

Solar Permitting & Inspection Training Discussion & Check In

April 24, 2025

Who you'll hear from



Thea Yagerlener
Senior Program Manager
IREC



Lyle Hufstetler
Project Administrator
AACOG



Mariah Sanchez
*Natural Resources Outreach
Specialist*
AACOG



Andrew Light
Clean Energy Associate
WRI



Lilyana Gabrielse
Clean Energy Analyst
WRI

Session 3 agenda

Welcome

Cohort Updates & Peer Check-In

Permitting & Inspection Training Overview

Intro to Charging Smart

Next Steps



Cohort Updates & Peer Check-in

Acknowledgement and Disclaimer

- Acknowledgment: This material is based upon work supported by the Department of Energy, Office of Energy Efficiency and Renewable Energy (EERE), under Award Numbers DE-EE0009950 & DE-EE0009951.
- Disclaimer: This report was prepared as an account of work sponsored by an agency of the United States Government. Neither the United States Government nor any agency thereof, nor any of their employees, makes any warranty, express or implied, or assumes any legal liability or responsibility for the accuracy, completeness, or usefulness of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights. Reference herein to any specific commercial product, process, or service by trade name, trademark, manufacturer, or otherwise does not necessarily constitute or imply its endorsement, recommendation, or favoring by the United States Government or any agency thereof. The views and opinions of authors expressed herein do not necessarily state or reflect those of the United States Government or any agency thereof.

SolSmart

SolSmart is a national **designation** and **technical assistance** program funded by the U.S. Department of Energy's Solar Energy Technologies Office (SETO) to help local governments nationwide make it faster, easier, and more affordable for residents and businesses to go solar.

What is it?

- SolSmart is a national designation and technical assistance program that has helped over 540 local governments make it faster, easier, and more affordable for residents and businesses to go solar.

A SolSmart designation:

- Recognizes communities that have taken key steps to address local barriers to solar energy and foster the growth of mature local solar markets. Demonstrates that a community is “open for solar business,” making it attractive to solar companies and other business development.



SolSmart's Role in Solar Development

- SolSmart helps local governments take action to remove barriers to solar energy growth and make it easier for residents and businesses to go solar
- The program offers **no-cost technical assistance and resources** that help communities become national solar energy leaders
- SolSmart helps communities reduce “soft costs” — the costs of solar development that are unrelated to hardware

“Soft costs” represent 65% of the total cost of a solar PV system and they arise from:

- Permitting and inspection processes;
- Zoning and design requirements
- Customer acquisition;
- Gaps in financing; and more!

Cohort structure & timeline

1-on-1 check-ins

Session #1: Setting the stage for solar development

Overview of regional and state energy context

Session 3: Permitting & inspection for solar

Overview of best practices for permitting and inspecting solar arrays

Session 5: Wrap up & next steps

Address any outstanding questions and chart a pathway forward

March 27, 2025

June 5, 2025

February 27, 2025

April 24, 2025

July 9, 2025

Session 2: Planning for solar

Best practice guidance for planning and zoning of small and large-scale solar arrays

Session 4: Community engagement & municipal operations

Guidance on how to support residents, businesses, and your own operations teams as they consider adopting solar

Access to 1-on-1 technical assistance support

Peer check-in prompts

Please share:

- Your name, title & the community you represent
- Any questions or thoughts from our last session on Planning & Zoning
- If you watched the P&I recording



Permitting & Inspection Training Overview

PI Training Overview

- This session is focused on SolSmart's "Permitting and Inspection" (PI) category.
- Communities that have permitting/inspection staff watch the P&I recording will earn both *PI-2: Train permitting staff on best practices for permitting solar PV and/or solar and storage systems* & *PI-3: Train inspection staff on best practices for inspecting solar PV and/or solar and storage systems*.
 - Please complete a [verification memo](mailto:lilyana.gabrielse@wri.org) and send it to lilyana.gabrielse@wri.org
- Your community will need to develop and publish a "permitting checklist" that details the required permit(s), submittals, and steps of your community's permitting process for residential rooftop solar PV. This is criterion *PI-1* and a prerequisite for Bronze designation.

Page 1 of 2

Revised October 2020

City of
KENNEDALE
Texas
1997

APPLICATION
SOLAR PANEL PERMIT

Permit Number

Requirements

Your application **will not be accepted** if any of the below items are missing or incomplete. Incomplete applications will be returned and any paid fees are nonrefundable. To check the status of a permit, email permits@cityofkennedale.com and include the property address and permit type.

- ☐ Solar PV System Application (separate electrical permit not required): cityofkennedale.com/solar
- ☐ Letter from a Texas Licensed Professional Engineer including the following:
 - ☐ Statement that the roof of the structure is adequate to support the proposed panels
 - ☐ Any recommended modifications to the roof along panel support and bracing systems
- ☐ A labeled, itemized list of solar collectors and other system components approved by a national recognized agency, including data specification sheet for PV system and components
- ☐ Scaled, dimensioned, **LABELED** plans – 2 sets if submitting printed copies
 - Site plan (to scale) showing location of major components on the property
 - Electrical line diagram of the electrical equipment (including make, model, and size of units) prepared by a Texas Licensed Professional Engineer of the PV array configuration showing: wiring system, overcurrent protection, grounding, inverter, disconnects, required signs, AC connection to building, and size and location of electrical panel
 - Spec sheets, listings, and manufacturer's installation instructions for each manufactured component, including but not limited to PV modules, inverters, combiner boxes, disconnects, and mounting systems
 - A roof plan, side elevations of collectors, and mounting details. Also, note needed compliance with local wind loading requirements: 90 MPH (3-second-gust/75 fastest mile)
 - Additional information required:
 - Weight of the arrays (pounds per square foot- including mounting hardware)
 - Describe and show the roof structural elements, including:
 - Rafter size, span, and spacing
 - Roof sheathing
 - Additional structural calculations and/or engineer's verification of load capacity of the roof structure
 - Roofing type (e.g. composition shingle, shake, light-weight tile, etc.) and pitch
- ☐ Details of PV panel mounting hardware attachment to the roof framing member
- ☐ Contractor registered with Kennedale – Check registration status by emailing permits@cityofkennedale.com
- ☐ Completed, **legible**, signed application form
- ☐ Onor executed interconnection agreement

Possible Permitting Challenges

1. Unclear submission processes and/or long turnaround times
 - Mail permitting and structural reviews are associated with longer project timelines.
2. Inconsistent requirements and/or inconsistent interpretations of the code
 - Plan review staff may require design changes, and then inspector may require adjustments to those requested changes.
3. Uncertainty and delays in permit review timelines can lead to slower installation timelines and/or higher costs to homeowners.
 - For instance, if an installer knew that a permit review would take no more than 3 days, the installer could confidently plan an installation date 4 days after permit submission

Overview of Permitting Training

- Offered best practices for:
 - Permit application review and processes to ensure clear applications,
 - Streamlining the permitting process,
 - Plan review guidelines, including tips for making review more efficient.
- Provided supporting documents that are compliant with building and electrical codes.
- Increased understanding of the latest codes and standards related to solar installations.
- Learned more about SolarAPP+ opportunities to expedite permit review

P&I-1: Permitting Checklist Examples

- NCTCOG & GoSolar Texas
 - [Solar-PV-Permit-Checklist.pdf](#)
 - [General Resources](#)
- Chapel Hill, NC
 - [Permitting Checklist](#)
- SolSmart
 - [P-1 Permitting Checklist Template](#)

Possible Inspection Challenges

- No previous experience inspecting PV solar arrays
- Many entities have created checklists to inform solar inspections
 - **SOLARAPP+**
 - [Approval Checklist](#)
 - [SOLARAPP+ Training](#)
 - **SolSmart**
 - [Inspection Checklist](#)
 - **EERE Sustainable Energy Resources for Consumers**
 - [Solar Checklist](#)
 - **Interstate Renewable Energy Council (IREC)**
 - [Solar Plan Review & Inspection Checklist](#)

Overview of the Inspection Training

- The field inspection process is key to the development of a healthy and safe PV industry.
 - Inspections verify that an installation is compliant with building and electrical codes and fire safety requirements.
- Many inspection checklists exist that can help inspectors perform their code enforcement obligations.
- Common major code violations are in the array, inverter, grid connection, and junction boxes.
 - Wire management is one of the most important parts of inspection. Conductors that touch the roof are subject to damage which can cause system failures or arcing fires.
 - Electrical grounding is another important consideration for electrical inspection.
 - Fire departments should have a safe path that they can access to the roof.
- Pairing solar with battery storage is likely to grow, and you may see more of these projects in the future.

Questions? Thoughts?



Charging Smart

Next Steps

Supporting activities post workshop 3

1. If you and/or your P&I staff have not yet watched the recording, please do so
2. Review your current permitting process and determine if there is interest in/an opportunity to streamline it.
 - Please remember that the SolSmart team can help you strategize potential modifications, share best practice guidance and resources, and support your efforts to adopt any proposed changes.
3. Develop and publish a “permitting checklist” that details the required permit(s), submittals, and steps of your community’s permitting process for residential rooftop solar PV. This is criterion PI-1 and a prerequisite for Bronze designation.

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- ☐ On or executed interconnection agreement

Next steps for communities interested in participating in the cohort



- A "**Solar Statement**" (PR-1) is a letter that demonstrates your local government's commitment to pursuing SolSmart designation.
- All communities receiving technical assistance must submit a Solar Statement, and it's a prerequisite for designation at any tier.
- A Solar Statement is **not** a binding agreement, a memorandum of understanding or any other kind of legal document.
- The Solar Statement should be signed by a department head or an elected official, or it can go through a council approval process.



SOLAR STATEMENT

Tuesday, February 27, 2024

Debra Perry
International City/County Management Association
777 North Capitol St. NE, Ste. 500
Washington, DC 20002

Brandy O'Quinn
Interstate Renewable Energy Council
125 Wolf Road, Suite 100
Albany, NY 12205

Dear Debra Perry and Brandy O'Quinn:

On behalf of *(local government name)* I am proud to announce our commitment to become a SolSmart-designated community. In partnership with the SolSmart team, our dedicated staff members will work to improve solar market conditions, making it faster, easier, and more affordable for our residents and businesses to install solar energy systems. These efforts will also increase the efficiency of local processes related to solar development, which may save our local government time and money.

We will leverage SolSmart to achieve the following solar goals:

- Choose an item or type a custom description.
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These goals demonstrate that our community is committed to making continual improvement in our solar market. This includes ensuring solar development is inclusive and equitable. We're looking forward to learning more from the SolSmart program how to expand access to solar for all our residents and support solar energy adoption for those that are under resourced or underserved.

The SolSmart program will build on our solar efforts, such as *(relevant plans or initiatives such as energy plans, community solar, solarize, state or other federal solar programs)*

To measure progress along the way, we will track key metrics related to solar energy deployment, such as installed solar, permitting processing time, and growth in residential installations.

We understand that the SolSmart program has criteria and point requirements as outlined in the SolSmart Program Guide needed to achieve each tier of designation. We're excited to submit this solar statement to complete the first requirement of the program.

Inquiries related to our SolSmart participation can be directed to *(city contact name)* at *(email address)*.

Sincerely,



Printed name
Title

Workshop 4 overview

- Workshop 4 is titled “***Community Engagement & Municipal Operations***”. It will cover best practices for how to support residents and businesses as they consider adopting solar energy. It will also cover considerations for municipal procurement of solar.
- The date of the session is **June 5th** and we will be in touch soon with more information.
- This session is open to all interested local government staff, so please feel free to attend and invite other colleagues.

Thank You!

- If you have **questions about the cohort**, please reach out to Mariah Sanchez (msanchez@aacog.gov)
- If you have **questions about SolSmart or external TA**, please reach out to Lilyana Gabrielse (lilyana.gabrielse@wri.org)