

2007 SEET Project

2007 SEET Workshop Deliverables/Outcomes		
Deliverable/outcome	Detail	Due
1. Contribute to group's recommended resources list.	To be shared in a resource clearinghouse	Pre-workshop or no later than end of workshop
2. Contribute a recommended instructional material.	For example, core curriculum, classroom activity, syllabus, lesson plan, etc. to be shared in a resource clearinghouse	Pre-workshop or no later than end of workshop
3. Develop & present group activity.*	Groups to be determined. Activity is to develop an instructional resource (e.g., activity, lesson plan, etc.) to be implemented in classroom & shared in resource clearinghouse.	End of workshop
4. Participate in two follow-up group meetings.	Online meetings after the workshop	Oct 2007 & Feb 2008
5. Report on implementation of workshop-to-classroom learning.*	Sustainable energy material from workshop implemented in the classroom	End of 2007 fall semester and/or end of 2008 spring semester
6. Provide student impact information.*	For class(es) taught & workshop dissemination activities through pre- & post-testing, surveys, etc.	End of 2007 fall semester and/or end of 2008 spring semester
7. Perform two dissemination activities.*	"Train-the-trainer" type of activity to disseminate SEET knowledge to peers; local, regional, and/or national	Thru May 2008
8. Provide workshop and project evaluations.	Written & online surveys, focus group	End of workshop & May 2008

*See below for additional information.

Deliverable #3: DEVELOP & PRESENT GROUP ACTIVITY.

During the workshop, five teams of five participants will develop a sustainable energy instructional resource based on learning from the 2007 SEET Workshop:

- During online discussion prior to the workshop, participants will have the opportunity to get to know one another and form into groups of five with like interests, if they wish. If groups aren't formed, NREL will make group assignments on the first day of the workshop.
- Opportunities for further discussion, questions, and group work will be provided throughout the workshop.
- A working prototype of the resource will be presented to the rest of the group on the last day of the workshop (Friday, July 27).
- Teams will use PowerPoint and/or other visual aids to share their work with all workshop participants and staff in the July 27 presentation sessions.
- The materials will be pilot-tested in the team members' classrooms after the workshop.

- Following pilot-testing in the classroom, the teams and/or individuals will submit the resources to ATEEC for inclusion in an online sustainable energy resource clearinghouse format.

Criteria for Development

Any deliverable developed will:

- Address programmatic or curricular needs of an institution with respect to the workshop thematic areas of renewable energy and/or energy efficiency
- Include learning objectives, outcomes, and an assessment or certification plan to measure student performance
- Involve students in research, problem-solving, hands-on, and/or laboratory-based learning opportunities or through actual work experience
- If applicable, meet local, state, and/or national standards or certifications for science, technology, engineering, and/or mathematics
- Demonstrate direct impact on the development of students' scientific, technical, and/or mathematics knowledge and skills

Workshop Themes

During the workshop at NREL, participants will be exposed to ongoing research and development by NREL staff in the following broad areas:

- Building Design & Energy Efficiency
- Renewable Energy Research and Technology
- Climate Change and Energy
- Wind Energy
- Solar Thermal
- Solar Photovoltaics
- Bioenergy
- Alternative Fuels
- Curriculum Articulation

Deliverable Topics

It is suggested that each team reach consensus to choose a topic and a specific focus within that topic for their instructional resource (at least to the course, unit, or even lesson level). For example, a program in Solar Energy Systems could be divided into several courses such as:

- Solar Thermal Technologies (with units or lessons on Site Evaluation, Installation, etc.)
- Photovoltaic Energy Systems (with units or lessons on Site Evaluation, Installation, etc.)
- Advanced PV Studies (with units or lessons on Residential or Commercial Applications, Installation/Construction, Maintenance, etc.)

Some examples (and these are EXAMPLES only, each group will decide on its own focus) for topics include:

- Building design and construction issues for the 21st century
- Community planning to maximize energy efficiency and use of renewable energy
- Workforce development requirements for renewable energy technologies
- Micro-grids: Small scale energy systems
- Turbine design and maintenance
- Introduction to PV: site assessment, load analysis, array design, building, testing, grid-tied vs. stand-alone systems
- Biomass production, analysis, and processing
- Bio-hydrogen production, storage, and production of electricity
- Renewable energy and energy efficiency in the context of global warming
- Curriculum articulation from high school to community college, or community college to university

**Deliverable #5: REPORT ON IMPLEMENTATION OF
WORKSHOP-TO-CLASSROOM LEARNING.**

Outline to be provided.

Deliverable #6: PROVIDE STUDENT IMPACT INFORMATION.

Outline to be provided.

Deliverable #7: PERFORM TWO DISSEMINATION ACTIVITIES.

Details to be provided.