




Northeast Solar Heating and Cooling Instructor Training Project

Market Transformation

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Overview

Timeline

- Project start date: January 1, 2010.
- Project end date, Phase I, June 30, 2011.
- Project completed: 2%.

Budget

- Total Project Funding
  - DOE share - $954,716
  - Cost share - $ 0
- Funding in FY'09 = $0
- Funding in FY'10-11 = $954,716

Barriers

- Standardized training
- Educated & empowered instructors
- Accelerated market adoption & demand for renewable tech.
- Collaboration
- Sustainable employment

Partners

- Project lead: Kennebec Valley Community College
- Connecticut, Maine, Massachusetts, New Hampshire, New York, Rhode Island, Vermont

Solar Energy Technologies Program

Barriers to Success

- Limited education for and insufficient numbers of trained and experienced personnel and services represents a barrier to development and deployment of solar technologies.
- A well-trained workforce is necessary to ensure quality installations, cost reductions, and consumer confidence in the reliability of solar installations.

Northeast SHC Instructor Training Project

The mission of the Northeast Solar Heating and Cooling Instructor Training Project is to increase access to instructor training and create pathways for the highly-skilled, technical workforce demanded by the Northeast Region's growing solar energy system industry.

Addressing the Problem

- The Northeast Solar Heating and Cooling Instructor training project will increase access to instructor training.
- This training will support community colleges, career & technical education centers, and private industry in training and creating pathways for the highly-skilled, technical workforce demanded by the Northeast Region's growing solar energy system industry.
- Instructors who participate in this project will create a pipeline of skilled and qualified workers ready to meet the projected need for technicians in the rapidly expanding field of solar energy system installation, maintenance and repair.
- Increased market demand for solar technologies will occur because a well-trained workforce is available to ensure quality workmanship, cost reductions, and consumer confidence in the reliability of solar installations.

Goals

- **Increase the quality and availability** of instruction related to the installation of solar energy systems in Connecticut, Maine, Massachusetts, New Hampshire, New York, Rhode Island, Vermont (Northeast).
- **Address the critical need** for workforce development in renewable energy.

Objectives

- **Participate in the National Consortium** with other national and regional experts in solar training to share, develop, and disseminate model curricula, lessons learned, and best practices.
- **Increase the capacity of educational providers** throughout the Northeast, including but not limited to community colleges, career & technical education centers, and other private industry training programs, to train workers in careers dealing with the SHC installation process.
- **Facilitate and support the inclusion of SHC theory, design and application** to create a national educational and training infrastructure.
- **Share, develop, and disseminate** model curricula, lessons learned, and best practices regarding SHC installer instructor training.
- **Transform the market for solar installations and create sustainable jobs.**

January 2010 – June 2011

- **Needs Assessment/Expanded Territory**
- **Facility Renovation/Lab Construction –** renovate a former carpentry lab area to house the SHC training lab.
- **Mobile Laboratory –** Procure and establish a mobile solar energy systems training unit to expand the impact of the project and provide access to instructors throughout the Northeast**.**
- **Hire Faculty** - Conduct an extensive search to hire a qualified faculty member to teach the curriculum for SHC.
- **Advisory Council -** Establish a Program Advisory Council that will provide input to the curriculum development process, market professional development opportunities and identify additional resources for the project.
- **Curriculum Development** - Modify existing curriculum to develop train-the-trainer programs in SHC .
- **Regional Outreach Plan** – After needs assessment, create a four year regional outreach plan which provides training opportunities for instructors on campus at KVCC and through the use of mobile, video teleconferencing, and online opportunities.
- **Collaboration with the National Consortium**

SHC Training Program

Instructors will be drawn from the following curriculum areas:

- Plumbing Technology
- Heating Technology
- Plumbing and Heating Technology
- Heating, Ventilation, and Air Conditioning Technology
- Engineering Technology
- Environmental Technology

Training and professional development opportunities include:

- *Qualified Solar Heating & Cooling Instructor Certificate:* Course curriculum is designed around NABCEP Task Analysis and successful completion will provide eligibility for the NABCEP Solar Thermal Installer Exam.
- *What's New in Solar Energy Systems:* short-term, continuing education opportunities on changes in solar technology.
- *Regional Solar Technology Forums:* provide networking opportunities for instructors, employers, economic and workforce development professionals and other stakeholders in the field of solar installation workforce development.
- **Training Estimate:** 700-1,000 instructors during the five year project period, assuming two instructors are trained from each of the 400 providers in the region during the grant period.

Partners

- **Connecticut:** CT Clean Energy, Connecticut Career and Technical High Schools, Connecticut Community College System, Connecticut Association of Plumbing Heating Cooling Contractors, Local 777.
- **Maine:** Efficiency Maine, Maine Community College System, Maine Career and Technical High School System, University of Maine, Associated Builders and Contractors of Maine, Local 716 and 659, Plumbing Heating Cooling Contractors of Maine.
- **Massachusetts:** Massachusetts Regional Vocational Technical High Schools, Massachusetts Community College System, Massachusetts Association of Vocational Administrators, Local 4, 12, 537 and 550, Plumbing Heating and Cooling Contractors of Massachusetts.
- **New Hampshire:** New Hampshire Regional Career and Technical Centers, Community College System of New Hampshire, Local 131, Associated Builders and Contractors of New Hampshire, New Hampshire Plumbing and Mechanical Contractors Association.
- **New York:** SUNY Community College System, NYC Community College System, Boards of Cooperative Educational Services of New York, Locals 1, 7, 13, 21, 22, 73, 112, 267, 373, 773, New York State Association of Plumbing Heating and Cooling Contractors, NYSERDA.
- **Rhode Island:** Rhode Island Career and Technical High Schools, Community College of Rhode Island, Local 51, Rhode Island Plumbing Heating Cooling Contractors Association.
- **Vermont:** Vermont Career and Technical High Schools, Vermont Technical College, Vermont Community College, Renewable Energy Vermont, Efficiency Vermont, Associated Builders and Contractors of Vermont, Local 693.

Significant Accomplishments this Period:

- **Task 1.0 Budget Negotiation/Contract Formalization** - KVCC formalized a contract with DOE to commence implementation of the Solar Installer Instructor Training Project, effective January 1, 2010.
- **Subtask 1.1 Hire Program Administrator** - The Program Administrator was hired on 2/1/10.
- **Task 2.0 Needs Assessment/Expanded Territory -** Results have been received from all states in the region except Rhode Island and New York.
- **Task 3.0 Facility Renovation/Lab Construction** - An A/E firm has been hired to provide planning, full design services through construction documentation, and construction administration for the renovation of the Whitney Wing Carpentry Lab to support a new solar thermal heating and cooling training lab.

Budget Status and Expansion

Total Budget:

- Total Project Funding
  - DOE share - $954,716
  - Cost share - $ 0
- Funding in FY'09 = $0
- Funding in FY'10-11 = $954,716
- On Budget

Needs and Requests

- Project Approach/Delivery
- Curriculum Models, Standardization, Experience
- Technology Experience , Recommendations, Options
- Course Delivery/Diversity
- ISPQ Accredited Continuing Education Provider Certification Process
- Site Visits

Future Activities

- **Solar Program Review** - participate in DOE Solar Program Review in Washington, DC, May 26-28, 2010.
- **Hire Faculty** – hire an appropriate faculty member by the end of Q2, beginning of Q3. Faculty will begin expanding/developing curriculum.
- **Needs Assessment/Expanded Territory** – complete needs assessment by the end of Q2.
- **Facility Renovation/Lab Construction** - construction/renovation completion date of October 31, 2010.
- **Website/Public Awareness** - Create a webpage dedicated to the project.

Market Permeation = Market Transformation

All instructors who are eligible to take advantage of the training program are provided that opportunity in a manner which is accessible, attainable, affordable, and non-restrictive. This will allow knowledge transfer to be easily absorbed and diffused from a low concentration of the region to a high concentration of the region. To accomplish this, KVCC will:

1) **provide mobile laboratory training opportunities in various locations throughout the Northeast to increase geographic proximity;**

2) **also provide a variety of training opportunities via classroom, laboratory, polycom and on the web;**

3) **subsidize the cost of training for participant affordability; and**

4) **provide Continuing Education Units (C.E.U.s) that instructors can use towards re-certification/licensure/professional development.**

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