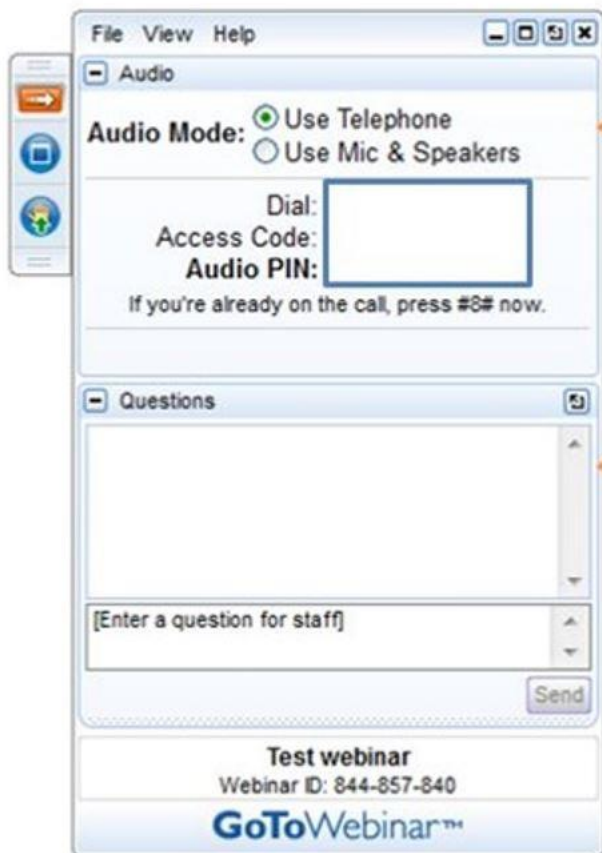


# NREL's STAT Network: Explaining the Opportunity and Process for Requesting Solar Technical Assistance

Hosted by  
Nate Hausman, Project Manager, CESA

March 3, 2016

# Housekeeping



The screenshot shows the GoToWebinar interface. The top section is titled 'Audio' and contains the following elements: a menu bar with 'File', 'View', and 'Help'; a 'Dial:' button; an 'Audio Mode:' section with two radio buttons, 'Use Telephone' (selected) and 'Use Mic & Speakers'; an 'Access Code:' field; an 'Audio PIN:' field; and a note: 'If you're already on the call, press #8# now.' The bottom section is titled 'Questions' and contains a large text area for entering questions, a 'Send' button, and a footer area with the text 'Test webinar', 'Webinar ID: 844-857-840', and the 'GoToWebinar™' logo.

← All participants are in “Listen-Only” mode. Select “Use Mic & Speakers” to avoid toll charges and use your computer’s VOIP capabilities. Or select “Use Telephone” and enter your PIN onto your phone key pad.

← Submit your questions at any time by typing in the Question Box and hitting Send.

**This webinar is being recorded.**

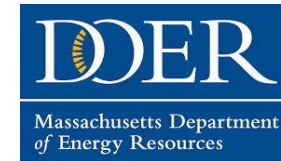
You will find a recording of this webinar, as well as all previous CESA webcasts, archived on the CESA website at

[www.cesa.org/webinars](http://www.cesa.org/webinars)

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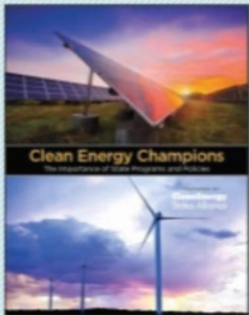
is a national nonprofit coalition of state and municipal clean energy funds working with federal, regional, industry, and other stakeholders to promote clean energy markets and technologies.



CLEAN ENERGY  
LET'S MAKE MORE.

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 <p><b>Clean Energy Champions: The Importance of State Policies and Programs</b></p> <p>This report provides the first-ever comprehensive look at the ways states are advancing clean energy and suggests how to further encourage clean energy growth.</p>	<p>February 29, 2016</p> <p><b>Vermont Solar Cost Study: A Report on Photovoltaic System Cost and Performance Differences Based on Design and Siting Factors</b></p> <p>by Leigh Seddon, L.W. Seddon, LLC.</p> <p>February 2, 2016</p> <p><b>Webinar Slides</b></p>	<p>February 29, 2016</p> <p><b>States Support Clean Energy for Low-Income Residents</b></p> <p>February 24, 2016</p> <p><b>Washington's Grid Modernization Initiative</b></p> <p>February 18, 2016</p> <p><b>Governors of 17 States</b></p>	<p>March 3, 2016</p> <p><b>NREL's STAT Network—Explaining the Opportunity and Process for Requesting Solar Technical Assistance</b></p> <p>March 7, 2016</p> <p><b>Resilient San Francisco: How to Develop a Citywide Solar+Storage Disaster Plan</b></p> <p>March 14, 2016</p>

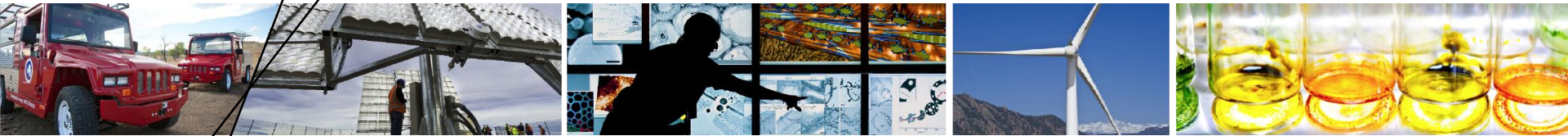
# Today's Guest Speakers

- **Erin Nobler**, Project Leader, National Renewable Energy Laboratory (NREL)
- **Alexandra Aznar**, Project Leader, National Renewable Energy Laboratory (NREL)





# Solar Technical Assistance Overview and Applications



**Erin Nobler & Alexandra Aznar**

March 3, 2016

# Overview

- Types of TA Available
- Examples of Past TA Requests
- Program Metrics
- What makes a successful TA request?
- How To Apply
- Q&A



Art Institute of Chicago - 130.6 kW PV System

# WHAT IS STAT?

- **U.S. Department of Energy (DOE) Solar Technologies Office, in coordination with the National Renewable Energy Laboratory (NREL)**
- **Objective**
  - Provide current, credible information on solar policy, program, and regulatory choices to entities positioned to impact the policy environment through:
    - Basic solar education for new officials and staff
    - Partnerships to address specific challenges
    - Topical learning opportunities

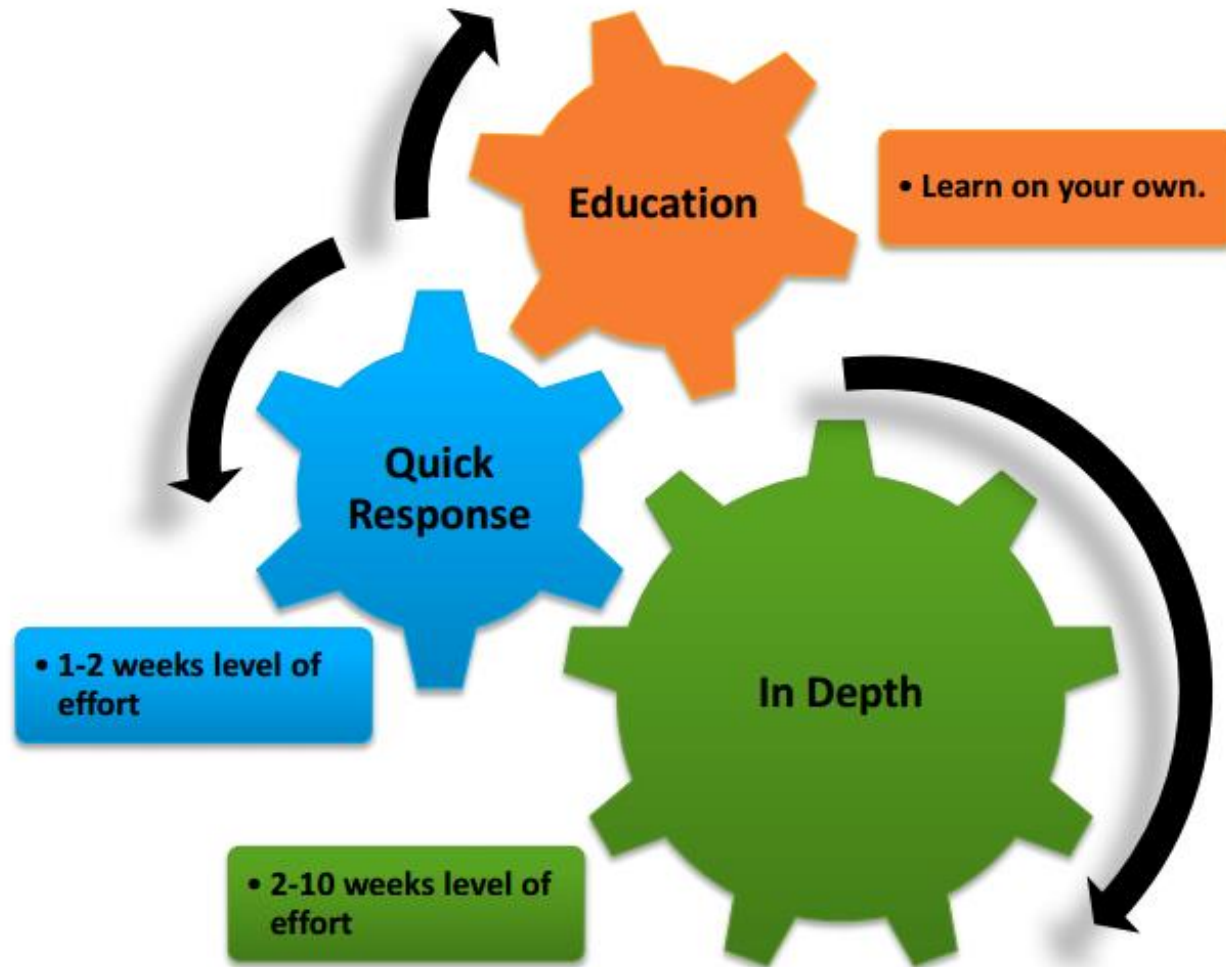


**2016-2018 STAT partners:**





# STAT FY13-15



# STAT FY16-18

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- [Utility solar technical assistance](#)—NREL provides technical assistance to utilities on matters that require solar market expertise related to topics like programmatic conceptualization, existing program design/redesign, and long-term utility strategic planning.
- [State solar technical assistance](#)—NREL provides direct technical assistance to state and local governments on matters that require solar market expertise to either answer a time-sensitive question or to provide expert testimony on policy best practices.
- [Do-it-yourself online education](#)—The STAT program provides information on solar technologies, resources, and the role that state and local governments play in supporting the development of those resources to achieve their economic, environmental, and/or energy security goals. For reference, review the [past STAT Webinar topics](#).

# Do-it-yourself Education

- **Webinar Series**
  - Solar 101
  - Solar Hot Topics
  - Tools You Can Use
- **Fact Sheets/Memos**
  - Policy basics
  - Publications

## State & Local Governments

◀ State & Local Governments Home

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- Blog
- Education & Outreach
- Policy Basics
  - Community Solar
  - Feed-In Tariffs
  - Renewable Energy Rebates
  - Renewable Fuel Standards
  - Renewable Portfolio Standards
  - Solar Requests for Proposals
  - Value-of-Solar Tariffs
- Publications
- Solar Technical Assistance Team
- Technical Assistance Project Map

### Community Solar

*Community solar*, also known as *shared solar* or *solar gardens*, is a solar energy deployment model that allows customers to buy or lease part of an offsite shared solar PV system. This arrangement lets customers enjoy advantages of solar energy without having to install a system on their own residential or commercial property. Community solar projects provide distributed solar access and benefits to customers who:

- Have insufficient solar resources (e.g. shading, roof size, etc.)
- Do not own their homes
- Are unable or unwilling to install solar for financial or other reasons.

Participants typically receive a monthly bill credit for electricity generated by their share of the solar photovoltaic (PV) system, as if the system were located on their premises.

### Background

As of April 2015, 13 states and Washington D.C. have enacted policies that support community solar. Shared solar projects are located in 25 states, plus Washington D.C., and represent 172 MW of total installed capacity.

A 2008 NREL analysis estimates that only between 22%–27% of residential rooftops are suitable for onsite distributed PV systems. Community solar is one model for addressing the lack of solar PV access that many U.S. customers face.

### Implementation Issues

Other clean energy policies interact with community solar.

- **Net metering** is a commonly used mechanism that credits distributed generation owners for the power that their systems contribute to the grid. Community solar participants can be credited through net metering or alternative arrangements such as [value of solar tariffs](#); group billing; or joint ownership. Eligibility depends on utility and state-level requirements.
- **Virtual net metering** (VNM) allows customers to receive bill credits—in other words, offset their loads with generation from an offsite solar system. Some form of VNM must exist for community solar to

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Technology Deployment

State & Local Governments

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Blog

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- August 2014
- July 2014
- June 2014
- May 2014

Categories

- Events
- Financing
- Podcasts
- Policy
  - Interconnection
  - Net Energy Metering

## How Solar is Contributing to Renewable Portfolio Standard Compliance

January 13, 2016 by Jenny Heeter

Renewable portfolio standards (RPSs) allow renewable energy resources such as wind, solar, and biomass to contribute toward a state's renewable energy goals. However, many states have set minimum thresholds for the amount of solar or distributed generation that must be used to meet the RPS (called "solar carve-outs"). These carve-outs are typically, though not always, fulfilled using in-state solar projects (both distributed solar as well as commercial and utility scale).

State and local policymakers may be aware of solar carve-out provisions but may not understand how much solar is being used in their state to meet RPS requirements. To help understand how much solar is being used in RPSs, NREL created a [presentation](#) and [data viewer](#) (in a downloadable spreadsheet format) to display data collected from [renewable energy certificate \(REC\) tracking systems](#) and other public sources. The data viewer is designed to improve understanding of which resource types are used to meet RPS compliance. These resources are also intended to help states and local governments understand the extent to which renewable energy is coming from outside a state's borders to comply with RPSs.

The REC data viewer allows a user to select a state to see how much solar was used to meet RPS requirements in recent years (2012 and 2013). For example, the data show that in New Jersey about 1.5 million solar megawatt hours (MWh) were used to meet RPS compliance in 2013, as shown below.

REC Exchange Among States for RPS Compliance

Select RPS State: NJ

Select Compliance Year: 2013

RPS State	Total Generation (MWh)
New Jersey	9,464,803 RECs
In-state	6,327,247 RECs
Imports	3,137,556 RECs
Imports %	33%
Exports	365,578 RECs

States Where RECs Were Generated	Generation (MWh)
New Jersey	3,137,556 RECs
Illinois	2,425,684 RECs
Pennsylvania	1,766,430 RECs
Indiana	712,240 RECs

Resource/Fuel Type	Generation (MWh)
Hydroelectric	294,792 RECs
Landfill Gas	1,308,741 RECs
Municipal Solid Waste	1,495,376 RECs
Other Biomass Gas	47,585 RECs

NJ REC Exports	Generation (MWh)
Maryland	52,767 RECs
New Jersey	3,137,556 RECs
Pennsylvania	310,811 RECs
Total	8,501,134 RECs

States Where RECs Were Generated





# Do-it-yourself Education

- Podcasts:



The screenshot shows the NREL website with a dark blue header containing the text "Leading Clean Energy Innovation" and navigation links "ABOUT", "RESEARCH", and "WORK". Below the header is a blue banner for "Technology Deployment" with the sub-header "State & Local Governments". A left sidebar lists various links: "State & Local Governments Home", "Blog", "Education & Outreach", "Policy Basics", "Publications", "Solar Technical Assistance Team", and "Technical Assistance Project Map". The main content area features the podcast title "Meet a Solar Expert Part One: Carolyn Davidson" dated "August 18, 2015 by Erin Nobler". The description states: "This STAT Chat podcast features Carolyn Davidson, an economic analyst at the National Renewable Energy Laboratory (NREL), discussing data-driven market analysis and modeling as part of our Meet a Solar Expert series meant to give listeners a behind the scenes look at the working world of industry professionals." Below the text is an audio player showing "00:00" and a volume icon. Further down, there is a link to "Subscribe to the STAT Chat podcast through iTunes.", a thumbs up icon with "+2", an "AUDIO MP3" icon, the text "Meet a Solar Expert: Carolyn Davidson [ 6:26 ]", a "Download" link, and a "(100)" indicator. At the bottom of the main content area is a "Printable Version" link.

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### Meet a Solar Expert Part One: Carolyn Davidson

August 18, 2015 by Erin Nobler

This STAT Chat podcast features Carolyn Davidson, an economic analyst at the National Renewable Energy Laboratory (NREL), discussing data-driven market analysis and modeling as part of our Meet a Solar Expert series meant to give listeners a behind the scenes look at the working world of industry professionals.

00:00 00:00

Listen to find out more on Davidson's work with energy forecasting and modeling and her current research areas at NREL. This is part one of a two-part podcast; stay tuned for part two.

[Subscribe to the STAT Chat podcast through iTunes.](#)

👍 +2

AUDIO MP3 Meet a Solar Expert: Carolyn Davidson [ 6:26 ] [Download](#) (100)

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# State TA: Critical Question



## 2016 Solar Technical Assistance for States

### Call for Letters of Interest

#### Critical Question

What strategies can your state use to stimulate economic development through the deployment of solar photovoltaic (PV) technologies?

#### Potential Sub-Questions

Sub-questions are encouraged, but they should be directly relevant to an active program and policy design.

1. What suite of solar PV policies and finance or incentive programs could be implemented in your state to maximize economic development opportunities?
2. If your state agency implements a solar policy or program or set of policies and programs, what economic development impacts can be expected?
3. What tools can be used for program evaluation?
4. How can your state prepare for future energy needs while maximizing economic development through the deployment of PV technologies?
5. What economic development impacts would a vibrant and robust solar market provide in your state?
6. What are best practices for solar development have been implemented in other states that could apply to your state?

#### Letters of Interest

As part of this research project, the Solar Technical Assistance Team (STAT) Network will invite a state or

# State TA: Direct, Quick Response

Applicants	Topic
City & County of Denver, Office of Economic Development	Solar contribution to NZE community, strategies
City of Camden, New Jersey	Solar on contaminated lands
City and County of Denver, Mayor's Office	Solar Benefits technical support
Montana Senate District 33	Solar Ready Design presentation
Delaware Public Service Commission	Technology – Inverter accuracy
County of Kauai, Hawaii	RFP Assistance
City of Chicago	Airport project technical support
Louisiana PSC	Net metering caps presentation
City of Tucson	Financing Options for PV
Ranson, WV	Policy Options
Austin Electric Utility Commission	Value of solar methodology

## Program Structure

- Rolling application throughout the year
- Short online application
- Quick turnaround time on request approval
- Up to 40 hours per request

# What makes a good TA request?



**To meet the basic eligibility criteria, applicants must qualify as:**

- State elected official or staff
- State agency staff



**Successful applicants will:**

- Provide staff time to assist
- Articulate existing state barriers
- Articulate specifically how the requested assistance would remove or reduce the barrier
- Articulate how DOE assistance would help facilitate movement toward a robust solar market
- Be well positioned to make change

**In addition, applicants must perform work that is directly related to PV markets/costs.**





# What makes a good TA request?

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- **Need help preparing your request?**



**Contact Nate!**

# What makes a good TA Request?

Public sector requests are evaluated on:

**Alignment with SunShot Goals**

Affect solar technology costs  
Affect grid integration costs  
Accelerate solar deployment

**Market Impact Potential**

**Area of Lab Expertise**

**Results Affect More Than  
Single Project Development**

**Likelihood of Action to be  
Taken**

**Appropriate DOE Role**

**Replicability**

# Recent TA: TA Project Map (From FY13-15)

Technology Deployment

## State & Local Governments

### Technical Assistance Project Map

Through the [Solar Technical Assistance Team \(STAT\)](#), NREL provides research to help stakeholders understand challenges and barriers to the development of solar markets at the state and local levels. The STAT project map highlights these technical assistance projects that have helped communities across the United States. Select a topic category or state to view technical assistance projects. The table below the map shows all the results in the selected category.

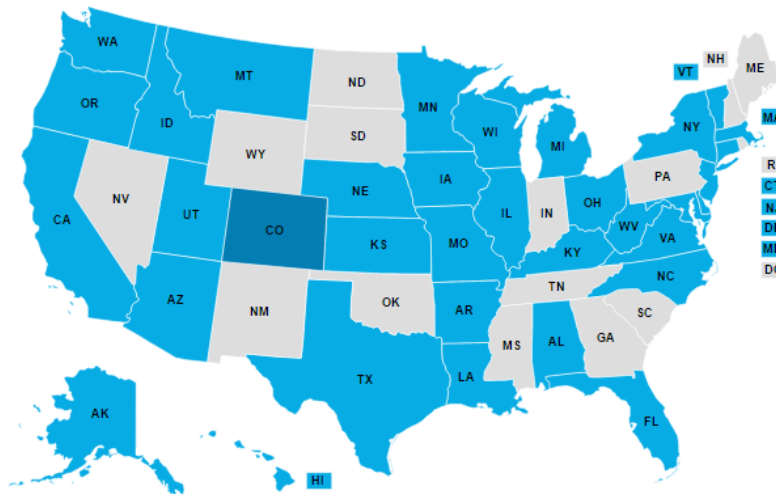
#### Show Projects by Category

- ☒ All Topics
- ☐ Finance
- ☐ Policy and Program
- ☐ Technology and Resources

Show Results

#### Apply Today

NREL offers various types of [technical assistance](#) to state and local governments.



#### Colorado

##### Technology and Resources

###### Municipal/City

Technical Assistance Requested: The Denver Housing Authority are in the planning phases of redeveloping a neighborhood and wanted to explore the potential of net zero development and solar.

Results: In Process


##### Policy and Program

###### State


Technical Assistance Requested: Assistance in understanding utility/regulatory practice of net energy metering particularly as it pertains to photovoltaic systems installed by end-use customers of electric

# STAT TA: Example of direct TA

## Direct Assistance:

 **NREL**  
NATIONAL RENEWABLE ENERGY LABORATORY

### Distributed PV Adoption in Maine through 2021



**11/6/15**

**Pieter Gagnon and Ben Sigrin**

[Pieter.gagnon@nrel.gov](mailto:Pieter.gagnon@nrel.gov),  
[Benjamin.sigrin@nrel.gov](mailto:Benjamin.sigrin@nrel.gov)

NREL is a national laboratory of the U.S. Department of Energy, Office of Energy Efficiency and Renewable Energy, operated by the Alliance for Sustainable Energy, LLC.



# Maine Public Utilities Commission Request

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**Maine PUC requested assistance from STAT. Based on scoping calls the assistance provided is as follows:**

NREL will produce an analysis through the dSolar model that addresses 3 potential distributed solar scenarios projecting low, medium, and high estimates of the total installed DG Solar PV through 2021 assuming no changes in policy concerning retail rate structures, net energy billing, or other solar incentives. NREL will consult with Maine PUC to develop a set of assumptions for each scenario, which could include: solar capital cost reductions, ITC step down scenarios, load and retail rate growth forecasts, and consumer demand for solar.

# STAT TA: Policy impact

MARKETS & POLICY

## Maine Proposes to Replace Net Metering With a Market-Based Alternative



Source: [GTM Media, 2016](#)

The proposal could add 248 megawatts to Maine's nascent solar market over five years.

by Julia Pyper  
February 26, 2016

2/23/2016

### Overview of Distributed Generation Legislation

As a result of the stakeholder process directed by Resolves. Ch. 37, 127<sup>th</sup> Legislature, Maine's consumer advocates, utilities, solar installers and environmental advocates have reached agreement on a program to support distributed generation resources for the benefit of all electricity customers. This document provides a summary of the legislation.

### Program Size

Under the proposed program, Maine utilities would enter into long term contracts for 248 MW of solar over the next five years (through 2022), divided between four market segments, as follows.

Segment	% of Market	Total MWs
Residential & Small Business	47%	118
Community	19%	45
Large Commercial & Industrial	10%	25
Grid Scale (up to 5 MW)	24%	60
Total		248

Source: [Maine.gov, 2016](#)

# How to Apply



U.S. DEPARTMENT OF  
**ENERGY**

Energy Efficiency &  
Renewable Energy

## Solar Program Quick Response Technical Assistance Request Form

Name:	Click here to enter text.
Phone:	Click here to enter text.
Email:	Click here to enter text.
Office Making Request:	Click here to enter text.
Deadline for Request:	Click here to enter text.
Request:	Click here to enter text.
Estimate of Hours Required to Complete Request:	Click here to enter text.
How will the resolution of this request affect solar technology costs in your area?	Click here to enter text.
How will the resolution of this request affect grid integrations costs in your area?	Click here to enter text.
How will the resolution of this request accelerate solar deployment in your area?	Click here to enter text.

Travel Requested? (Yes/No): Click here to enter text.

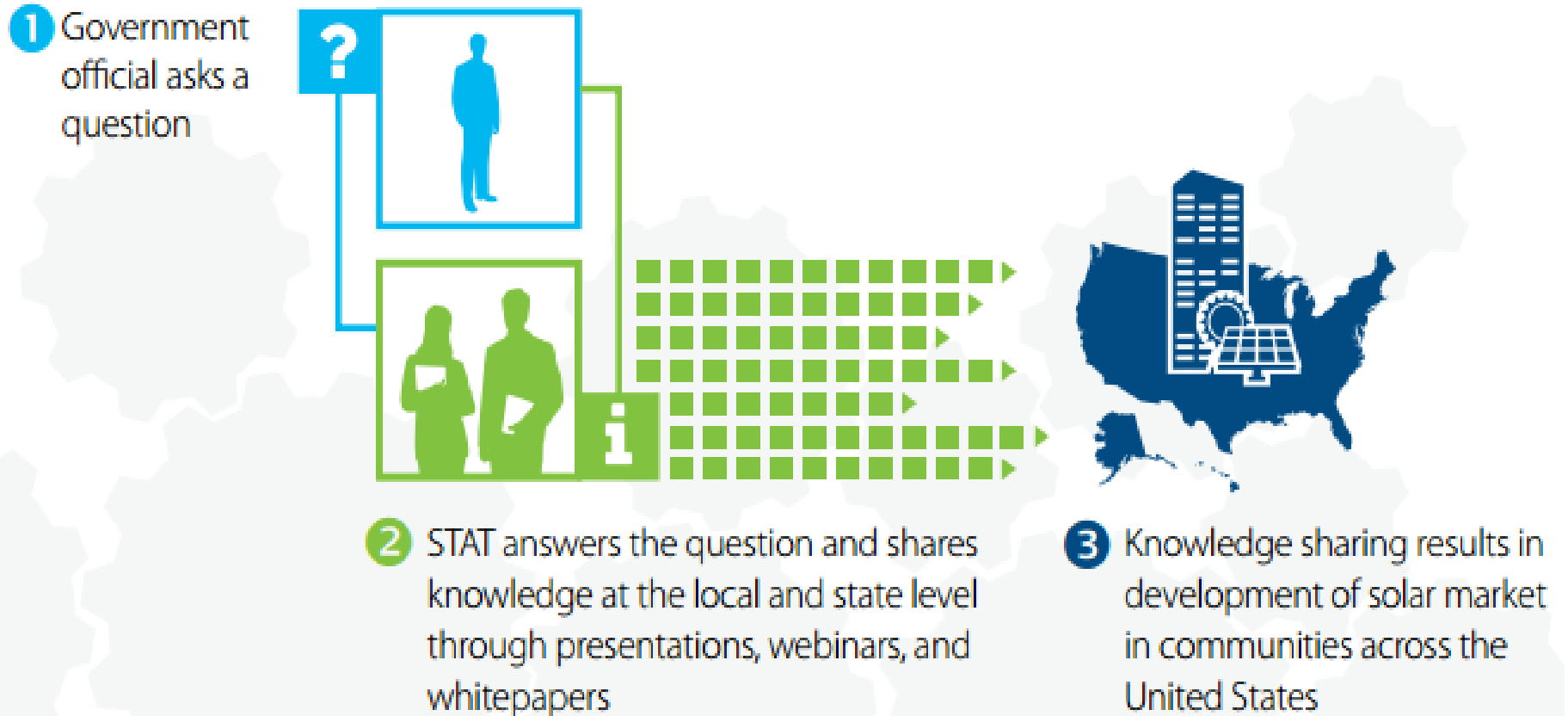
Invitation Letter from Public Official Attached? (Yes/No): Click here to enter text.

At any time during the year, send completed Quick Response Request Form to [stat@nrel.gov](mailto:stat@nrel.gov)

### Apply Online:

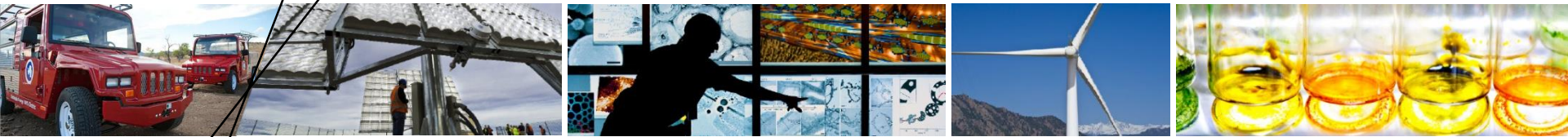
[http://www.nrel.gov/tech\\_deployment/state\\_local\\_governments/stat.html](http://www.nrel.gov/tech_deployment/state_local_governments/stat.html)

# STAT TA: Summary



Source: NREL, 2016





**Thank you! Questions?**

**[Erin.nobler@nrel.gov](mailto:Erin.nobler@nrel.gov)**

**[Alexandra.aznar@nrel.gov](mailto:Alexandra.aznar@nrel.gov)**

# Thank you for attending our webinar

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