Solar Energy Technologies Program Annual Review

Session: Solar Market Transformation
April 24, 2008

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IREC
INTERSTATE RENEWABLE ENERGY COUNCIL

Relevance to the SAI

IREC has consistently steered its activities towards three outcomes

1. Reduced costs
2. Elimination of barriers and constraints to deployment
3. Increased public acceptance

IREC's Solar Outreach Framework

- Easy hook-up to the grid
- Ensuring quality installations
- Better understanding of key issues

Core Centers of Activities

- Interconnection & net metering
- Workforce development
- Getting the right information to the right people

Net Metering & Interconnection Value Proposition

IREC's Model Rules = Tangible Benefits

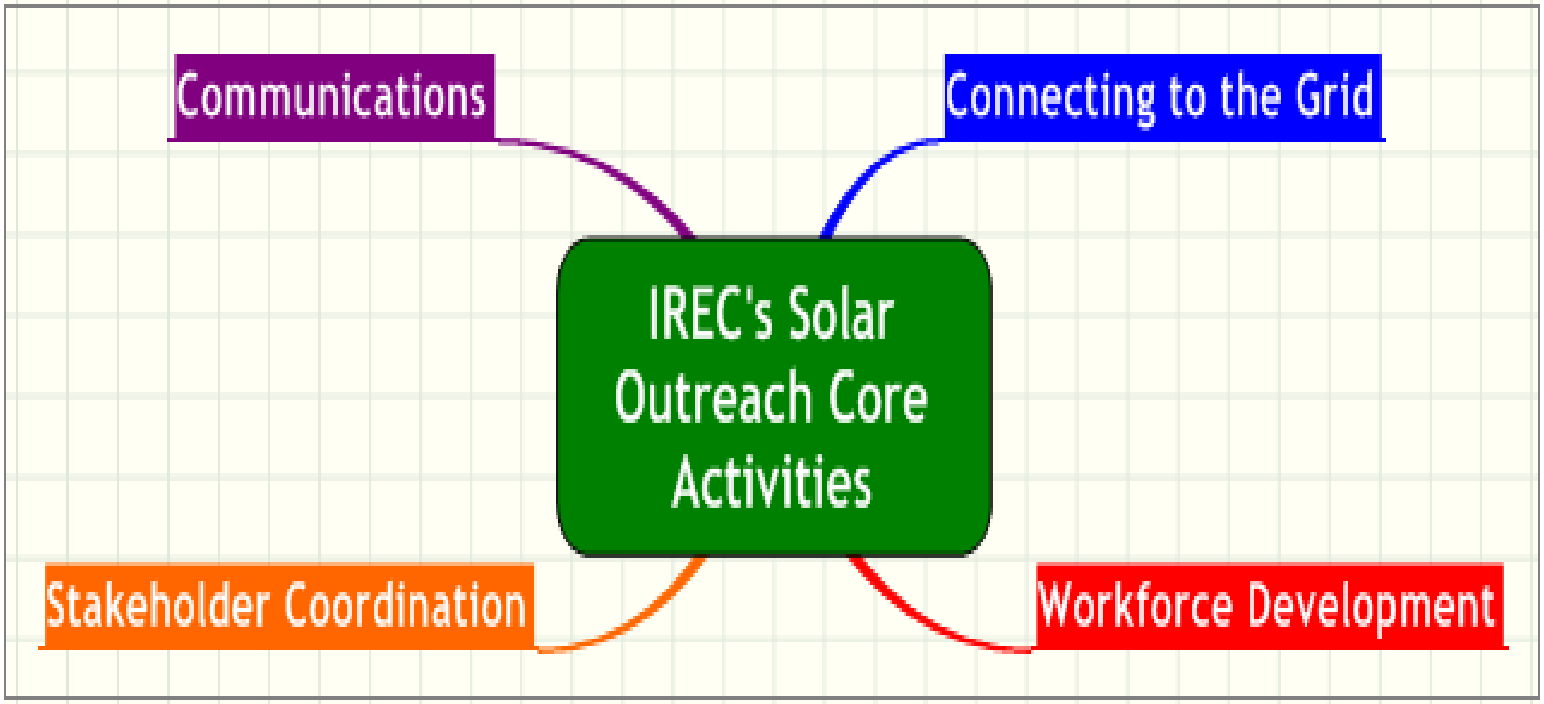
- Carry-over credit at retail rate is an attractive incentive for consumers
- Net metering saves on installation costs by avoiding an otherwise required second meter
- Simplified interconnection rules can save money by avoiding the need for an expensive interconnection study for every system installed
- Elimination of extraneous interconnection equipment or insurance can save hundreds/thousands of dollars per system
- Applications that are processed in a timely manner can prevent customers from walking away while waiting for hook-up.

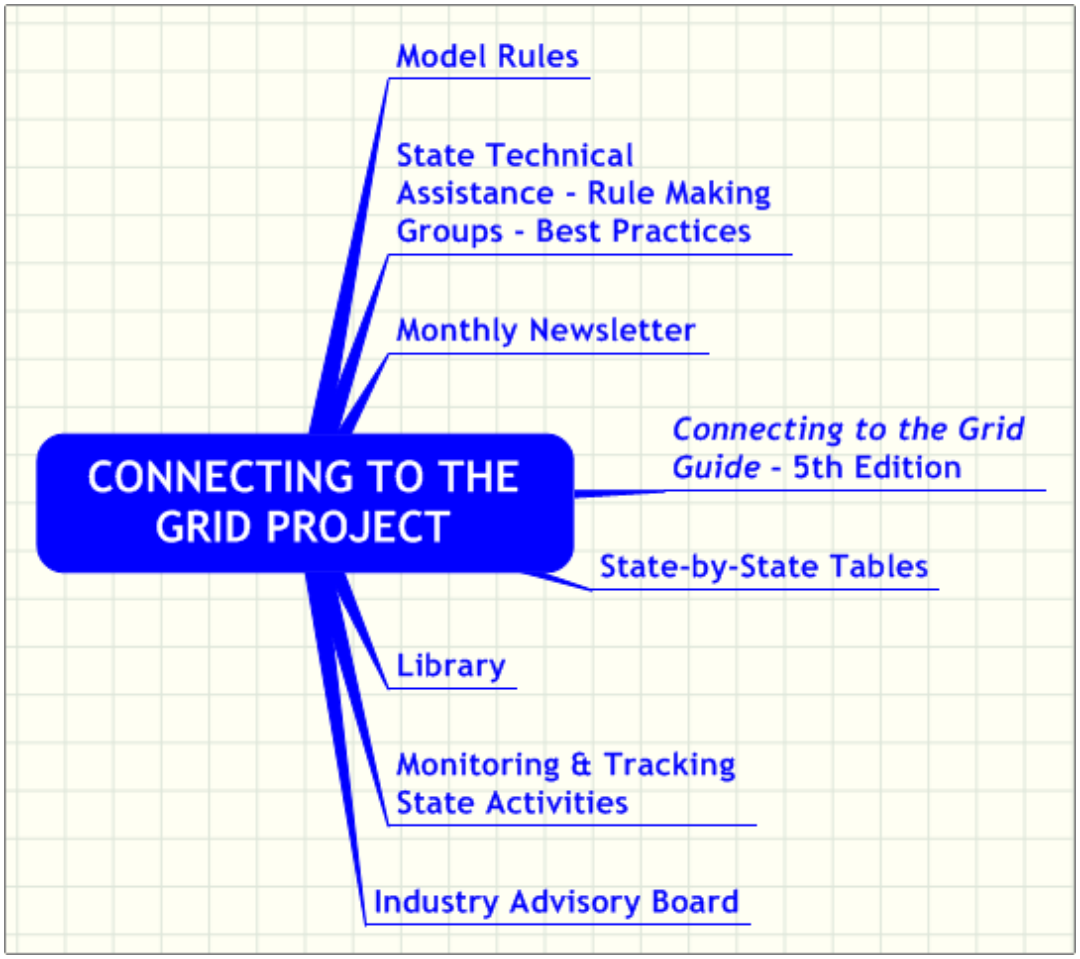
See www.irecusa.org for Model Rules

Workforce Development & Certification Value Proposition

- Improves quality of services and consumer safety
- Reduces “call-back” service calls
- Allows for installer mobility from state to state
- Increases access to private and public financing
- Can reduce permitting costs
- Burden of assessing competency and verifying training is taken on by an independent, third party (NABCEP, ISPQ)

Project Specific Information




CONNECTING TO THE GRID PROJECT
Model Rules
State Technical Assistance - Rule Making Groups - Best Practices
Monthly Newsletter
Connecting to the Grid Guide - 5th Edition
State-by-State Tables
Library
Monitoring & Tracking State Activities
Industry Advisory Board

Snapshot of State Work

- Florida
- Texas
- Arizona
- Nevada
- Illinois
- North Carolina
- New Mexico
- Maryland
- Utah

State Interconnection Dockets

- Successful conclusions have been reached in Florida, New Mexico and Maryland interconnection dockets
- Florida's new net metering rule is among the best in the country
- Illinois and North Carolina interconnection proceedings are ongoing and appear to be on track
- The Texas net metering effort - potentially promising long-term results but a disappointing turn in the near term
- Have been involved in Arizona and Nevada net metering dockets and early interconnection workshops in Utah


Criteria for Quality Training
Coordination with Community Colleges, Technical High Schools, Educational Providers
Workforce Development
Coordination with NABCEP & ISP
On Line Training Information
National Meetings
Papers & Articles

Recommended Criteria

- Practitioner training courses should lead to defined workplace knowledge, skills, and abilities.
- Training should address issues of safety, codes, and core competencies.
- Training should be taught in an environment with appropriate facilities, tools, and safe practices.
- Training should offer a formal and planned learning structure where the learner receives some sort of feedback and the learner’s progress is monitored.
- Instructors have to be qualified in content and teaching.

Who are we talking to about quality training?

- *New Ideas in Educating a Workforce in Renewable Energy & Energy Efficiency* National Conference. March 2008. 350 Attendees from 33 States, 37 Community Colleges, 19 4-Year Colleges, 15 Technical High Schools, other Educational Providers, Skill Centers, etc.

- American Association of Community Colleges, Workforce Development Institute. January 2008

- Spring 2008 Northeast Sun Magazine Article

- Forums, papers and meetings at Solar Conferences

Raising the bar for Solar Installers

North American Board of Certified Energy Practitioners (NABCEP)

The only credentialing body in the US that offers a third-party assessment of renewable energy practitioners

NABCEP Certificant Pool

- PV Installer Certification
  - Started in 2003
  - As of today, 514 candidates* have become certified
  - 2 Exams per year

- Solar Thermal Certification
  - Started in 2006
  - As of today, 65 Certificants*
  - 2 Exams per year

Preliminary March 15, 2008 Exam Results included

NABCEP PV Certificant Breakdown – Top States

State	% of Pool
California	35%
New York	7%
Colorado	7%
Massachusetts	4%
New Jersey	4%
Vermont, Arizona, Texas, Ohio and Oregon	3% each

NABCEP Solar Thermal Certificant Breakdown – Top States

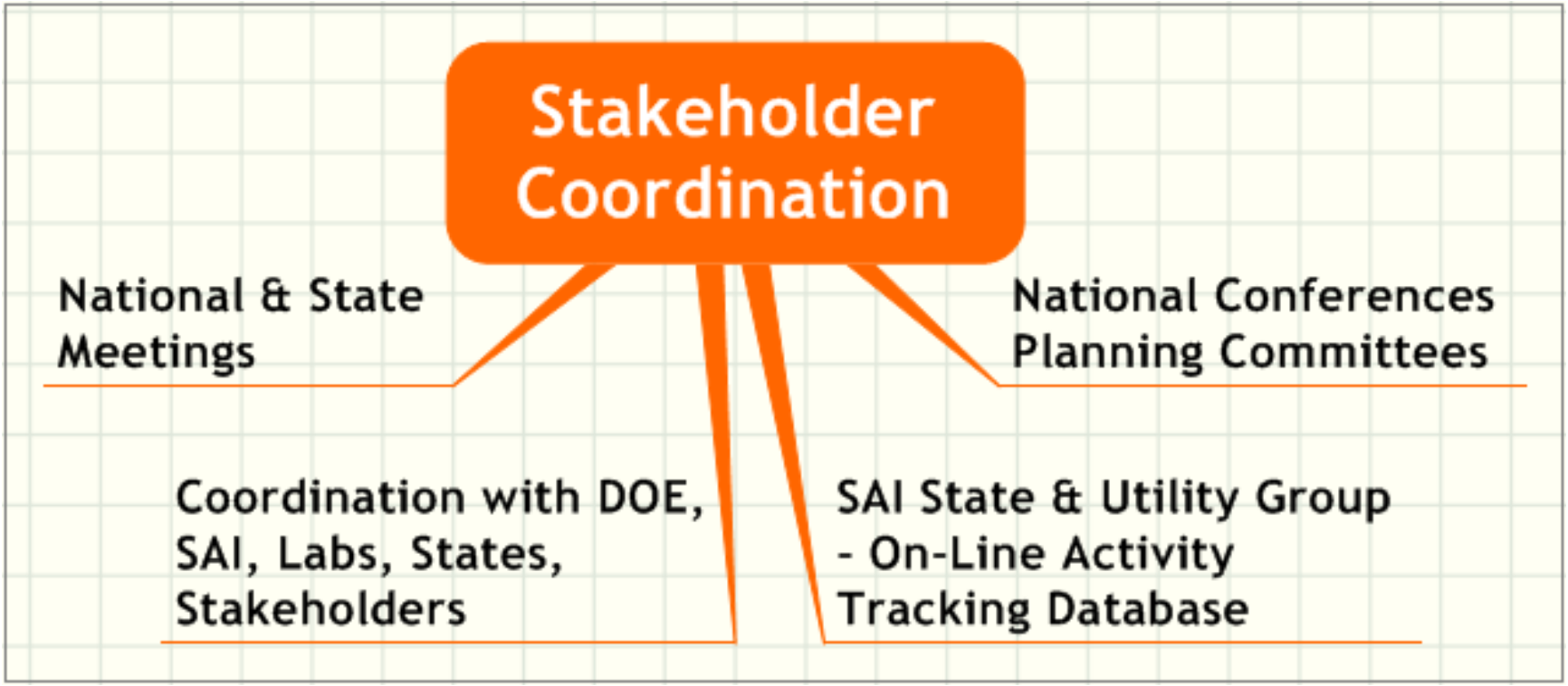
State	% of Pool
Wisconsin	12%
Colorado	11%
California	9%
Illinois	8%
New Mexico	6%
Pennsylvania	6%

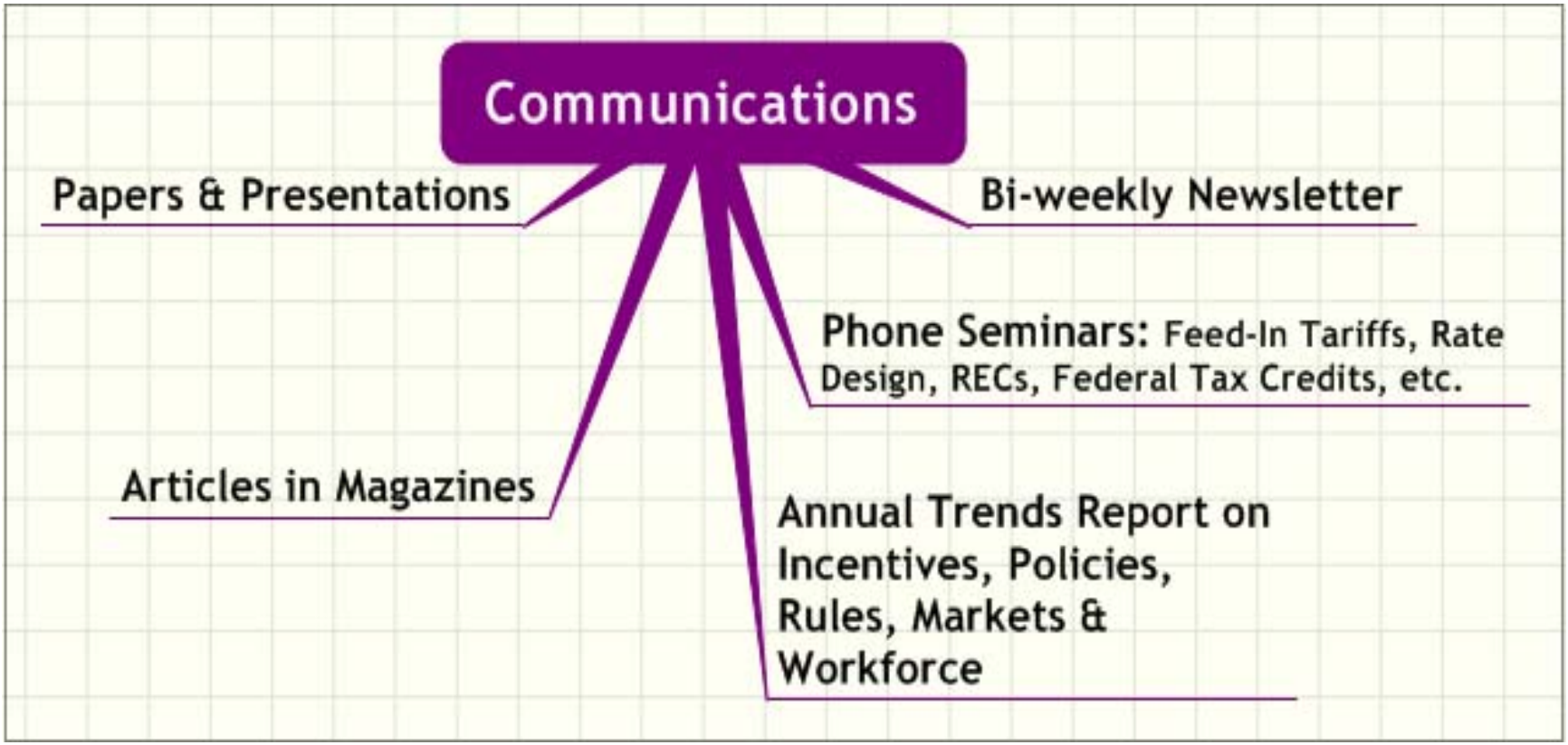
New York Study

NABCEP-certified installers had fewer problems at time of system inspection than those of non-certified installers.

Source: PV Workforce Development and the Market for Customer-Sited PV. McRae et al. ASES 2008 Proceedings

NABCEP has been awarded ANSI/ISO/IEC 17024 Accreditation


Stakeholder Coordination
National & State Meetings
National Conferences Planning Committees
Coordination with DOE, SAI, Labs, States, Stakeholders
SAI State & Utility Group - On-Line Activity Tracking Database


Communications
Papers & Presentations
Bi-weekly Newsletter
Phone Seminars: Feed-In Tariffs, Rate Design, RECs, Federal Tax Credits, etc.
Articles in Magazines
Annual Trends Report on Incentives, Policies, Rules, Markets & Workforce

Looking Forward

- Continue legal and technical assistance and participation in state net metering and interconnection rule making

- Explore classifying certifications to match emerging job differentiation in solar industries

Looking Forward

- Develop a plan to extend the reach of high-quality solar energy training to the local level throughout the U.S.

- Establish the means to continually update, expand and enhance the local training capability of faculty and instructors

IREC Team – www.irecusa.org

- Larry Sherwood
- Jane Pulaski
- Jason Keyes
- Kevin Fox
- Mike Sheehan
- Keith McAllister
- Joan Ward
- Barbara Martin
- Jerry Ventre
- Jane Weissman

With help and advice from our friends at DSIRE – Rusty Haynes and Sue Gouchoe

Background Slides

State Net Metering Dockets

Florida (with interconnection)

- 2 MW net metering with rollover passed by FLPSC
- Two hearings, one workshop, two rounds of comments
- IREC helped raise cap from 1 MW to 2 MW and helped defeat attempt to require standby charges, but unable to get application to municipals
- Final rule passed, (but new bills would negate the rule)

Texas

- Legislation calls for but does not define net metering; PUC favors definition inconsistent with FERC and other states
- IREC helped develop solar customer generation profiling
- Rulemaking not final until fall 2008 and appears very unlikely to result in any net metering requirement (but may use the term)
- Given docket status, IREC intends to limit further involvement

State Net Metering Dockets

Arizona

- Arizona Corporation Commission passed effective net metering rule on 3/12/08; final rule due in May
- Applies to the two of three IOUs (not Salt River) and major co-ops
- Only size cap is 125% of customer peak load
- Monthly rollover with avoided cost payment for annual excess
- IREC appeared and filed comments on multiple occasions

Nevada

- PUC in the middle of rulemaking now
- Draft rule sets good guidelines, but lets utilities craft complying tariffs
- Problem with restriction on systems owned by third parties, which would impede the widely-used PPA model for commercial solar
- IREC has submitted two rounds of comments; appeared on 4/15
- Plan to continue involvement and participate in docket on PPA model

State Interconnection Dockets

Florida (with net metering)

- Rule passed (see net metering slide)
- Simple interconnection standards, very enabling for < 100 kW; secured no external disconnect switch for systems < 10 kW
- Study process for > 100 kW undefined, which will add to cost and risk

Illinois

- Lengthy rulemaking at the Illinois Commerce Commission should end 10/08; effective “emergency” rule established 4/08
- Utility resistance to having a rule at all; IREC worked closely with Environmental Law & Policy Center to get a comprehensive rule
- Emergency rule based on early draft of Maryland rule with revisions
- At least three rounds of comments and hearings to go

State Interconnection Dockets

North Carolina

- Legislation requires NC Utilities Commission to adopt FERC's *SGIP, "if appropriate"
- IREC and two of three IOUs filed comments favoring SGIP adoption (Duke Energy opposes SGIP)
- IREC coordinating with NC Solar Center and others, suggesting some SGIP modifications
- Process stalled in past couple months

New Mexico

- N.M. Public Regulation Commission approved consensus rule in 2/08
- Utilities, industry, Western Resource Advocates and IREC reached consensus rule through many workshops in 2007
- Based on CA and CO rules; grades among best in the nation

** SGIP – Small Generator Interconnection Procedure*

State Interconnection Dockets

Maryland

- Reasonable interconnection standards adopted by MDPSC
- IREC played supporting role, appearing at final hearing and reviewing comments
- IREC comments at hearing helped establish no application fee for small systems, utility data collection to justify external disconnect switch

Utah

- Two workshops so far with staff of the UTPSC
- Reasonable, comprehensive rule, but needs improvement
- Problem that rule attempts to label owners of PPA-model systems as “utilities” subject to PSC jurisdiction
- Workshop held on 4/16
- IREC working with Utah Clean Energy and PacifiCorp (dba Rocky Mountain Power); potential for consensus rule and avoidance of lengthy PSC deliberation