
Certification for Renewable Energy Practitioners

*Building a strong and qualified
workforce*

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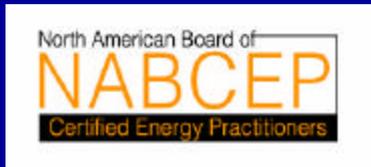
Interstate Renewable Energy Council

November 14, 2002 at UPEX

What's going on?

National effort is underway to offer quality credentials that indicate a level of knowledge and skills competency for renewable energy practitioners

National Board Formed



The North American Board of Certified Energy Practitioners

NABCEP is a representative board that has the support and involvement of the industry, renewable energy organizations, state stakeholders, and the trades in creating this national certification program



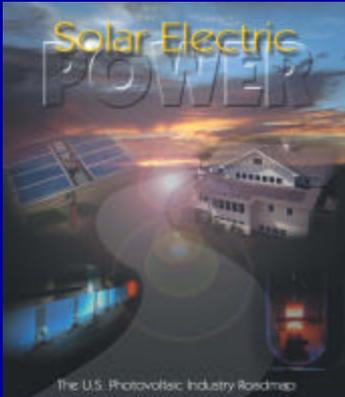
NABCEP

NABCEP has been developing a **voluntary** national certification program – starting with credentials for PV installers.

4 Main Goals

1. Promote renewable energy
2. Provide value to practitioners
3. Promote worker safety and skill
4. Promote consumer confidence

What's driving this effort?



US PV Industry Roadmap

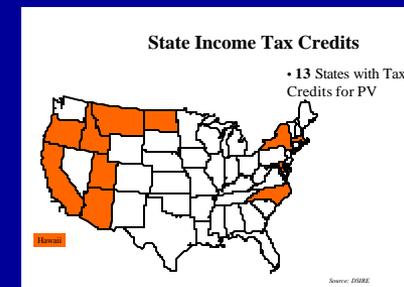
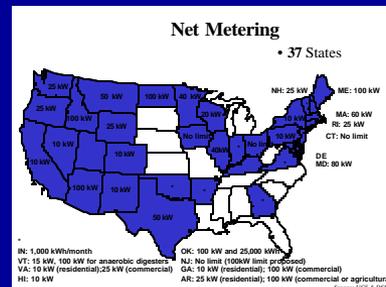
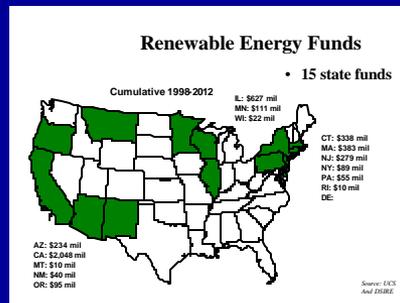
“We must work with the government to establish standards, codes, and certification which are essential for consumer protection and acceptance.”

Identified as one market barrier:

“Lack of trained installers and inspectors.”

And

- 15 States with Renewable Energy Funds
- Other states with incentives, interest, and policies
- Market developments



Key elements of a certification program

- Task Analysis & Standards – *what competencies must the candidate have to install a PV system?*
- Requirements – *what does a person have to do to get certified?*
- Exam – *the way to evaluate the candidate's knowledge and cognitive skills*

Task Analysis – First Step

- Lists the tasks that the PV installer must be able to do and provides a priority ranking of each task.
- Main tasks are broken down into subordinate tasks that show the relationship among the tasks.

Task Analysis for PV

- Purpose is to define a standard set of competencies required of contractors who install grid-connected PV systems.

Download at

*www.irecusa.org then click on
the Certification Project*

1. Working safely with PV systems
2. Conducting a site assessment
3. Selecting a system design
4. Adapting the mechanical design
5. Adapting the electrical design
6. Installing subsystems and components at the site
7. Performing a system checkout and inspection
8. Maintaining and troubleshooting a system

Update on Task Analysis

- Developed by NABCEP's Technical Committee of PV installers and subject matter experts.
- Went through 10 drafts
- Approved by NABCEP in June 2002

Certification Requirements

*What the candidate is required to do
to become certified*

May Include:

- Meet prerequisites of related experience
- Complete an application form documenting requirements
- Pay a reasonable application and exam fee
- Pass a written exam
- Sign a code of ethics
- Certification will be valid for 3 years
- Re-certification - continuing education and completion of one installed PV system/year

Update on Requirements

- First draft released in November 2001
- Over 350 responses submitted by March 2003
- Second draft developed based on input from stakeholders, meetings, and research of skill requirements for existing trades
- Second draft released on October 18, 2002
- Comment Period: October 18 – November 8

Exam is based on standards set in the task analysis

Design of test may include:

- 60-item, multiple choice
- 15 items test general/basic knowledge
- 45 application items across 6 different scenarios
 - Scenarios address real-life decision making tasks

Update on Exam

- 3 subject matter expert reviews
- 4th draft completed June 2002
- Statistical item analysis: difficulty and discrimination indices, evaluated for potential bias, technical accuracy, reliability and clarity
- Still needs to be validated and passing score set

Target candidates for PV Certification

Persons responsible for the system installation (e.g., contractor, foreman, supervisor, or journeyman)

Why Certify?

- To identify qualified professionals
- To ensure recognition of expertise
- To enhance credibility and prestige
- To provide a vehicle for professional development
- To protect the public
- To enable professionals to stay current

Source: Knapp & Associates International

Why a national effort?

- Training set to national standards
- Eliminates redundancy
- Reduces costs in development
- Ensures portability of the credential across state lines
- Consumers anywhere will have a means to judge the skills and qualifications of their installers.

Web sites for information

www.nabcep.org

- Interstate Renewable Energy Council

www.irecusa.org

and click on the Certification Project

- Institute for Sustainable Power

www.ispq.org