

Advanced Technology Environmental and Energy Center

Presented By:

**Todd D. Trammell, MSEM, REM
- Center Director**



National Science Foundation

Advanced Technology Education (ATE)

**Promotes improvements in science
and math, intended to benefit
students who plan to become
technicians in the high
performance workplace.**





NSF – ATEEC History



Original ATE Center Grant

September 1994 – August 1997



NSF – ATEEC History



2005 NSF Award

**Planning for a Resource
Clearinghouse
for Sustainable Energy
Technologies**



New Resource Center Grant

- **Title:** The Advanced Technology Environment **and Energy** Center: A Resource Center
- **Grantor:** NSF's ATE program
- **Type of Grant:** Resource Center
- **DUE Award:** #0702439
- **Duration:** 09/01/07 through 08/31/11



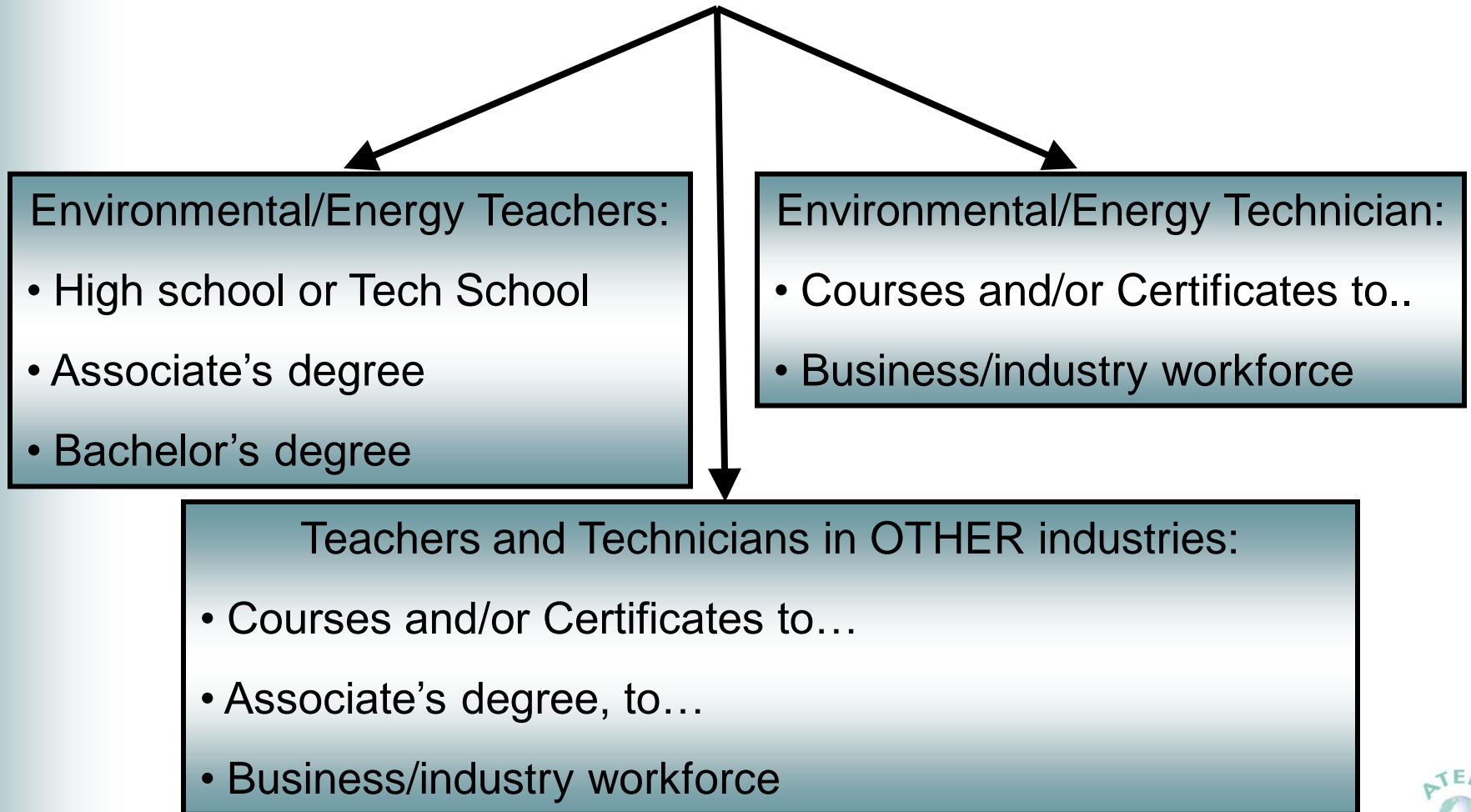
CENTER MISSION

The advancement of environmental **and sustainable energy technology education through curriculum, professional and program development and improvement.**



Audiences:

Technicians & Technician Instructors





University of Northern Iowa



National Renewable Energy Lab



*laboratory
for energy
and the
environment*

Massachusetts Institute of Technology




- National “Defining the Field” forums in 2007 to define and categorize the environmental and energy technology fields and develop occupational information on jobs and functions.



FREE DOWNLOAD



Web Site: www.ateec.org



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LEADING THE WAY IN ENVIRONMENTAL AND ENERGY EDUCATION...

TOP DOWNLOADS

- [-Defining Energy Technologies Report](#)
- [-Defining Environmental Technology report](#)
- [-Guide to Virtual Field Trips Using Google](#)
- [-Google Earth - Alaska](#)

UPCOMING EVENTS

- [- ATEEC Fellows 2008](#)
- [- SEET Workshop 2008](#)
- [- All Events](#)

SUPPORTED




ATEEC is supported and funded in part by the [National Science Foundation](#).

ADVANCED TECHNOLOGY ENVIRONMENTAL AND ENERGY CENTER

The Advanced Technology Environmental and Energy Center (ATEEC) is a national center that promotes and supports environmental and energy technology education to address the needs of the national and global workforce.

2008 ATEEC "Defining the Field" Reports Released



FREE DOWNLOAD

(Defining Energy Technologies and Services and Defining Environmental Technology)

LATEST ANNOUNCEMENTS

- [Rep. Bruce Braley visits with ATEEC](#)

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PRODUCT USABILITY

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Where are the U.S. Environmental & Energy Technology Programs?

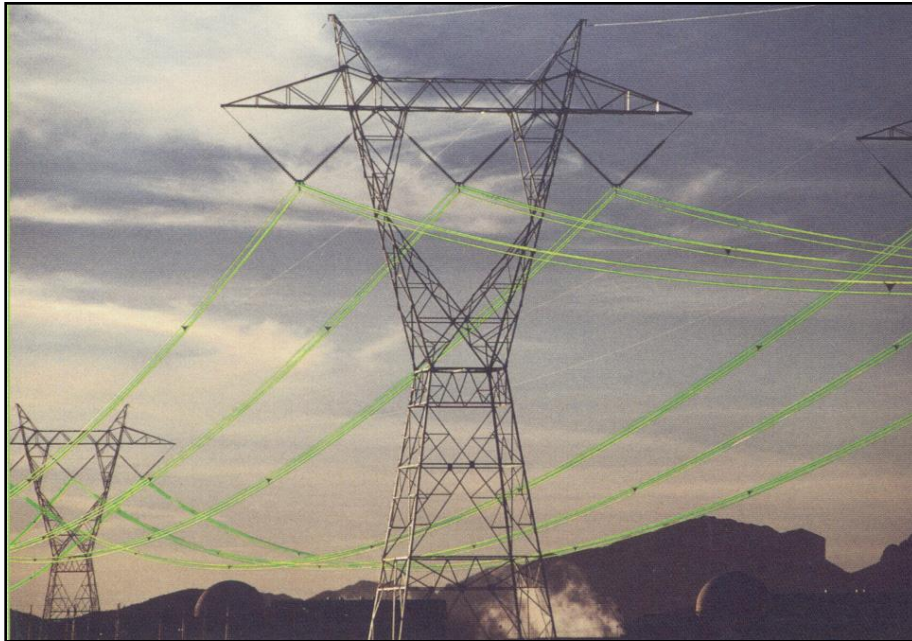


ATEEC Online Program Information Survey

- When you are at our website, please take a moment to complete the ATEEC Information Survey form at this button:

**Energy Programs
Add Your Program**

“Sustainable” Energy Technology Resource Center



Developed within ATEEC’s existing environmental technology center

Centralized resources: “**one-stop shop**” for energy education and training information



Twice a year, ATEEC publishes *ATEEC News*

- latest news in environmental technology education
- available electronically via our Web site



**ATEEC is posting online a list of
“Upcoming Environmental and
Energy Events”**





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Energy

Find activities for these occupational titles:

- Energy Auditor
- Energy Technician
- Energy Conservation Specialist
- Renewable/Alternative Energy Technician
- Industrial Process Technician

Sort By:

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FREE Products



FREE Presentations

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SEET Presentations

(from the 2007 SEET Workshop at the National Renewable Energy Laboratory)

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- [Bioenergy](#)
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Renewable Energy Overviews



[Why Renewables? Peak Oil and Gas and Our Energy Dilemma](#)
Steve Andrews, ASPO/USA

[Renewable Energy Introduction and Models](#)
Roger Taylor, NREL



[Utility Green Power Programs: Providing Consumers with Choice](#)
Lori Bird, NREL

Bioenergy

[Biohydrogen Research at NREL](#)
Maria L. Ghirardi, NREL



[What's in Your Tank? Biodiesel Could Be the Answer](#)
Matt Brown, Lakewood High School
Tom Hersh, Golden West Community College

[Bringing Biodiesel into Your Classroom*](#)

Matt Bullwinkel, SUNY Canton
Rachel Burton, Central Carolina Comm College



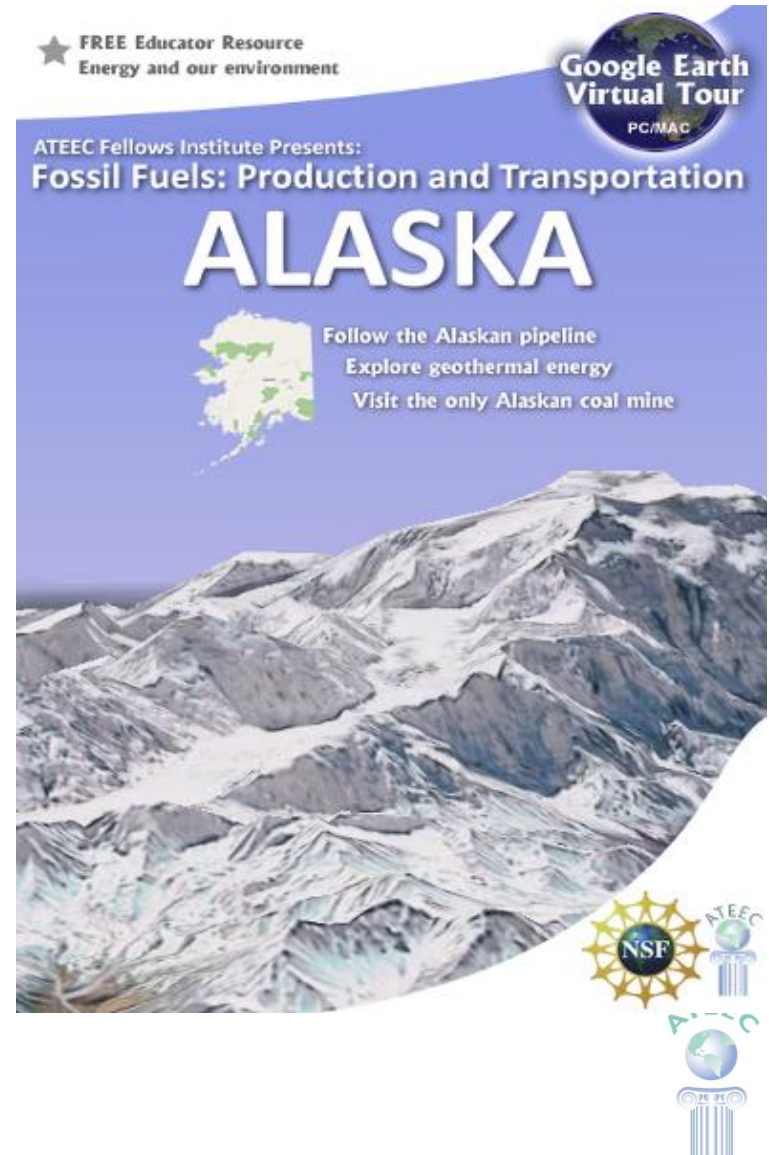
ATEEC Fellows Institute



Partners: ATEEC & UNI

Fellows- Teaching and learning effective classroom strategies

Sharing and creating resources to teach environmental and energy issues to the public, HS & 2-year college students and technicians



ATEEC Fellows Products

Last Institute Outcomes:

**Google Earth™ based
“virtual” tour of
Alaska.**

**Enjoy the classroom
activities, with
pictures and video
experiences**



FREE DOWNLOAD



FREE Online Discussion forums - technical, educational, professional opportunities

2008 SEET Workshop Discussion

You are logged in as [Melonee Docherty \(Logout\)](#)

ALC ► SEET 2008

Switch role to... Turn editing on

People

Participants

Activities

Forums
Resources

Search Forums

Administration

- Turn editing on
- Settings
- Assign roles
- Grades
- Groups
- Backup
- Restore
- Import
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- Reports
- Questions
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- Unenrol me from SEET 2008

My courses

- 2007 SEET Workshop Discussion
- 2008 SEET Workshop Discussion

All courses ...

Topic outline

- News forum
- Social forum

- Questions during workshop
- Recommended instructional resources (during workshop)
- Add your own instructional material(s) here
- Recommended professional development opportunities **4 unread posts**
- Archive: Questions: before workshop
- Archive: Add recommended resource(s) here (pre-workshop) **1 unread post**
- Archive: Get to know each other
- Archive: Pre-workshop activities
- Documents you'll need
 - SEET Agenda
 - SEET Workshop Guide (updated 7/2/08)
 - SEET Participants
 - Airport shuttles/ground transportation (updated 4/21)
 - CSM Campus Map
 - Golden Map
 - NREL Map
 - NREL Fact Sheet 2007
 - Expense form - general
 - Expense form - equipment/materials
 - Expense form - travel - updated
 - Outcomes & deliverables

Messages

No messages waiting
[Messages...](#)

Online Users

(last 60 minutes)

[Melonee Docherty](#)

Done



Sustainable Energy Education Training (SEET Project)

NSF Award Number: 0602633

Partners: ATEEC, PETE, NREL, UNI

**Objective: Host two professional development
workshops for high school and community
college educators focused on:**

- Wind and Solar power
- Bio-energy resources
- Sustainable Building technologies



Image Gallery

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ADVANCED TECHNOLOGY ENVIRONMENTAL AND ENERGY CENTER

Sustainable Energy Image Gallery

Click on one of the categories below to view pics from the 2007 SEET Workshop. (If you'd like a high resolution jpg image (1 to 2 MB) of any of these, contact [ATEEC](#) and we'll e-mail it to you.) The 2008 SEET Workshop images will be available at the end of this summer.

The images in this section have been generously donated by educators to be shared with and used by others. They may be copied and used in the classroom as applicable under the Fair Use exemption of the U.S. Copyright Act. ATEEC is not responsible for content.

ATEEC is in the process of designing this space as a free **resource-sharing** site for students, technicians, educators, and trainers, so if you have sustainable energy photos you're willing to share online, contact [ATEEC](#) and we'll let you know how to submit them.

2007 SEET Workshop Photos

Main Menu	Bioenergy Lab	Bioenergy REFUEL	Energy Efficiency	Miscellaneous
People	Presentations, NREL	Presentations, SEET Instructors	Scenery 1	Scenery 2
Solar	Wind, NWTC installed turbines	Wind, NWTC other	Wind, Small	
SEET Schools - Sustainable Energy Program Photos				
		Diablo Valley College, Solar PV		



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ADVANCED TECHNOLOGY ENVIRONMENTAL AND ENERGY CENTER

Recommended Instructional Materials for Sustainable Energy

Sustainable energy instructional materials recommended
 BY energy technology instructors
 FOR energy technology instructors

Click on one of the items below to view and download instructional materials created by instructors from the 2007 SEET Workshop. The 2008 SEET Workshop instructional materials will be available in the fall.

The materials in this section have been generously donated by educators to be shared with and used by others. They may be copied and used in the classroom as applicable under the Fair Use exemption of the U.S. Copyright Act. ATEEC is not responsible for content.

ATEEC is in the process of designing this space as a free **resource-sharing** site for educators and students, so if you have sustainable energy instructional materials you're willing to share online, contact [ATEEC](#) and we'll let you know how to submit them.

[SEET Workshop Projects](#) [Types of Materials](#) [Categories of Materials](#)

2007 SEET Workshop Projects--Presentations

Topic	Title	Author(s)
Biodiesel	Bringing Biodiesel into Your Classroom	Matt Bullwinkel, Rachel Burton, Chuck Lawrence, Tom Montagno, Ken Walz,
Curriculum framework	Ec-FREE: Environmental Curriculum Framework for Renewable Energy Educators	Guy Zaczek, Awilda Melendez, Joe Jordan, Tom Chatagnier, Subodh Singh
Energy-efficient construction	Building an Energy Efficient and Healthy Home	Wes Golomb, Bill Nash, Ted Rodriguez, Rod Trump, Bill Walz
Photovoltaic	Introduction to Photovoltaics	Jim Harper, Larry Snyder, Ella Spiegel
Small wind	The Economics of Small Wind Turbines	Jim Buck, Rich Lawrence, Rich Porter, Mike Schmidt
Sustainable campuses	Towards A Sustainable Campus	Kevin King, Brian Ritter



Instructional Materials





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ADVANCED TECHNOLOGY ENVIRONMENTAL AND ENERGY CENTER

SEET Recommended Resources for Sustainable Energy

Sustainable energy resources recommended
BY energy technology instructors
FOR energy technology instructors

ATEEC is in the process of designing this space as a **resource-sharing** site for educators and students, so if you have sustainable energy resources you'd like to recommend, contact [ATEEC](#) and we'll let you know how to submit them to be posted here.

Categories of resources, to be added Fall 2008:

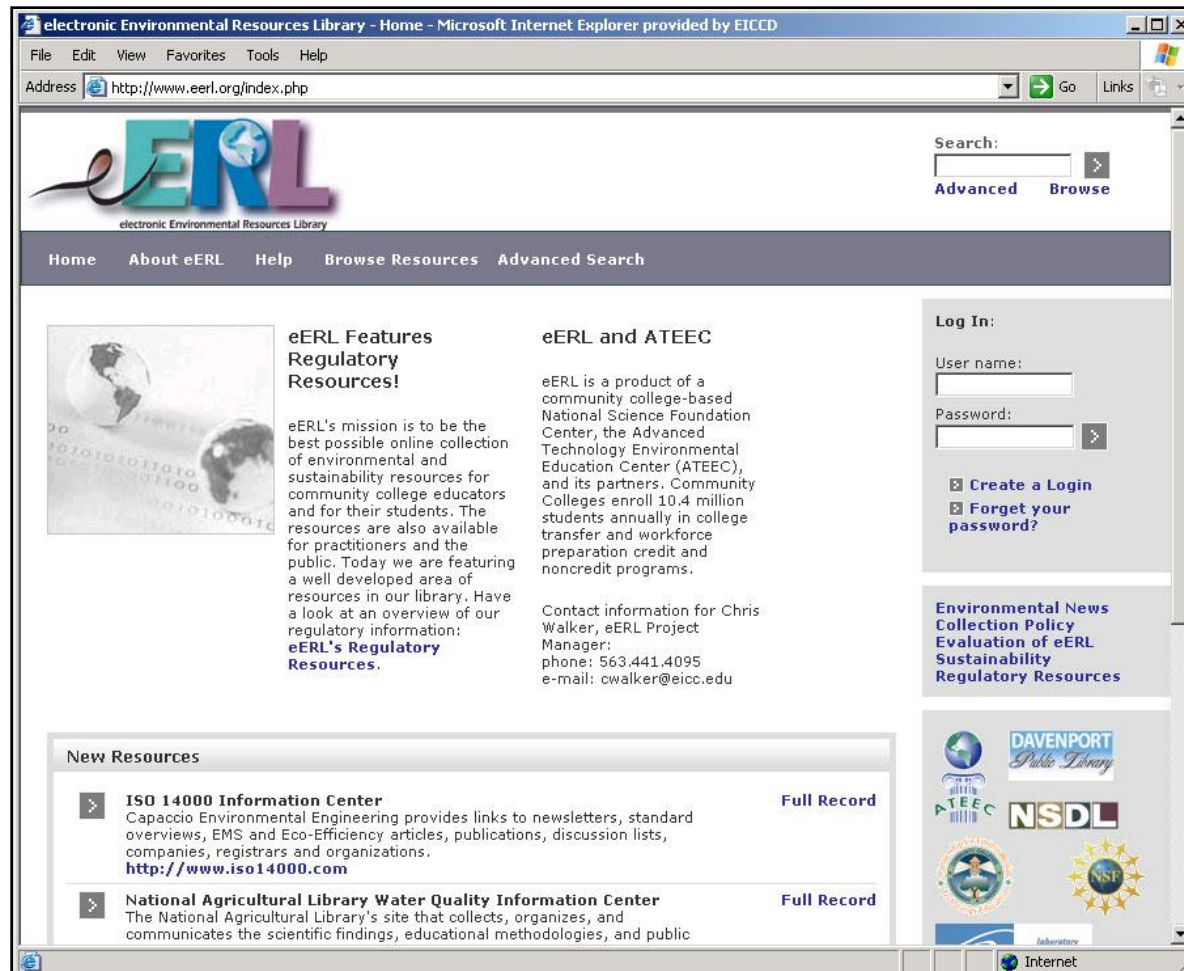
- Bioenergy
- Building/construction
- Coal
- Conventional energy, general
- Energy efficiency
- Energy conservation
- Geothermal
- Hydrogen fuel cell
- Hydropower
- Nuclear
- Petroleum-based
- Renewable energy, general
- Solar, photovoltaic
- Solar, thermal
- Sustainable energy, general
- Wind
- Miscellaneous

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Recommended Resources Lists



EERL: Environmental & Energy Resources Library: www.eerl.org



The screenshot shows the EERL website in a Microsoft Internet Explorer browser window. The address bar displays <http://www.eerl.org/index.php>. The website features a search bar with "Advanced" and "Browse" options. A navigation menu includes "Home", "About eERL", "Help", "Browse Resources", and "Advanced Search".

eERL Features Regulatory Resources!

eERL's mission is to be the best possible online collection of environmental and sustainability resources for community college educators and for their students. The resources are also available for practitioners and the public. Today we are featuring a well developed area of resources in our library. Have a look at an overview of our regulatory information: [eERL's Regulatory Resources](#).

eERL and ATEEC

eERL is a product of a community college-based National Science Foundation Center, the Advanced Technology Environmental Education Center (ATEEC), and its partners. Community Colleges enroll 10.4 million students annually in college transfer and workforce preparation credit and noncredit programs.

Contact information for Chris Walker, eERL Project Manager:
phone: 563.441.4095
e-mail: cwalker@eicc.edu

Log In:

User name:
Password:

[Create a Login](#)
 [Forget your password?](#)

Environmental News Collection Policy Evaluation of eERL Sustainability Regulatory Resources

New Resources

- ISO 14000 Information Center** [Full Record](#)
Capaccio Environmental Engineering provides links to newsletters, standard overviews, EMS and Eco-Efficiency articles, publications, discussion lists, companies, registrars and organizations.
<http://www.iso14000.com>
- National Agricultural Library Water Quality Information Center** [Full Record](#)
The National Agricultural Library's site that collects, organizes, and communicates the scientific findings, educational methodologies, and public

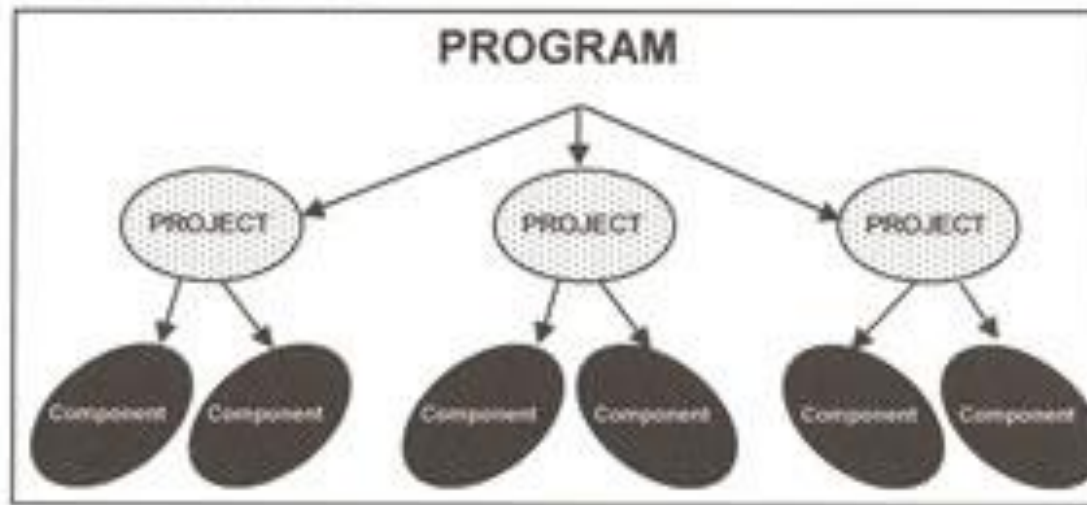
Logos for Davenport Public Library, ATEEC, NSDL, and NSF are visible at the bottom of the page.



Additional ATEEC Services

ATEEC provides contract service including:

- **Instructional Design services**
- **Facilitates focus groups and DACUMs**
- **Program and Project external evaluation**



**Energy Resource Center is being built
from ATEEC's experience with SEET**

**The Center network will be expanded to
national audience by **Dec. 2008****

**Are you interested in being notified
when the Resource Center is
expanded beyond pilot testing?**

Email: ttrammell@eicc.edu



**Advanced Technology Environmental &
Energy Center**
Contact Information

Todd D. Trammell, ATEEC Director
500 Belmont Rd
Bettendorf, IA 52722

**Tel: (563) 441-4090 Fax: (563) 441-
4080**

Email: ttrammell@eicc.edu

Web Site: www.ateec.org

