONAL CLIMATE CHANGE CONFERENCE & TECHNOLOGIES EXHIBITION**

**Sponsor(s): The Alliance for Responsible Atmospheric Policy; The International Climate Change Partnership; The U.S. Environmental Protection Agency**

Date: June 12-13, 1997

Location: Baltimore, Maryland

For Information: Contact International Climate Change Conference & Technologies Exhibition, P.O. Box 236, Frederick, MD 21701, Phone: (301) 695-3762; Fax: (301) 695-0175

**Title: 5TH INTERNATIONAL CONFERENCE OF THE INTERNATIONAL BUILDING PERFORMANCE SIMULATION ASSOCIATION**

Date: September 8-10, 1997

Papers due: June 15, 1997

Location: Prague, Czech Republic

For Information: Contact Building Simulation '97, Czech Technical University, Department of Environmental Engineering, Technicka 4, 166 07 Prague 6, CZ 42 2 2435 5616 E-mail: bs97@fsid.evut.cz

**Title: WINDPOWER '97: Annual Conference and Exhibition of the American Wind Energy Association**

**Sponsor(s): American Wind Energy Association (AWEA)**

Date: June 15-18, 1997

Location: Austin, Texas

For Information: Contact Linda Redmond, AWEA, 122 C Street, NW, Fourth Floor, Washington, DC 20001, Phone: (202) 383-2500; Fax: (202) 383-2505

**Title: A/E/C SYSTEMS '97**

**Sponsor(s): Architecture Magazine**

Date: June 16-19, 1997

Location: Philadelphia, Pennsylvania

For Information: Contact A/E/C SYSTEMS '97, 415 Eagleview Boulevard, Suite 106, Exton, PA 19341-1153, Phone: (800) 451-1196; Fax: (610) 458-7171; Website URL: <http://www.aecsystems.com/>

**Title: CONSTRUCTION TECHNOLOGY '97**

**Sponsor(s): Architecture Magazine**

Date: June 16-19, 1997

Location: Philadelphia, Pennsylvania

For Information: Contact Construction Technology 97, 415 Eagleview Boulevard, Suite 106, Exton, PA 19341-1153, Phone: (800) 451-1196; Fax: (610) 458-7171; Website URL: <http://www.aecsystems.com/>

**Title: FEDERAL RELIGHTING INITIATIVE WORKSHOP**

**Sponsor(s): U.S. Department of Energy Office of Federal Energy**

Management Programs

Date: June 17-19, 1997 (New York)

Location: New York, New York

For Information: Contact Camber Corp., 601 13th St., N.W., Suite 350 North, Washington, DC 20005, Phone: (202) 737-1911; Fax: (202) 628-8498  
(Also held September 16-18, 1997 in Irwindale, CA)

**Title: SPRING '97 SOLAR CENTER WORKSHOPS - PASSIVE SOLAR**

**GUIDELINES: A Computer Workshop for Professionals**

**Sponsor(s): Energy Division; N.C. Department of Commerce; North Carolina Solar Center**

Date: June 19, 1997  
Location: Raleigh, North Carolina  
For Information: Contact NC Solar Center, P.O. Box 7401, Raleigh, NC 27695-7401, Phone: (800) 336-2786 [in North Carolina] or (919) 515-3480

Title: SOLARFEST '97  
Date: June 21, 1997  
Location: Eugene, Oregon  
For Information: Contact Real Goods, 77 West Broadway, Eugene, OR 97401, Phone: (541) 334-6960; Fax: (541) 334-6962

Title: MIDWEST RENEWABLE ENERGY FAIR  
Sponsor(s): Midwest Renewable Energy Association (MREA)  
Date: June 20-22, 1997  
Location: Amherst, Wisconsin  
For Information: Contact Midwest Renewable Energy Association, Phone: (715) 824-5166

Title: BOMA'S 90TH ANNIVERSARY CONVENTION AND THE OFFICE BUILDING SHOW  
Sponsor(s): Building Owners and Managers Association International  
Date: June 22-25, 1997  
Location: Minneapolis, Minnesota  
For Information: Contact BOMA International, c/o PGI, 2200 Wilson Blvd., Suite 200, Arlington, VA 22201-3324

Title: BUILDING BRIDGES: Sustainable Partnerships in Changing Times  
Sponsor(s): National Fuel Funds Network (NFFN); National Energy Assistance Directors' Association (NEADA); National Low Income Energy Consortium (NLIEC)  
Date: June 22-26, 1997  
Location: Minneapolis, Minnesota  
For Information: Contact Eisenstadt Associates, Phone: (202) 543-7971, Ext. 21; Fax: (202) 232-0016; E-mail: pgossett@aol.com

Title: DEPARTMENT OF ENERGY RECORDS MANAGEMENT CONFERENCE: Illuminating our Legacy, Focusing our Future  
Sponsor(s): US Department of Energy  
Date: June 23-26, 1997  
Location: Las Vegas, Nevada  
For Information: Contact Jan Statler, SAIC, 101 Convention Center Drive, P-110, Las Vegas, NV 89109 (702) 794-7771

Title: 3RD NATIONAL CLEAN CITIES STAKEHOLDERS CONFERENCE AND EXPOSITION  
Sponsor(s): US Department of Energy  
Date: June 24-26, 1997  
Location: Long Beach, California  
For Information: Contact Linda Bluestein or Ruth Anne Keister, Phone: (800) 224-8437 or (703) 528-1222; Fax: (703) 528-1953; E-mail: ccities@nrel.gov

Title: THERMAL SOLUTIONS '97  
Sponsor(s): Thermal/Infared Thermography Committee of the American Society for Nondestructive Testing  
Date: June 24-26, 1997  
Location: Cleveland, Ohio  
For Information: Contact John Snell, P.O. Box 6, Montpelier, VT 05601-0006; Phone: (800) 636-9820 or (800) 229-9820; Fax: (802) 223-0460

Title: NATIONAL BUSINESS ENERGY FORUM  
Sponsor(s): Association of Energy Engineers (AEE); U.S. Department of Energy,

Office of Federal Energy Management Program; U.S. General Services Administration; U.S. Department of Defense, Office of the Secretary of Defense  
Date: June 26-27, 1997  
Location: New Orleans, Louisiana  
For Information: Contact AEE, P.O. Box 1026, Lilburn, GA 30226,  
Phone: (770) 925-9633; Fax: (770) 381-9865

Title: NATIONAL AFFORDABLE HOUSING MANAGEMENT ASSOCIATION SUMMER MEETING  
Sponsor(s): National Affordable Housing Management Association (NAHMA)  
Date: June 27-30, 1997  
Location: Washington DC  
For Information: Contact NAHMA, 526 King St., Suite 511, Alexandria, VA 22314; Phone: (703) 683-8630

Title: 14TH EUROPEAN PHOTOVOLTAIC SOLAR ENERGY CONFERENCE AND EXHIBITION  
Sponsor(s): Commission of the European Communities; Generalitat de Catalunya European; Photovoltaic Industries Association  
Date: June 30-July 4, 1997  
Location: Barcelona, Spain  
For Information: Contact WIP, Conference and Exhibition Coordination, Sylvensteinstr. 2, D-81369, Muenchen, Germany, Telefax +49-89-720 1291, E-Mail: renewables@mail.tnet.de, Scientific Contact EC Joint Research Center, European Solar Test Installation, Dr. H. Ossenbrink,

Title: REIA 97 - HEMISPHERIC CONFERENCE AND EXHIBITION ON RENEWABLE ENERGY  
Date: July 8-11, 1997  
Location: Rio de Janeiro, Brazil  
For Information: Contact in Brazil - Studio Palvana/REIA97, Avenida Ataulfo de Paiva, 236/201, Leblon, Rio de Janeiro - RJ - CEP: 22440 030 - Brasil, Phone: 55-21-511 2185; Fax: 55-21-294 4597 or in the United States of America - USECRE/REIA97, Phone: (202) 383-2558; Fax: (202) 383-2555

Title: 1997 ACEEE SUMMER STUDY ON ENERGY EFFICIENCY IN INDUSTRY: How Industry will Procure Energy Efficiency Services in the 21st Century  
Sponsor(s): American Council for an Energy-Efficient Economy (ACEEE); New York State Energy Research and Development Authority; U.S. Department of Energy, Office of Industrial Technology; U.S. Environmental Protection Agency, Climate Wise Program  
Date: July 8-11, 1997  
Location: Saratoga Springs, New York  
For Information: Contact Debbie Giallombardo, ACEEE Conference Office, 1001 Connecticut Avenue, NW, Suite 801, Washington, DC 20036, Phone: (202) 429-8873; Fax: (202) 429-2248; E-mail: ace3-conf@ccmail.pnl.gov; Website: <http://crest.org/aceee>

Title: BATIMAT-NORTH AMERICA: The International Construction Industry Expo  
Sponsor(s): National Association of Home Builders (NAHB)  
Date: July 10-12, 1997  
Location: New York, New York  
For Information: Contact Blenheim Group USA, Inc., Fort Lee Executive Park, One Executive Drive, Fort Lee, NJ 07024; Phone: (800) 829-3976; Fax: (201) 346-1602

Title: INTERNATIONAL CONFERENCE ON FLUID AND THERMAL ENERGY CONVERSION  
Date: July 21-24, 1997  
Location: Yogyakarta, Indonesia

For Information: Contact Dr. G. A. Mansoori, University of Illinois, 810 S. Clinton Street, Chicago, IL 60607-7000, or Phone: (312) 996- 5592

Title: OPERATIONS & MAINTENANCE MANAGEMENT WORKSHOP  
Sponsor(s): U.S. Department of Energy, Office of Federal Energy Management Programs (FEMP)

Date: July 28-29, 1997

Location: San Diego, California

For Information: Contact Pacific Northwest National Laboratory, ATTN: Shannan Butler/Amy Tilton, 3230 Q Avenue (K8-62), P.O. Box 999, Richland, WA 99352, Phone: (509) 372-4368; Fax: (509) 372-4990

Title: 1998 INTERNATIONAL GAS RESEARCH CONFERENCE

Sponsor(s): Gas Research Institute; International Gas Union; American Gas Association; U.S. Department of Energy

Abstracts due: July 31, 1997

Papers due: June 1, 1998

Date: November 8-11, 1998

Location: San Diego, California

For Information: Contact 1998 International Gas Research Conference, c/o Gas Research Institute, 8600 West Bryn Mawr Avenue, Chicago, IL 60631-3562, USA, Phone: (773) 399-8313; Fax: (773) 399-8170; E-mail: igrc@gri.org;

Website: <http://www.gri.org> or <http://www.icgti.org>

Title: 1997 IESNA ANNUAL CONFERENCE

Sponsor(s): Illuminating Engineering Society of North America

Date: August 17-20, 1997

Location: Seattle, Washington

For Information: Contact Beth Bay, IESNA, 120 Wall Street, 17th Floor, New York, NY 10005-4001, Phone: (212) 248-5000 X110; Fax: (212) 248-5017

Title: THIRD BIOMASS CONFERENCE OF THE AMERICAS

Sponsor(s): US Department of Energy

Date: August 24-28, 1997

Location: Montreal, Canada

For Information: Contact Lee Recca, National Renewable Energy Laboratory (NREL), Phone: (303) 275-3913;

E-mail: [reccal@tcplink.nrel.gov](mailto:reccal@tcplink.nrel.gov); Website URL: <http://www.nrel.gov/bioam>

Title: BIENNIAL CONFERENCE OF THE INTERNATIONAL SOLAR ENERGY SOCIETY: FUTURE GLOBE IN THE SUN

Sponsor(s): International Solar Energy Society (ISES)

Date: August 25-29, 1997

Location: Taejon, Republic of Korea

For Information: Contact ISES, P.O. Box 124, 26 Railway Ave., Caulfield East, 3145, Australia, Telefax: 563 6860

Title: 9TH NATIONAL TECHNOLOGY INFORMATION EXCHANGE

(TIE) WORKSHOP: The Ten-Year Challenge - Accelerating Results

Sponsor(s): U.S. Department of Energy, Office of Environmental Restoration

Date: August 26-28, 1997

Location: Idaho Falls, Idaho

For Information: Contact Gail Kibler, 553 Whittemore Hall, Virginia Tech, Blacksburg, VA 24061, Phone: (540) 231-4596; E-mail: [gkibler@vt.edu](mailto:gkibler@vt.edu)

Title: THE FUTURE OF ENERGY MARKETS: Evaluation in a Changing Environment

Sponsor(s): American Council for an Energy-Efficient Economy, Association of Energy Services Professionals, Bonneville Power Administration, New England Power Service Company, Pacific Gas & Electric Company, Seattle City Light, Southern California Gas Company, United States Department of Energy, Western Area Power Administration

Date: August 27-29, 1997

Location: Chicago, Illinois

For Information: Contact NEPEC Conference Office, 309 Davis Street, Evanston, IL 60201; Phone: (847) 864-5651; Fax: (847) 864-7535; E-mail: GailAE@aol.com

Title: WORLD CONGRESS ON HEATING, VENTILATING, AND AIR-CONDITIONING

Date: August 30 - September 2, 1997

Location: Brussels, Belgium

For Information: Contact SRBII/BRCLIMA 2000 '97, Ravenstein 3, B-1000, Brussels, Belgium, Telefax: (0032/2) 511 74 69

Title: 5TH INTERNATIONAL CONFERENCE OF THE INTERNATIONAL BUILDING PERFORMANCE SIMULATION ASSOCIATION

Papers due: June 15, 1997

Date: September 8-10, 1997

Location: Prague, Czech Republic

For Information: Contact Building Simulation '97, Czech Technical University, Department of Environmental Engineering, Technicka 4, 166 07 Prague 6, CZ 42 2 2435 5616 E-mail: bs97@fsid.evut.cz

Title: SOLAR 98: Renewable Energy for the Americas

Sponsor(s): American Solar Energy Society, New Mexico Solar Energy Association, American Society of Mechanical Engineers, American Institute of Architects

Abstracts due: September 15, 1997

Papers due: March 2, 1998

Date: June 13-18, 1998

Location: Albuquerque, New Mexico

For Information: Contact American Solar Energy Society, 2400 Central Avenue, Suite G-1, Boulder, CO 80301; Phone: (303) 443-3130; Fax: (303) 443-3212; E-mail: ases@ases.org; Website: <http://www.ases.org/solar>

Title: DISTRIBUTED ENERGY RESOURCES CONFERENCE

Sponsor(s): California Energy Commission, Members of the California Alliance for Distributed Energy Resources

Date: September 15-17, 1997

Location: San Diego, California

For Information: Contact Connie Bruins, Phone: (916) 654-4545;

E-mail: cbruins@energy.state.ca.us

Title: FEDERAL RELIGHTING INITIATIVE WORKSHOP

Sponsor(s): U.S. Department of Energy Office of Federal Energy Management Programs

Date: September 16-18, 1997

Location: Irwindale, California

For Information: Contact Camber Corp., 601 13th St., N.W., Suite 350 North, Washington, DC 20005, Phone: (202) 737-1911; Fax: (202) 628-8498

Title: POWERTRENDS 2000+

Sponsor(s): Philippine Department of Energy; National Power Corporation; National Electrification Administration; Philippine National Oil Corporation

Date: September 17-20, 1997

Location: Manila, Philippines

For Information: Contact Interfarma International Pte Ltd, 1 Maritime Square #09-36, World Trade Centre, Singapore 099253, Phone: (65) 2766933; Fax: (65) 2766811; E-mail: w2608@singnet.com.sg

Title: GREENING OF THE CAMPUS II: The Next Step

Date: September 18-20, 1997

Location: Muncie, Indiana

For Information: Contact Becky Amato, University College NQ 323,

Ball State University, Muncie, IN 47306-0220, Phone: (765) 285-2385;  
Fax: (765) 285-2384; E-mail: 00RFAMATO@BSUVC.BSU.EDU;  
Website: <http://www.bsu.edu/events/>

**Title: ANNUAL GEOTHERMAL HEAT PUMP INDUSTRY CONFERENCE**

**Sponsor(s): U.S. Department of Energy (DOE); Electric Power Research Institute; Geothermal Heat Pump Consortium; National Rural Electric Cooperative Association**

**Date: September 21-24, 1997**

**Location: Baltimore, Maryland**

**For Information: Contact the International Ground Source Heat Pump Association (IGSHPA), OSU, 490 Cordell South, Stillwater, OK 74078-8018, Phone: (800) 626-4747; Fax: (405) 744-5283**

**Title: FEDERAL ENERGY MANAGEMENT OVERVIEW WORKSHOP: THE IDEAL STARTING POINT FOR FEMP TRAINING**

**Sponsor(s): U.S. Department of Energy Office of Federal Energy Management Programs**

**Date: September 23-24, 1997**

**Location: Atlanta, Georgia**

**For Information: Contact Camber Corp., 601 13th Street, NW, Suite 350 North, Washington, DC 20005, Phone: (202) 737-1911; Fax: (202) 628-8498**

**Title: TECHNOLOGY 2007: Technology Transfer - Today for Tomorrow**

**Sponsor(s): Federal Laboratory Consortium; Technology Utilization Foundation; U.S. National Aeronautics and Space Administration (NASA), NASA Tech Briefs**

**Date: September 22-24, 1997**

**Location: Boston, Massachusetts**

**For Information: Contact - East of the Mississippi: Joanna Lipton, Phone: (800) 944-NASA[6272], ext. 222; West of the Mississippi: Wayne Pierce, Phone: (800) 944-NASA(6272), ext.224; Outside of the U.S. call ( 212) 490-3999 with above extensions: fax: (212) 986-7864; E-mail: us033236@mindspring.com; Mailing address: Technology 2007, Technology Utilization Foundation, 317 Madison Avenue, 19th Floor, New York, NY 10017**

**Title: BUYING ENERGY EFFICIENT PRODUCTS**

**Sponsor(s): U.S. Department of Energy Office of Federal Energy Management Programs (FEMP)**

**Date: September 25, 1997**

**Location: Atlanta, Georgia**

**For Information: Contact Camber Corp., 601 13th Street, NW, Suite 350 North, Washington, DC 20005, Phone: (202) 737-1911; Fax: (202) 628-8498**

**Title: INTERNATIONAL CONFERENCE AND EXHIBIT - ASIA-PACIFIC INITIATIVE FOR RENEWABLE ENERGY AND ENERGY EFFICIENCY**

**Date: October 13-16, 1997**

**Location: Jakarta, Indonesia**

**For Information: Contact Alternative Development Asia, Ltd, 5/F3 Wood Road, Wanchai, Hong Kong, Hong Kong; Telefax: 00852/2574-1997**

**Title: THE REMODELERS' SHOW**

**Sponsor(s): National Association of Home Builders (NAHB)**

**Date: October 17-19, 1997**

**Location: Kansas City, Missouri**

**For Information: Contact NAHB, 1201 15th Street, NW, Washington, DC 20005-2800, Phone: (800) 368-5242, Ext. 111; Fax: (202) 861-2104; E-mail: nahbexpo@nahb.com**

**Title: UPEX'97 - UTILITY PV EXPERIENCE CONFERENCE & EXHIBITION**

**Date: October 28-30, 1997**

**Location: Albuquerque, New Mexico**

**For Information: Contact Erin O'Donnell at (202) 857-0898**

Title: BATIMAT

Date: November 3-8, 1997

Location: Paris, France

For Information: Contact National Association of Home Builders, 1201 15th Street, NW, Washington, DC 20005-2800, Phone: (800) 368-5242, ext. 105; Fax: (202) 861-2104; E-mail: icabrera@nahb.com

Title: EXCELLENCE IN BUILDING CONFERENCE & EXPOSITION

Sponsor(s): Andersen windows Corporation; Cellulose Insulation Manufacturers Association; U.S. Department of Energy; U.S. Environmental Protection Agency; North American Insulation Manufacturers Association; Schuller International

Date: November 5-8, 1997

Location: Denver, Colorado

For Information: Contact EEEBA, 2950 Metro Drive, Suite 108, Minneapolis, MN 55425, Phone: (612) 851-9940; Fax: (612) 851-9507;

website: <http://www.eeba.org>

Title: ENVIRONMENTAL AND ECONOMIC BALANCE: The 21st Century

Outlook

Sponsor(s): American Institute of Architects

Date: November 7-9, 1997

Abstracts due: March 4, 1997

Location: Miami, Florida

For Information: Contact Professional Practice, AIA, 1735 New York Avenue, NW, Washington, DC 20006-5292, Phone: (800) 242-3837; E-mail: pia@aia.org

Title: FREE '97 - FINANCING RESIDENTIAL ENERGY EFFICIENCY:

Building Business

Sponsor(s): Carrier Corporation, U.S. Environmental Protection Agency

Date: November 12-15, 1997

Location: Indianapolis, Indiana

For Information: Contact HERSC, 1511 K Street, NW, Suite 600, Washington, DC 20005, Phone: (202) 638-3700; Fax: (202) 393-5043;

E-mail: HERSCDC@aol.com; Website: <http://www.hers-council.org/>

Title: 4TH EUROPEAN CONFERENCE ON ENERGY-EFFICIENT LIGHTING

Sponsor(s): Association of Danish Electric Utilities; International Association for Energy-Efficient Lighting (IAEEL); The Danish Energy Agency; The Danish Illuminating Engineering Society; DELTA Light and Optics

Date: November 19-21, 1997

Location: Orlando, Florida

For Information: Contact Ms. Annmarie Pittman, 655 15th Street, NW, Suite 300, Washington, DC 20005, or Phone: (202) 639-4994

Title: RIGHT 4 LIGHT

Sponsor(s): International Association for Energy-Efficient Lighting (IAEEL), Commission of the European Union, Association of Danish Electric Utilities

Date: Novemeber 19-21, 1997

Location: Copenhagen, Denmark

For Information: Contact Conference Coordinator Helle Balmer, Rosenorns Alle 9, DK-1970 Frederiksberg C, Denmark; Phone: +45 31 39 01 11; Fax: +45 31 39 59 58

Title: NATIONAL ASSOCIATION OF ENERGY SERVICE COMPANIES

ANNUAL CONFERENCE

Sponsor(s): National Association of Energy Service Companies (NAESCO)

Date: November 19-21, 1997

Location: New Orleans, Louisiana

For Information: Contact NAESCO, 1440 New York Avenue, NW, Washington, DC 20005, Phone: (202) 371-7812; Fax: (202) 393-5760

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1998

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Title: THE SECOND SYMPOSIUM ON THE VIRTUAL UTILITY -  
METERING FOR THE VIRTUAL UTILITY: The Role of Information  
Technologies in a Restructured Environment

Sponsor(s): Automatic Meter-Reading Association (AMRA)

Date: February, 1998

Location: Laguna Beach, California

For Information: Contact Shimon Awerbuch, Ph.D., Nashua, NH 03062,

Phone: (603) 891-1342

Title: SOLAR 98: Renewable Energy for the Americas

Sponsor(s): American Solar Energy Society, New Mexico Solar Energy  
Association, American Society of Mechanical Engineers, American  
Institute of Architects

Abstracts due: September 15, 1997

Papers due: March 2, 1998

Date: June 13-18, 1998

Location: Albuquerque, New Mexico

For Information: Contact American Solar Energy Society, 2400 Central Avenue,  
Suite G-1, Boulder, CO 80301; Phone: (303) 443-3130; Fax: (303) 443-3212;

E-mail: ases@ases.org; Website: <http://www.ases.org/solar>

Title: CONGRESS OF THE WORLD ENERGY COUNCIL

Sponsor(s): World Energy Council

Date: September 13-18, 1998

Location: Houston, Texas

For Information: Contact World Energy Council, 34 St. James's Street,

London, SW1A 1HD, UK, Telefax 44(171)9250452, E-Mail 37@wec.co.uk

Title: 1998 INTERNATIONAL GAS RESEARCH CONFERENCE

Sponsor(s): Gas Research Institute; International Gas Union; American Gas  
Association; U.S. Department of Energy

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Research Institute, 8600 West Bryn Mawr Avenue, Chicago, IL 60631-3562,

USA, Phone: (773) 399-8313; Fax: (773) 399-8170; E-mail: igrc@gri.org;

Website: <http://www.gri.org/> or <http://www.icgti.org/>

Title: THERMAL VII: THERMAL PERFORMANCE OF THE EXTERIOR  
ENVELOPES OF BUILDINGS VII

Sponsor(s): American Society of Heating, Refrigerating, and Air-Conditioning  
Engineers, Building Environment and Thermal Envelope Council, Chartered  
Institution of Building Services Engineers, Oak Ridge National Laboratory, U.S.  
Department of Energy, National Research Council of Canada

Date: December 7-11, 1998

Location: Clearwater Beach, Florida

For Information: Contact E-mail: unb@ornl.gov; Phone: (423) 576-7942;

Website [http://www.ornl.gov/ORNL/Energy\\_Eff/tectrans.html](http://www.ornl.gov/ORNL/Energy_Eff/tectrans.html)

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Power Quality

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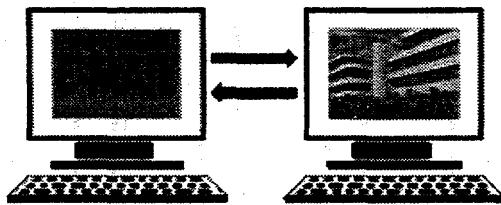
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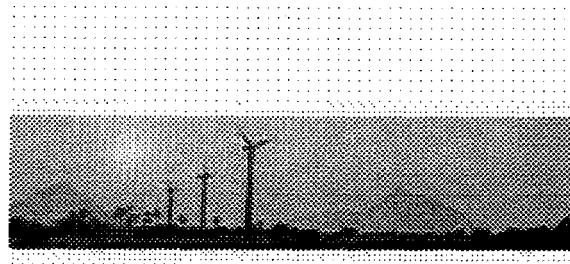
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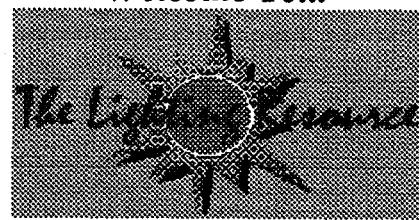
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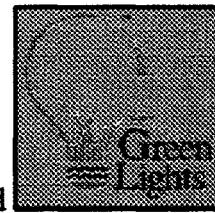
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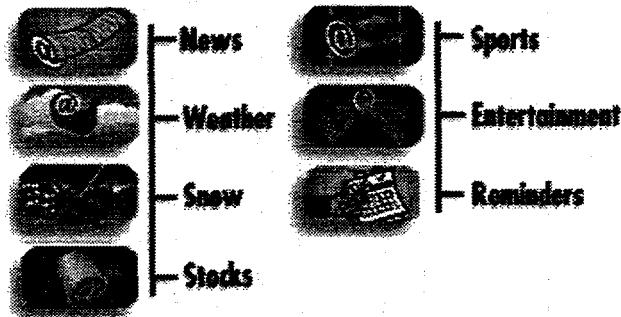
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### Overview

Throughout the day, everyday, Mercury Mail, Inc. delivers current news on topics you select at the times you've requested right to your existing e-mail box. No need to use an Internet news service. No need for extra software, downloading or special system either. It's e-mail easy!

Mercury Mail sends you the information you want, allowing you to customize exactly what you'd like to receive - whether it's front page headlines, T.V. listings, horoscopes, scores and game summaries for your favorite sports team, specific stock quotes, even the weather for your exact zip code. Mercury Mail will even send you an e-mail reminder of that certain birthday you always seem to forget. Best of all, Mercury Mail's services are completely free of charge!

### Value

Placing a high priority on high-quality, concise messaging, Mercury Mail gathers its news and information from the most respected newsfeeds and wire services, such as Reuters, SportsTicker and The Weather Channel. An advanced software filtering system is employed to begin the sorting and personalizing of the information.

Then, unlike many services, Mercury Mail's well-informed editorial staff acts as a filter to ensure that subscribers' receive personalized, requested information that is accurate and concise. This 'human' touch overcomes the limitations inherent in using filtering software only, which typically allows for redundancies and irrelevant information to pass through.

### MultiMedia (HTML) E-Mail

Mercury Mail also delivers its services in a lively, multimedia format for e-mail users that use Netscape 3.0+, Hotmail, RocketMail or WebTV as their e-mail reader.

### Free/Advertising Sponsored

Mercury Mail's services are free to consumers because the company's

revenues are built on service sponsors and advertising. Advertising appears in both text and multimedia formats.

Advertising on Mercury Mail's different services has many advantages, including advertisements that are imbedded in messages delivered directly to subscribers, unprecedented targeting ability and personalization options.

### **The Largest E-Mail Publisher Online**

Mercury Mail's revenues are also generated from its delivery systems for content publishers.

Rapidly delivering custom e-mail messages in large volumes is difficult for many companies, but Mercury Mail's technology makes this an easy process. Its patent-pending technology enables Mercury Mail to deliver more than one million messages a day. By mid-1997, Mercury Mail will have the capability to deliver more than one million messages per hour.

This innovative technology also enables Mercury Mail to deliver e-mail for companies, such as ZDNet, and organizations that want to communicate with their customers via e-mail.

### **History**

Founded in February 1995 by John Funk, a former Bell Atlantic executive, Mercury Mail employs a staff of 60 highly-skilled technicians and editors. With two patent applications on file for the modification and delivery of electronic information, the company's base technologies and systems allow it to create, address and rapidly deliver individual messages. Mercury Mail began offering subscriptions in November 1995 and completed its product suite in the first quarter of 1996.

### **Sign Up**

To sign up for Mercury Mail services, subscribers simply complete a profile on the Web site at [www.merc.com](http://www.merc.com) identifying personalization preferences. E-mail delivery of requested information begins immediately.

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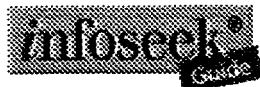
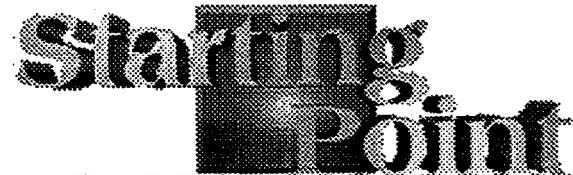
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# METEOR

Lighting Resources

This page is dedicated to helping you find the information resources for lighting products and services on the internet. Meteor appreciates everyone's effort in making this a useful project.

Meteor has registered its home page on the following sites because we've found that they allow us to find up-to-date pointers to information about our industry (click on one to visit the site):



Please visit the [Meteor Dealer Listing](#) for a partial listing of dealers where you can purchase Meteor and other quality lighting products and services.

These non-dealer sites also provide excellent sources for lighting information on the World Wide Web:

- [MMSL Lighting-Related Links](#)

Kilowatt

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Return-Path: owner-eren@mail.nrel.gov  
From: owner-eren@mail.nrel.gov  
Date: Wed, 15 Jan 1997 17:31:42 -0700  
To: eren@mail.nrel.gov  
Subject: New Resources on EREN -- 1/14/96  
Sender: owner-eren@mail.nrel.gov  
Reply-To: webmaster.eren@nrel.gov

EREN Users Group Members:

Links to the Web sites described below are now provided in the What's New on EREN section of our server.

1. Manx Wind Energy Services

Specializing in "technology transfer to developing countries," Manx Wind Energy designs, installs and services stand-alone and grid-connected renewable energy systems (wind, solar electric, microhydro, hybrid and diesel hybrid) around the world. System configuration diagrams, photos, product literature and component specifications, and brief examples of system applications are among the resources posted on the Manx Wind Energy server.

2. Renewable Fuels Association

The motto for the Renewable Fuels Association is "Promoting the increased production and use of ethanol, ETBE, and E-85." Come to the home page for the ethanol industry's national trade organization to obtain the agenda and registration form for the upcoming National Conference on Ethanol Policy and Marketing, access position papers from members of the Association about the status of the industry, take an online quiz to determine your knowledge of the potential for alcohol fuels, download electronic copies of the Association's most recent newsletters and press releases, browse the calendar of upcoming industry events, and acquire in-depth information about this organization.

3. Soltek Solar Energy Ltd.

Soltek Solar Energy Ltd. specializes in supplying turn key, direct current power systems for remote applications and is one of Canada's largest suppliers of solar electric (photovoltaic or PV) products. Introductions to PV technology, the company, its services, capabilities, and products are presented here.

Please contact me if you have any questions about these or other resources accessible through EREN.

Sincerely,

Tom Wulf  
Project Leader  
Energy Efficiency and Renewable Energy Network  
National Renewable Energy Laboratory

owner-eren@mail.nre, 05:31 PM 1/15/97 , New Resources on EREN -- 1/14/

<http://www.eren.doe.gov/>  
webmaster.eren@nrel.gov

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From: owner-eren@mail.nrel.gov  
Date: Thu, 19 Jun 1997 13:45:57 -0600  
To: eren@mail.nrel.gov  
Subject: New Resources on EREN -- 6/19/97  
Sender: owner-eren@mail.nrel.gov  
Reply-To: webmaster.eren@mail.nrel.gov

If this message has been forwarded to you, and you would like to know more about the Energy Efficiency and Renewable Energy Network (EREN) Users Group or other aspects of EREN, please send e-mail to the webmaster (webmaster.eren@mail.nrel.gov).

Links to the sites described below are now provided in the What's New section of the EREN server at <http://www.eren.doe.gov/new/whats-new.html>.

#### 1. United States Council for Automotive Research

By founding the United States Council for Automotive Research (USCAR), the "Big Three" auto makers (Chrysler, Ford, and General Motors) established a mechanism to perform cooperative research for advancing automotive technologies. In addition to sharing project results, seeking funding for joint research and development, and providing facilities and administration, the USCAR coordinates the industry/government research conducted for the Partnership for a New Generation of Vehicles (PNGV) program. Read more about USCAR's accomplishments and plans and PNGV activities while perusing this site.

#### 2. Architectural/Residential Technologies

A visit to the Architectural/Residential Technologies Web site reveals that this company seeks to provide affordable, energy-efficient housing and construction services. A profile of the company and its staff, descriptions of available services, an introduction to Open Wall Construction Technology, and sample house plans are included among the resources offered here.

#### 3. Impact RM

Impact RM is a sales and service company specializing in energy-efficient compressed air management systems and equipment. An interactive glossary containing definitions of compressed air terms, a demonstration version of an interactive compact disc on industrial compressed air systems, and descriptions of the company's products and services await those who journey to the Impact RM home page.

#### 4. Cellulose Insulation Manufacturers Association

According to its Web site, the Cellulose Insulation Manufacturers Association (CIMA) "...is dedicated to fostering greater energy efficiency through the use of thermally effective and environmentally sound insulation products in the Nation's buildings." Features of the CIMA site include descriptions of the properties of and applications for cellulose insulation, a list of available publications, a series of downloadable special reports, and other consumer-oriented information.

#### 5. Building Research Establishment Ltd.

A recent acquisition of the Foundation for the Built Environment, the Building Research Establishment Ltd. (BRE) is the leading center for research on buildings, construction technologies, and fire prevention in Britain. Summaries of research work in energy-efficient construction and other building-related areas, copies of the organization's press releases, online editions of the BRE News of Construction Research, contact information, and advice from BRE specialists are among the materials posted on this server.

#### 6. Operation Fresh Start

While the Clinton Administration announced the Operation Fresh Start Web site as part of a federal aid package to specifically assist flood victims in the Red River Valley areas of the Dakotas and Minnesota, the information available through this site is of value to any community recovering from a disaster. Developed for the U.S. Department of Energy's Office of Energy Efficiency and Renewable Energy, the Operation Fresh Start Web site is a gateway to disaster recovery information from a variety of federal agencies. Provided here are case studies of successful projects, descriptions of proven methods for helping communities and businesses rebuild or relocate, details of "green" home rebuilding practices, as well as access to information on emergency power sources and recovery assistance programs.

If you have questions about accessing these resources through EREN, please send e-mail to the webmaster.

Sincerely,

Tom Wulf  
Project Leader  
Energy Efficiency and Renewable Energy Network  
National Renewable Energy Laboratory

<http://www.eren.doe.gov/>  
webmaster.eren@nrel.gov

# Newsgroup: alt.energy.renewable

- Re: Unlimited Power Generation - "Ken Broughton" (87)
- Hydrogen production - jay jayarajan (4)
- 5000 mile fuel cell - Harbin Osteen (4)
- Moisture barriers (was: frugal homes) - glena@bbs.cruzio.com (14)
  - Roger P Williams (16)
  - tvoivozhd (52)
    - glena@bbs.cruzio.com (29)
- Sweden to replace nuclear plants with coal
  - Steve Willey (44)
    - Magnus Redin (53)
    - "Richard Willbanks" (55)
  - steven michael rummel (11)
    - Bill Marcum (16)
- Re: solar power efficiency - Steve Willey (39)
  - Caleb Hess (5)
  - Tim Dierauf (36)
  - Tim Dierauf (35)
- Freon based Phase Change Solar Heaters
  - James Bassett (47)
  - Supr-Nova (18)
- Gamma-Watch Discount - YPERWATCH (12)
- Re: A little help please - Paul and Cindy Kruse (41)
- Re: The Conspiracy Theory - Cliff Pratt (22)
- ! PROVEN PSYCHICS!! TRY-IT-FREE!! 1-800-677-8063 - jann@intercall.net (7)
- Re: Sweden to replace nuclear plants with biomass energy - Stuart Brown (21)
- solar power efficiency PV vs heat collector
  - Fred McGalliard (39)
  - Ruppert Georg (33)
    - Nick Pine (33)
- ## Free19.jpg ## - ap23@ap23.com (14)
- caramon.jpg - check@der.com (1)
- Power Station for sale - "Power" (16)
- New braking energy recuperating device - "frederk serrien" (4)
- solar concentrator/sterling engine - dan (12)
- Re: Waste problem ? (was Re: Sweden to replace nuclear plants with biomass energy) - "Ahrvid Engholm" (95)
  - Thomas Palm (104)
- Re: Combustion value of Wood - Nick Pine (63)
  - Jim Anderson (27)
    - Nick Pine (27)
- Ethanol Tax Credit Support - MFatigati (66)
- Re: Vertical axis windmills - Hugh Piggott (25)

- ETERNAL LIFE DEVICE INVENTED - "ALEX"** (62)
- Re: wind generator** - HolyTrinHX (2)
- Energy Efficient Windows** - James Dew (13)
- Wood central heat** - "Vikki Papesh" (21)
- Re: Laundry Clean Without any soap or detergent & Cheaper Too !** - William Paris.Jr (36)
- icy ball refrigerator!** - Christopher Moss (15)
  - DaveHatunen (20)
  - The Lorax (27)
- Re: Availability of renewable energy sources** - J Hughes (7)
  - "Steve Spence" (29)
- Re: CO2 Treaty Dead On Arrival** - Tim Dierauf (10)
- What Environmental Worries?** - "Ken Broughton" (41)
  - steven michael rummel (29)
- !PROVEN PSYCHICS! FREE PREDICTIONS!! FREE!!** - sue@quicklink.com (8)
- Re: Voyaguers Park Faces Threat of Climate Change** - zebo@pro-ns.net (13)

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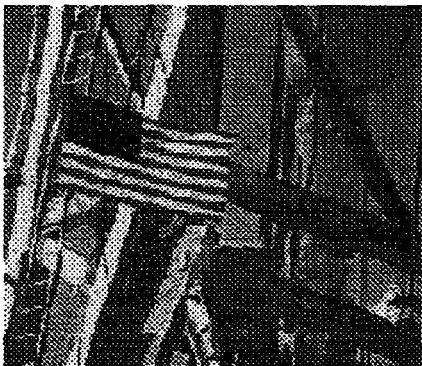
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### BE SURE TO BOOKMARK THIS SITE

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The PTTC has received start-up funds from the U.S. Department of Energy's oil and natural gas programs through the Office of Fossil Energy. Additional funding is provided by several state governments, industry, universities, state geological survey, and other sources.

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- PTTC has just released a new publication titled "The Best of PTTC Workshops." It contains summaries of various workshops sponsored by PTTC. The summaries cover such technologies as 3D Seismic Techniques, Horizontal Drilling and CO<sub>2</sub> Flooding and include problems addressed, an overview of technology, and highlights of field application. To receive a free copy of "The Best of PTTC Workshops" call the national office at 888-THE PTTC.
- PTTC and the Independent Petroleum Association of America are jointly holding the Emerging Technologies Energy Conference (ETEC) planned for Nov. 17-18 in Houston. ETEC will be the only conference and expo to focus on the needs of independent producers.

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[Register now and receive our free quarterly newsletter](#)

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PTTC National Headquarters  
1101 16th Street, NW  
Suite 1-C  
Washington, DC 20036  
Phone: (202) 785-2225  
Call Toll Free: 1-888-THE-PTTC  
FAX: (202) 785-2240  
E-mail: [hq@pttc.org](mailto:hq@pttc.org)

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Visit our New User Page if you are new to this site or to the Web.  
These pages are Netscape enhanced and are best seen using NETSCAPE 2.0 or later.

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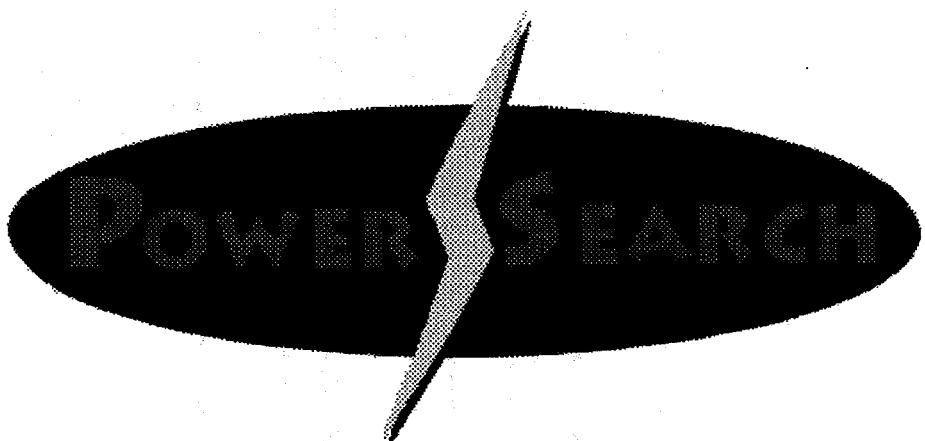
The PTTC gratefully acknowledges the services of Minnesota Supercomputer Center, Inc., which provides the server and storage for these Web Pages, and the other organizations who have donated resources to the PTTC.

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*This site last updated June 10, 1997*

*We encourage your comments, please send us email at: [hq@pttc.org](mailto:hq@pttc.org)*  
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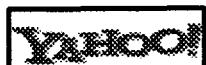
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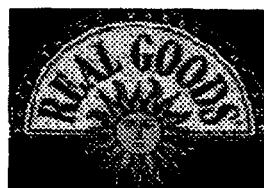
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- " HSPACE=3>Getting to know all about renewable energy sources
- " HSPACE=3>Three unclassifiable sites
- " HSPACE=3>Solar energy, wind energy and biomass



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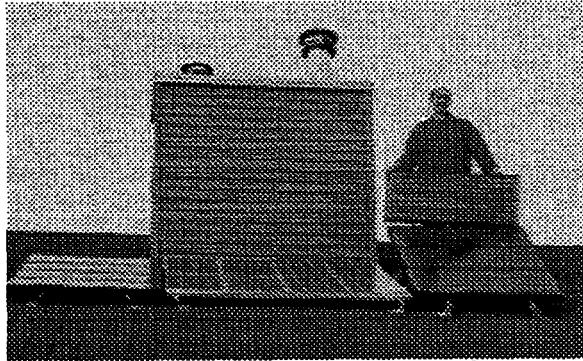
[EREN \(Energy Efficiency and Renewable Energy Network\)](#)

EcoNet's Energy Resources - Renewables

.....



Home Power. The hands-on journal of home-made power



Technopolder / News on the Energy Sector

The Solar Cooking Archive

'Breakthrough in the refugee camps of Kaisra'

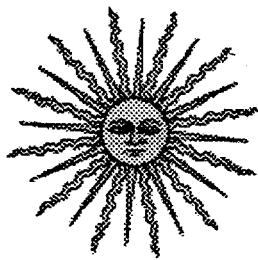
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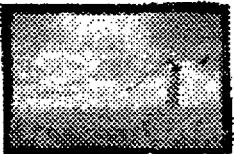
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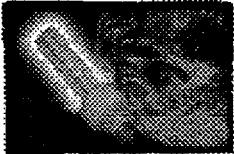
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## Welcome to Solstice

Solstice is the Internet information service of the Center for Renewable Energy and Sustainable Technology (CREST), and is your site for Sustainable Energy and Development Information. We invite you to [Register](#), leave a [Comment](#), or browse our main resource collections, left.

## Solstice Spotlight

**Job Opening - Assistant to Executive Director of CREST** in Washington DC office. Responsibilities include: directly assisting Executive Director in full range of tasks such as managing federal contracts and foundation grants; working with out-of-house accounting firm on accounts receivable and payable; handling DC office tasks; tracking projects and informing staff of deadlines; liaison with payroll and health plan companies; responding to inquiries; assisting Executive Director in submitting proposals and other mailings. Must be highly organized, efficient, and proficient with spreadsheets like Excel, databases like Filemaker Pro, and comfortable with Internet communication. Salary to mid 30s, plus benefits.

### To apply:

email resume to [mpt@crest.org](mailto:mpt@crest.org)

fax to 202-887-0497

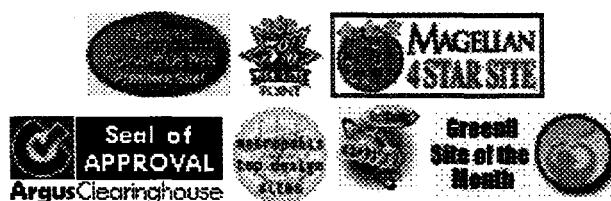
or mail to 1200 18th St NW, 9th floor, Washington, DC 20036.

No phone calls, please.

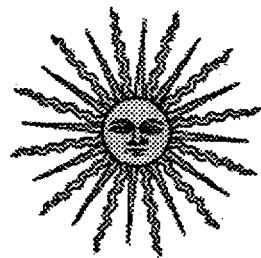
## Recommended Sites

[Northwest Environment Watch \(NEW\)](#) is a wholly independent, not-for-profit research and publishing organization. NEW's mission is to foster a sustainable economy and way of life in the Pacific Northwest, defined as the watersheds of rivers flowing into the Pacific through the largest rainforest outside the tropics. Through their careful research, they have developed means to study local problems, while

keeping a global perspective. This is highly evident in their most recent publication, Stuff: The Secret Lives of Everyday Things. This intriguing study traces the production of ordinary items that are consumed daily in the Northwest, and shows the environmental impacts that occur at each stage of production and consumption.



URL:<http://solstice.crest.org/>  
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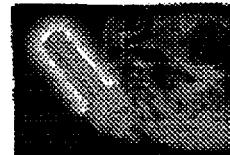
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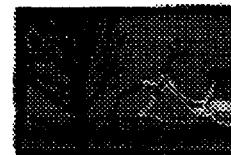
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## Solstice Spotlight

[Geonetwork](#), Geonetwork is the home page of Global Environmental Options (GEO), a non-profit organization dedicated to restoring balance between the natural and human environments through a whole systems approach to sustainable design, planning and education. Highlights of the website include: a Link Library, with close to 2,000 on-line resources sorted alphabetically and/or by topic; a sustainable bookstore, also sorted by topic, where you can browse and shop for books about architecture, planning and more; a Sustainable Design Center; and the first in a series of regional resource directories. Visitors can also link to GEO's [Sustainable National Parks](#) page, which describes the work of GEO and others to promote the the dual goals of sustainable community economies and the preservation of nautral resources in and around our national parks.

## Recommended Sites

[America's Most Enlightened Towns](#) is an online feature in the current Utne reader. It explores the aspects of a town that make everyday life delightful or dreary, and gives some details about the towns that were chosen and why. The towns here have been working, with varying degrees of success, to implement aspects of the rapidly maturing sustainable development movement.





The Center for Renewable Energy  
and Sustainable Technology

URL:<http://solstice.crest.org/>  
Comments & Questions

# Student Engineering Activities

## Web Page!

An EDS sponsored page that covers both EDS and GM's involvement in several student related events like Sunrayce, Solar BikeRayce USA, Solar Splash, and the Formula SAE event.

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### Sunrayce Press Information

The latest Press Releases related to Sunrayce.

A table-compatible browser is highly recommended (the newest versions of Netscape and Mosaic work for this page).

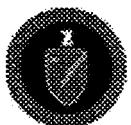
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# Welcome to



## Sunrayce 97 Results and Updates

Since 1990 North American Colleges and Universities have been discovering the exciting and challenging sport of solar car racing. Sunrayce is already one of the World's largest and most recognized solar car races, and is attracting more interest all of the time. This Web Site is dedicated to the promotion of Sunrayce and other exciting collegiate events.

## Official SUNRAYCE 97 Web Page!

Information Center for SUNRAYCE 97, including new developments, rules, the route and the registered teams.

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## Transportation Research Information Services (TRIS)

TRIS is the Transportation Research Board's bibliographic database on the subject of transportation research. The TRIS database contains *document abstracts* describing the published literature of highway research; rural, urban, and intercity transit research, highway safety research, railroad research, maritime research, and air transport research. The online version also contains resumés of *unpublished research in progress* in transit (from the FTA Project Directories and the Transit Cooperative Research Program) and highway research.

Beginning in 1995, BMT Abstracts produced by British Maritime Technology, Ltd. were retrospectively added to the Maritime Research Information Subfile (MRIS) of TRIS. Updated BMT Abstracts were added to MRIS each quarter through November of 1996.

For more information on TRIS, Windows 3.x users may download the self-extracting slide show archive file TRISLIDE.EXE to a temporary directory, then execute the file to extract the contents. Be sure to read the README.1ST file (included in the archive) for procedures to run the slide show.

---

### Document Sources

Sources of full-text versions of documents described in TRIS abstracts are provided in an availability statement ("Available From:") on each of the records. Research in progress records in TRIS provide contact telephone numbers.

Publications of the Transportation Research Board described in TRIS are searchable in the TRB Publications Index, may be purchased online through the TRB Bookstore, and copies are available by phone or fax order from:

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GR 346  
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**Technical reports in the UMTRIS (transit) subfile of TRIS are available from document repositories designated by the Federal Transit Administration.**

---

## **Transportation Libraries**



**Two transportation libraries contribute their cataloging records to TRIS and make their online catalogs available through the Internet:**

- the University of California Institute of Transportation Studies Harmer E. Davis Library (UCB ITS). The holdings of UCB ITS are available in the University of California's online catalog, MELVYL. Many of the documents cited in TRIS are available from the UCB ITS library's photocopy or interlibrary loan service.**
- the Northwestern University Transportation Library (NWUTL). To access the NWUTL online catalog, your web browser must support the Telnet 3270 mode. A Windows Telnet 3270 client, QWS3270.EXE is available as QWS3270.ZIP from the Virtual Shareware Library. For MacIntosh or other operating systems, search that site for the appropriate Telnet 3270 client. The NWUTL document delivery service provides photocopies or interlibrary loans of many of the documents cited in TRIS.**

**Additional information (e.g., online catalogs, transportation video collections, etc.) on transportation libraries and publication collections may be selected from the box below:**

---

**TRIS is available as:**

- **TRIS Online**
- **TRANSPORT, a CD ROM product**
- **TRIS on the Web**

An Information Services Committee provides feedback and suggestions on the future and development of TRIS.

---

## TRIS Online



The online version of TRIS is available as "Transportation Research Information Services (TRIS)", or File 63, through Knight-Ridder Information's DIALOG service. If you are not currently a DIALOG user, you may wish to learn more about this service and how to obtain a DIALOG account.

If you would prefer to perform a TRIS literature search without a DIALOG account, proceed to the description of Electronic Gateways below.



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## Electronic Gateways



N2K Telebase provides electronic gateways to DIALOG and several other information services. The gateways provide direct access to TRIS Online through:

- World Wide Web - the N2K Telebase gateway from the web is:



Click the logo above to learn more about Brainwave, and click here to access TRIS via Brainwave.

- CompuServe - registered CompuServe users may use the Telebase IQuest gateway (GO IQUEST) to access the DIALOG

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## TRANSPORT

 *Document abstracts in TRIS are available in the **TRANSPORT** CD ROM package produced by SilverPlatter Information, Inc. TRANSPORT also contains document abstracts from the following databases:*

- International Road Research (IRRD)** database produced by the 25 member nations of the Road Transport Research Program of the Organization for Economic Cooperation and Development (OECD). IRRD includes records from the ROAD database produced by ARRB Transport Research Ltd., (formerly the Australian Road Research Board.)
- TRANSDOC** bibliographic transportation economics database produced by the European Conference of Ministers of Transport (ECMT). In addition to abstracts of transportation economics literature, TRANSDOC includes railroad literature records provided by the Union Internationale des Chemins de Fer (UIC).

Both IRRD and TRANSDOC are available online through the European Space Agency Information Retrieval System, ESA/IRS.

See below for a comparison of the features of TRIS, TRANSPORT, IRRD, and TRANSDOC.

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5. Click the Select Databases button and proceed with the search on this sample of the TRANSPORT database.

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## Try TRANSPORT for 30 Days

Interested parties may request a no-cost 30 day trial of TRANSPORT by sending a message to Connie Munsters at SilverPlatter Information in the Netherlands or Charlotte Rillie at the Transport Research Laboratory in England. In the United States, call Luella V. Johnson of the Institute of Transportation Engineers at (202) 554-8050, ext. 130.

## TRIS on the Web

TRIS is a fee-based service. It may be searched on the world wide web by those who have registered or subscribed to third party organizations which collect the usage fees. One exception is the Research In Progress subfile of TRIS, which may be searched without fee payment.

Here's a summary of options for searching TRIS on the Web:

- DIALOG Users may use DIALOG Web to search the full TRIS database (DIALOG File 63).
- The Research In Progress subfile of TRIS is freely available for searching on the web without fee payment.
- Document abstracts from TRIS may be searched using the WebSPIRS interface provided by to TRANSPORT
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    3. pressing the Search button to proceed.
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- To search TRIS using the BrainWave electronic gateway,
  1. Register here for a BrainWave account, then

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## **TRB Information Services Committee (B0002)**

**The TRB Information Services Committee serves as a sounding board and feedback mechanism to ensure the quality of the Transportation Research Information Services (TRIS) and the TRB Library services. The committee assists TRB in the development of improvements to these services, in some cases by forming working subcommittees. It assures that TRB's sponsors, affiliates and other users of these services receive the full benefits and value intended by TRB as the service provider.**

**Questions or comments about the committee may be directed to Jerome T. Maddock, Manager of Information Services:  
jmaddock@nas.edu.**

---

## **Transportation Database Comparison**

Features	TRIS	TRANSPORT	IRRD	TRANSDOC
<b>Subject Coverage</b>	Multimodal Research	Multimodal Research	Highway Research	Multimodal Economics and Rail
<b>Online Carrier</b>	<u>Knight-Ridder</u> <u>DIALOG</u>	N/A	<u>ESA/IRS</u>	<u>ESA/IRS</u>
<b>Bibliographic Records with Abstracts</b>	Yes	Yes	Yes	Yes
<b>Research In Progress</b>	Yes	No	Yes	Yes
<b>Language of Source Documents</b>	English	Any	Any	Any
<b>Language of Records</b>	English	English, French, German or Spanish	English, French, German or Spanish	English, French, or German
<b>Internet Access</b>	Telnet	<u>WebSPIRS</u> , <u>ERL</u>	Telnet	Telnet

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# Transportation Research Information Services (TRIS)

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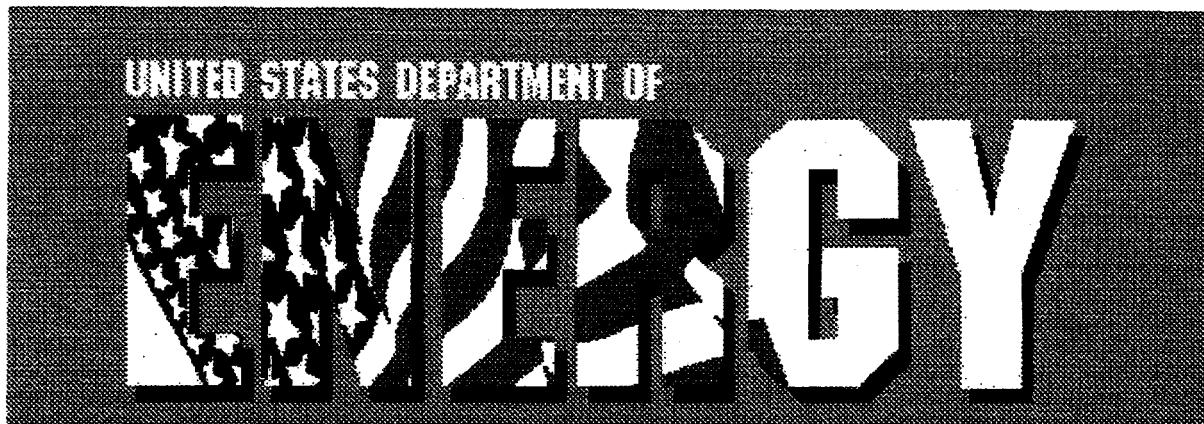
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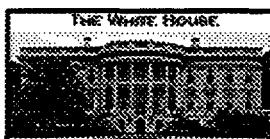
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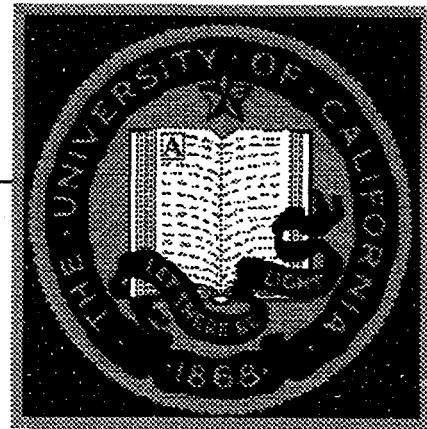
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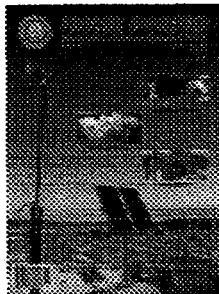
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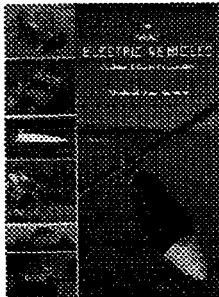
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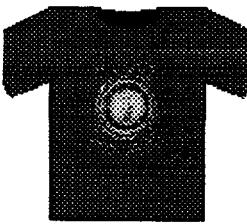


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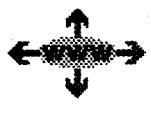
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- [Bob-O.Schultze@homepower.org](mailto:Bob-O.Schultze@homepower.org) - writer, hydro-maniac, electrical contractor, and does just about anything (and probably has)
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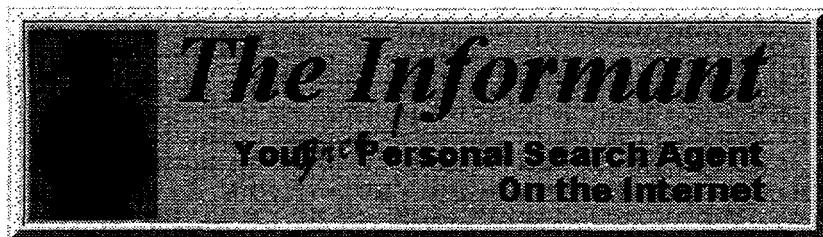
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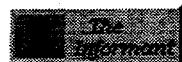
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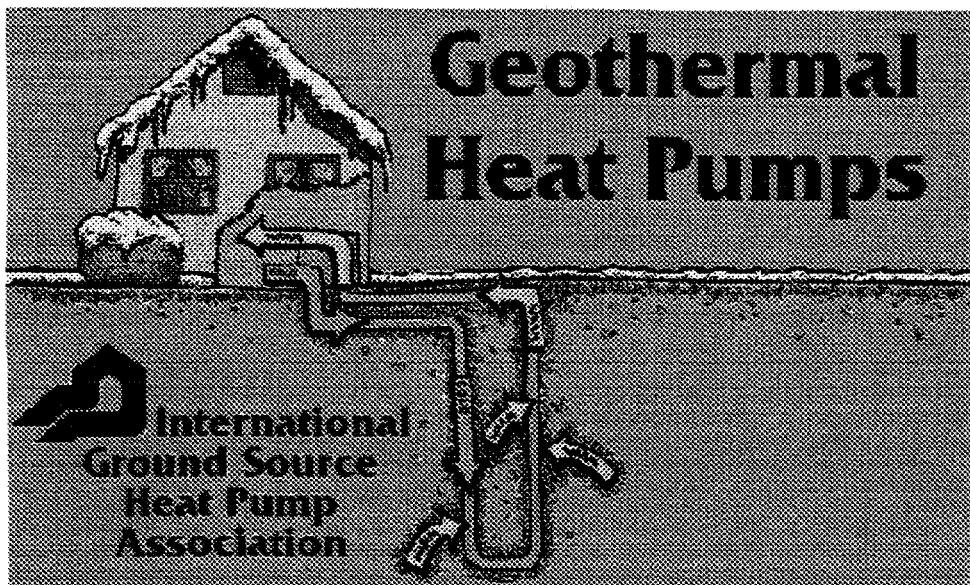
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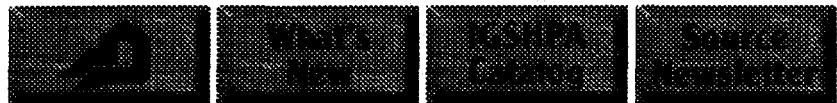
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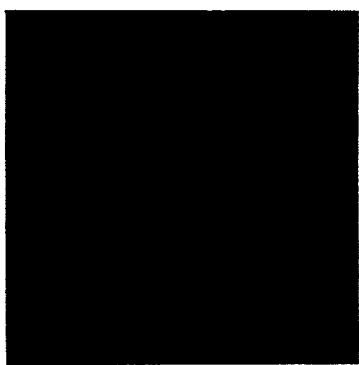
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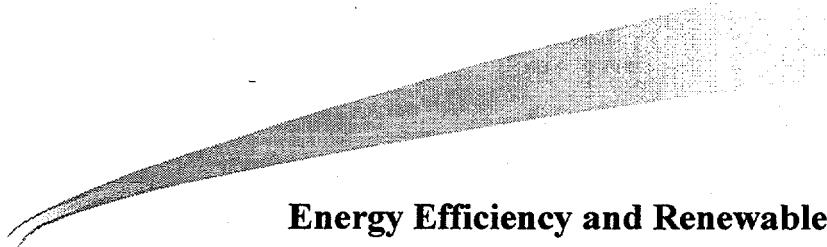
If you are interested in a topic or technology that is not covered by one of the fact sheets below, please contact the Energy Efficiency and Renewable Energy Clearinghouse by mail or phone at: P.O. Box 3048, Merrifield, VA 22116; 1-800-DOE-EREC (363-3732); or 1-800-273-2957 (for the hearing impaired). You may also send your requests and questions electronically through our computer bulletin board at: 1-800-273-2955; via our Ask an Energy Expert form; or by fax at: 1-703-893-0400.

### Documents in "text only" format (no graphics)

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- [Automatic and Programmable Thermostats](#)
- [Cooling Your Home Naturally](#)
- [Earth-Sheltered Houses](#)
- [Energy Efficient Lighting](#)
- [Energy Efficient Water Heating](#)
- [Energy-Efficient Windows](#)
- [Energy-Saving Tips for Small Businesses](#)
- [A Guide to Making Energy-Smart Purchases](#)
- [Landscaping for Energy Efficiency](#)
- [Learning About Renewable Energy \(For Young Scholars\)](#)
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- [Residential Solar Heating Collectors](#)
- [Selecting a New Water Heater](#)
- [Small Wind Energy Systems for the Homeowner](#)
- [Solar Heating and You \(For Young Scholars\)](#)
- [Solar Water Heating](#)
- [Sunspace Basics](#)

### Documents in .pdf format (fully formatted with graphics)

- [Advances in Glazing Materials for Windows](#)
- [Automatic and Programmable Thermostats](#)
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### **Appendix G**

### **Bibliography**

## Appendix G

### Bibliography Part I: Quality in Web Design

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**Appendix H**

**Detailed Responses - Disk (3½-inch, ASCII)**