Solar Action Webinar Series:
Innovation and Success in Solar Net Metering & Interconnection
August 7, 2013
Why we’re here: The Big Picture

- SunShot Initiative
  - Price: ~6¢/kWh without subsidy
  - 75% cost reduction by the end of the decade
Panel Prices Plummeted

However...

“Even if you paid nothing for the hardware, you'd still pay thousands of dollars to install a residential solar power system.”

- Former Secretary Chu
What is SunShot targeting?

Soft Costs

= Up to **50%** of the cost of a solar installation
Potential Problems with Plugging In

- External Disconnect Requirements
- Different rules for IOUs, Munis, and Co-ops
- No Access to Virtual Net Metering
- System Capacity Limits
- Non-transparent processes
- Expensive Interconnect Studies
- Unreasonable Application Fees
Northwest: 790,000 People
Southwest: 20,500,000 People
Southeast: 12,500,000 People
Northeast: 10,200,000 People
Midwest: 5,000,000 People

47M TOTAL
Rooftop Solar Challenge Successes

Permitting

- 40% Faster
- 12% Cheaper

Overall Time Saved: One Week Per Install
What Does One Week of Time Mean?

PV Installed in RSC locales:

- Residential: 37,960 Systems
  - Average Business Days Saved Per Install = 5.1
- Commercial: 3,148 Systems
  - Average Business Days Saved Per Install = 4.1

Which means the RSC saved Americans from an estimated…

792 YEARS OF RED TAPE
Today’s Presenters

**Evergreen State Solar Partnership**
- **Linda Irvine**, Project Manager
  - Northwest SEED
- **Jack Brautigam**, Renewable Energy Program Manager
  - Seattle City Light
- **Tim Stearns**, Senior Energy Policy Specialist
  - Washington State Department of Commerce

**The Chicago Region SunShot Initiative: Rooftop Solar PV Challenge**
- **Alison Andrews**
  - West Monroe Partners
- **Robyn Mackey**, Senior Business Analyst
  - ComEd
- **Michael Berkshire**, Green Projects Administrator
  - City of Chicago
Evergreen State Solar Partnership: Working on Interconnection
Washington State Context

- 62 electric utilities
  - 3 IOUs serve 45%
  - 59 COUs serve 55%
- 18 MW DG installed
  - 90% residential PV
- Production Incentive
  - Until 2020
Evergreen State Solar Partnership

WA Dept. of Commerce

Innovation is in our nature.

Edmonds/Snohomish PUD

NWSEED

Bellevue/Puget Sound Energy

Allies

Seattle/Municipal Utility

Ellensburg/Municipal Utility
Interconnection Work Group

- Reviewed Best Practices
  - Freeing the Grid
  - IREC Model Procedures
- Compared Actual to Ideal
- Report & Survey
  - Nwsolarcommunities.org
- Crafted Action Plans
- Submitted Joint Comments to UTC
Interconnection: Streamlining

EZ Interconnection Application
IC, NM, PM

*Incentive Certification?*
*Electrical permit?*

Online submittal
Single point of contact
Streamlined inspections

Within each utility
Interconnection: Standardizing

Standard Application
- same terms
- same form

Standard 1-line diagram

Standard Process – for customer

Across all utilities
Utility Action Plan

**Near Term**

- Enhance communication to customer and installer (single POC)
- Improve coordination (City/Utility)
- Reduce timelines to process interconnections, production meters, incentives

**Long Term**

- Adopt standard “EZ” IC application and 1-line diagram
- Implement online application submittal
- Combine applications for IC, incentives, electrical
- Develop new customer data management system to include generator data
Standard Application Proposal

Utility-Specific Cover Sheet

Standard Application & 1 Line
- Electrical permit
- Interconnection

Utility-Specific Agreements – “Terms and Conditions”
Progress!

- Standard 1 – line for permitting and interconnection – Adopted!
- EZ Interconnection Application – Drafted!
- UTC Ruling – Favorable!
  - 3 Tiers for Interconnection
  - AC disconnect switch not required unless State electrical inspector requires it
  - Clarifies that 3rd party systems can net meter (but still not eligible for state incentives)
How Far Can We Go?

- Combine production incentive certification with application?
- Simplify administration of state incentives?
- Allow installers to inspect on behalf of utility?
- Minimal screens for inverter-based systems <25 kW?
- Standard training & procedures

More in the ESSP Interconnection Report

Available at: nwsolarcommunities.org
Linda Irvine
Project Manager
Northwest SEED
linda@nwseed.org

Jack Brautigam
Renewables Program Manager
Seattle City Light
Jack.brautigam@seattle.gov

Tim Stearns
Sr. Energy Policy Specialist
State Energy Office
Tim.stearns@commerce.wa.gov
City of Chicago, ComEd and West Monroe Partners: Innovation and Success in Solar Net Metering and Interconnection
In 2012, the City of Chicago, partnering with Environmental Law and Policy Center and West Monroe Partners, won a grant under the Department of Energy’s SunShot Initiative to support solar PV installations by reducing market barriers and soft costs.

The grant was sponsored through the Department of Housing and Economic Development, and the team was comprised of multiple City, industry, utility, non-profit, and institutional stakeholders.

The main action areas of the grant included Permitting, Zoning, Interconnection, Collaboration/Education, and Finance.
The Chicago Team worked with ComEd to identify interconnection process improvements based on three critical capabilities: people, process, and technology.

Interconnection & Net Metering Approach:
- Current state process mapping
- Best practices review
- Future state design requirements
ComEd partnered with West Monroe Partners to deploy a cloud-based distributed generation management platform to process electronic applications for interconnection and net metering.
Starting in late summer 2013, applicants may submit interconnection and net metering applications electronically to ComEd

- Electronic forms have smart features, including field based error-checking, auto-fill, completeness review, etc.

- Application status is tracked and updated through the Applicant Dashboard to reflect progression through the approval milestones

- Electronic fee payment options for credit card / ACH (coming soon)
Expected Benefits

- Reduced time to complete forms and required fields tailored to system scope
- Improved accuracy/completion in submissions
- Applicants can save an application and return later to complete and submit
- Increased processing capacity and recordkeeping of Distributed Generation applications by ComEd
- Enhanced transparency allows applicants to electronically track status and manage workflow
Welcome to the Online Interconnection and Net Metering home page.

Before you get started, we have provided a Frequently Asked Questions document as well as an Interconnection and Net Metering User Guide that will walk you through the entire application process.

Applicants will be able to review the FAQ document or User Guide prior to completing their application.

Existing users will login here and new users will complete registration.

NOTE: This account is not linked to the Manage My Account for ComEd billing. Separate login information will need to be created for the interconnection and net metering application process.
Home Page

Welcome to the Online Interconnection and Net Metering home page.

Before you get started, we have provided a Frequently Asked Questions document as well as an Interconnection and Net Metering User Guide that will walk you through the entire application process.


The Illinois Commerce Commission has defined all of the Regulatory Requirements related to Interconnection for Illinois. To review the Regulatory Requirements, please click on the link below.

Electric Interconnection of Distributed Generation Facilities - Part 466

For applications greater than 10MVA please return to the Interconnection-Distribution webpage to download the appropriate application form.

ComEd Interconnection-Distribution

To complete a new application, please select the options below to get started:

Application Forms (select all that apply):

- Yes No I want to submit an Interconnection Application
- Yes No I want to submit a Net Metering Application

Interconnection Level (select one):

- Level 1: 10KVA or less, lab certified inverter based DC facility
- Level 2: 2MVA or less, lab certified DG facility
- Level 3: 10MVA or less, the DC facility does not export power
- Level 4: 10MVA or less that do not qualify for Levels 1 through 3

To begin a new application after logging in, the applicant will need to select if they are completing Interconnection, Net Metering or both.

If the applicant is completing an Interconnection application, they must select the level for which they are applying.
The first page of a Level 1 application requests the Customer Contact information. If a System Owner is filling out the application, this information will be pre-populated with information from their register profile. Additionally, an alternate contact is requested, but not required.

### Interconnection Customer Contact Information

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name</td>
<td></td>
</tr>
<tr>
<td>Mailing Address</td>
<td></td>
</tr>
<tr>
<td>City</td>
<td></td>
</tr>
<tr>
<td>State</td>
<td>Illinois</td>
</tr>
<tr>
<td>Zip Code</td>
<td></td>
</tr>
<tr>
<td>Telephone (Daytime)</td>
<td></td>
</tr>
<tr>
<td>Telephone (Evening)</td>
<td></td>
</tr>
<tr>
<td>Facsimile Number (Fax)</td>
<td></td>
</tr>
<tr>
<td>Email Address</td>
<td></td>
</tr>
</tbody>
</table>

The bubbles can be used as navigation to move from one page to the next.
Alison Andrews
Product Manager
aandrews@westmonroepartners.com
August 7, 2013

Robyn Mackey
Interconnect Coordinator
Robyn.Mackey@ComEd.com
August 7, 2013

Michael Berkshire
Green Projects Administrator
michael.berkshire@cityofchicago.org
August 7, 2013