State Leadership in Clean Energy: Award-Winning Programs in California & New York

Hosted by
Warren Leon, Executive Director, CESA
July 26, 2016
Housekeeping

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

This webinar is being recorded.

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www.cesa.org/webinars
The 2016 State Leadership in Clean Energy Awards

More information, including case studies about the winning programs and information about upcoming webinars, is available at: http://cesa.org/projects/state-leadership-in-clean-energy/2016/.
Today’s Guest Speakers

• **Lisabeth Tremblay**, Assistant Project Manager, NYSERDA
• **Luke Forster**, Assistant Project Manager, NYSERDA
• **Joe Omoletski**, NSHP Program Specialist, California Energy Commission
• **Elizabeth Hutchison**, NSHP Program Lead, California Energy Commission
NY-Sun Initiative
NY- Sun Presenters

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Agenda

- NY-Sun Overview
- NY-Sun Incentive Program (MW Block)
- NY-Sun Soft Cost Reduction Programs
NY-Sun Overview
New York’s Energy Policy

• Reforming the Energy Vision (REV) Governor Cuomo’s strategy to build a clean, resilient and affordable energy system for all New Yorkers.

• Clean Energy Standard goal of 50% renewable by 2030.

• Clean Energy Fund (CEF)
  • 10-year, $5 billion funding commitment
  • Reshapes New York’s energy efficiency, renewable energy and energy innovation programs
  • Reduces cost of clean energy
  • Accelerates adoption of energy efficiency to reduce load
  • Increases renewable energy to meet demand
  • Mobilizes private investment in clean energy
NY-Sun Initiative

- Significantly expand installed solar capacity
- Attract private investment
- Enable sustainable development of a robust industry
- Create well-paying skilled jobs
- Improve the reliability of the electric grid
- Reduce air pollution
- Make solar available to all New Yorkers

Statewide Goal of 3 GW by 2023

Approx. $1 Billion Total Budget

- Self-Sustaining Market
- Reduce Soft Costs

Statewide Goal of 3 GW by 2023
Approx. $1 Billion Total Budget

- Self-Sustaining Market
- Reduce Soft Costs
New York’s Solar Market

- Unprecedented growth – 575% growth in solar from 2012 to 2015
- 18,313 solar projects installed in 2015
- 525 MW installed by 2015 – enough to power nearly 85,000 homes
- Strong job growth – 8,250 employed in solar industry in 2015 – New York ranked 4\textsuperscript{th} in the U.S. for number of solar workers
NY-Sun Incentive Program
NY-Sun Incentive Program: MW Block

Capacity-based cash incentive available to eligible contractors.

Three Regions:
- Con Edison (New York City and South Westchester)
- Long Island
- Upstate (Rest- of-State or ROS)

Three Sectors:
- Residential: up to 25 kW
- Small Non-residential: up to 200 kW
- Commercial/Industrial: >200 kW

Incentive is available through Dec 29, 2023 or until funds are fully committed.
NY-Sun Incentive Program: MW Block

Example: Upstate Residential MW Block Structure

$1.10
$1.00
$0.90
$0.80
$0.70
$0.60
$0.50
$0.40
$0.30
$0.20
$0.10
$-

1 51 101 151 201 251

MW
NY-Sun Incentive Program

Residential / Small Commercial

Con Edison Region Residential

Upstate Region Residential

Long Island Region Residential

Block 7
Size: 70,000 kW
$0.40/W
Opened: 1/28/2016
29,883.8 kW
submitted,
40,116.2 kW
remaining

Hold the cursor over a column in any chart to get the block details.
Affordable Solar

Added incentive for low-to-moderate (LMI) income residents:
- Doubles the applicable MW Block incentive

Eligibility
- Household Income below 80% area or state median income

Requirements
- Energy efficiency lighting and hot water upgrades
- Projects must satisfy cost savings requirements
- No price escalators allowed for third-party-owned projects
Soft Cost Reduction Programs
NY-Sun Soft Cost Reduction Programs

- Community Solar
- PV Trainers Network: Assistance to local governments
- NY Unified Solar Permit and supporting documents
- Interconnection Distributed Generation Ombudsman/Working Groups
- NY Soft Cost Baseline Study
- Technical Assistance Program
- Green Jobs – Green NY financing
- Solar-Ready Vets: PV training program for military veterans
- Rigorous QA program: field and photo inspections
Community Solar in NY

- Solarize
- K-Solar
- Shared Solar
What is Solarize?

- Community-driven outreach and customer aggregation campaign
- Competitive selection of solar installers
- Limited time (6-9 months)
- Well-established model with room for innovation
- Support from NYSERDA
Solarize Results

Round 1
- 26 campaigns participated
- 900 projects
- 8.4 MW
- 4,000 leads
- $1.4 million cost saved
- Avg. $1,590 saved per installation

Round 2
- 30 campaigns launched spring 2016
K-Solar

- A joint project of the New York Power Authority (NYPA) and NYSERDA, K-Solar provides NYS school districts, at no cost or obligation, with the tools and expertise to bring solar energy to their facilities and reduce their energy costs.
Shared Solar

- Allows a single large installation to credit production to many remote off takers
  - 60% minimum proportionate share of output for members less than 25 kW
  - 40% maximum proportionate share of output for members greater than 25 kW
- Projects can interconnect statewide as of May 1, 2016
- Net metering structure
- Makes solar accessible to many more New Yorkers
NY-Sun PV Trainers Network

Offers training to help local governments and jurisdictions identify opportunities, mitigate barriers, and create programs that drive the development of PV markets through education, training, and one-on-one technical assistance.

Available Trainings Include

- Expanding Commercial Solar with PACE
- Intro to Shared Solar
- Intro to Solar Policy Workshop
- Land Use and Planning for Solar
- Solar Procurement for Local Governments
- Streamlining Solar Permitting
- Full list available by visiting training.ny-sun.ny.gov
NY Unified Solar Permit

- Standard Solar Electric Permit for New York State Local Officials
- Helps to remove barriers to local economic development in the growing solar industry
- Simplifies and streamlines permitting for solar installers
Thank you

ny-sun.ny.gov
New Solar Homes Partnership Program

Elizabeth Hutchison
Joseph Omoleteski

July 26, 2016
Purpose

Senate Bill 1 (SB 1, Murray, 2006) goals:
- 3,000 MW of installed DG solar PV capacity
- Self-sufficient solar industry
- Solar installed on 50% of new homes

NSHP-specific goals:
- 360 MW of installed solar PV capacity
- PV on highly efficient residential construction
Eligibility Requirements

- New residential construction
- In IOU electric service territory
- Interconnected solar energy systems $\geq 1$ kW AC
- Third-party verified systems and energy efficiency
- Eligible equipment with 10-year warranty
CEC Lists of Eligible Equipment

- Incentive Eligible Equipment in Compliance with SB1 Guidelines

Updated as of July 8, 2016

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<thead>
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<th>Manufacturer Name</th>
<th>Module Model Number</th>
<th>Description</th>
<th>BIPV</th>
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</tbody>
</table>
California Energy Commission

Incentive Structure

- One-time, upfront incentive
- Tiered incentive structure with volumetric targets; incentives decline when megawatt targets achieved
- Expected Performance Based Incentive (EPBI)
- Incentives limited to the first 7.5 kW AC per residential unit AND incentive amount cap
  - Market-rate housing cap: 50%
  - Affordable housing cap: 75%
## Remaining Incentive Levels

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<tr>
<th>Step</th>
<th>Code</th>
<th>Tier I</th>
<th>Tier II</th>
<th>Reserved volume (MW-AC)</th>
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<td>$0.50</td>
<td>$0.75</td>
<td>$1.25</td>
<td>60</td>
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<tr>
<td>9</td>
<td>$0.35</td>
<td>$0.50</td>
<td>$1.00</td>
<td>65</td>
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<tr>
<td>10</td>
<td>$0.25</td>
<td>$0.35</td>
<td>$0.75</td>
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</table>

### Market Rate

<table>
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<th>Step</th>
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<th>Tier I/II</th>
<th>Reserved volume (MW-AC)</th>
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<td>$1.50</td>
<td>$1.85</td>
<td>3.5</td>
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<td>7</td>
<td>$1.15</td>
<td>$1.50</td>
<td>5.0</td>
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<tr>
<td>8</td>
<td>$0.80</td>
<td>$1.25</td>
<td>6.0</td>
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<tr>
<td>9</td>
<td>$0.55</td>
<td>$1.00</td>
<td>6.5</td>
</tr>
<tr>
<td>10</td>
<td>$0.35</td>
<td>$0.75</td>
<td>7.2</td>
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# NSHP Energy Efficiency Requirements

<table>
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<tr>
<th>Energy Efficiency Tier</th>
<th>2008 Standards</th>
<th>2013 Standards</th>
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<td>Code-Compliant</td>
<td>Not available</td>
<td>0%</td>
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<tr>
<td>Tier I</td>
<td>15%</td>
<td>15%</td>
</tr>
<tr>
<td>Tier II</td>
<td>30%/30%*</td>
<td>30%/30%*</td>
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</table>

* Required space cooling improvement
## Reservation Periods

<table>
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<tr>
<th>Reservation Period</th>
<th>Project Types</th>
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</table>
| **36 Months**      | • Large Development: 50%+ of homes receive solar (minimum six homes)  
                     • Affordable Housing (residential or common area): 20%+ of dwelling units are income restricted  
                     • Virtual Net-Metered |
| **18 Months**      | • Custom Home: single site project  
                     • Small Development: fewer than six homes  
                     • Solar Not as Standard: less than 50% of homes  
                     • Market-Rate Common Area |
California Energy Commission

Involved Parties

**Applicant**
- Homeowner
- Homebuilder/Developer

**Contractor**
- Retailer/Seller
- Installer

**Efficiency and Solar Consultants**
- Certified Energy Analyst
- HERS Rater
California Energy Commission

The Basic Process

Reservation
• Applicant submits reservation application package via online application tool.
• Energy Commission reviews and approves. Incentive is reserved for applicant.

Installation and Verification
• Applicant installs PV system and energy efficiency measures (as appropriate).
• HERS rater verifies and tests measures installed.
• Building department finalizes solar permit.
• Applicant applies to utility for interconnection.

Payment Claim
• Applicant submits payment claim package via online application tool.
• Energy Commission reviews and approves. Incentive is paid.
California Energy Commission

Reservation Application Document

Overview

- General Project Information
  - NSHP-1

- Proof of New Residential Construction
  - Building Permit/Subdivision Map

- Commitment to Solar
  - Calculator Form
  - Installation Contract

- Energy Efficiency
  - Building Energy Model (Title 24)
  - Construction Plan Set
## Payment Claim Document Overview

<table>
<thead>
<tr>
<th>Section</th>
<th>Subsections</th>
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<tbody>
<tr>
<td>General Information</td>
<td>• NSHP-2</td>
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<tr>
<td>Warranty Coverage</td>
<td>• NSHP-3</td>
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<tr>
<td>Third-Party Verification</td>
<td>• Solar Verification</td>
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<tr>
<td></td>
<td>• Energy Efficiency Verification (Mandatory and Above-Code)</td>
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<tr>
<td>Interconnection</td>
<td>• Interconnection Letter</td>
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</table>
NSHP Web Tool

- Applicants can submit applications electronically
- Allows applicants to track the status
- Serves as collection point for program data
- Sign up here: [https://www.newsolarhomes.org/WebPages/Public/Login.aspx](https://www.newsolarhomes.org/WebPages/Public/Login.aspx)
California Energy Commission

NSHP Participants

Over 75 Builders
- KB Homes
- Lennar Homes
- Richmond American Homes
- Shea Homes
- Standard Pacific Homes
- TRI Pointe Homes, Inc.

Over 30 Retailers and Installers
- SunPower Corporation
- SolarCity Corporation
- SunStreet Energy Group
- PetersenDean, Inc.

Photos Courtesy of Sherrill Neidich
## NSHP Program Totals

<table>
<thead>
<tr>
<th></th>
<th>Number of Applications</th>
<th>Number of Systems</th>
<th>Dollars (Millions)</th>
<th>MW (AC)</th>
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<tbody>
<tr>
<td><strong>Under Review</strong></td>
<td>185</td>
<td>4,893</td>
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<tr>
<td><strong>Reserved</strong></td>
<td>964</td>
<td>30,259</td>
<td>96.9</td>
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<tr>
<td><strong>Installed</strong></td>
<td>2,591</td>
<td>23,876</td>
<td>149.9</td>
<td>74.7</td>
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<tr>
<td><strong>Total</strong></td>
<td>3,740</td>
<td>59,028</td>
<td>246.8</td>
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Source: [Go Solar California](https://gosolar.ca.gov) as of 7/6/2016
## Available Funding

<table>
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<th>MW (AC)</th>
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<td>Available Funding</td>
<td>40.1</td>
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<tr>
<td>Under Review</td>
<td>11.7</td>
<td>18.5</td>
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<tr>
<td>Remaining Funding</td>
<td>28.4*</td>
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</table>

Source: [Go Solar California](https://www.gosolarCalifornia.com) as of 7/6/2016
NSHP Installations Per Year

Capacity Installed (MW)

Capacity

# of Systems

Installed Systems (Thousands)


0 1 2 3 4 5 6 7 8

0 5 10 15 20 25

California Energy Commission
Progress Toward 360 MW Goal

- Installed: 20%
- Reserved: 29%
- Remaining: 45%
- Under Review: 6%
Installed Systems by Energy Efficiency Level

All Installed Systems
- Tier I, 75%
- Tier II, 19%
- Code-Compliant, 6%

2013 Building Standards
- Tier I, 23%
- Tier II, 2%
- Code-Compliant, 75%
Affordable Housing Activity

- As of June 2016:
  - 7.13 MW installed in affordable housing residential and common area projects (~11% of overall)
  - $20.5 million in incentives paid to these projects (~15% of overall)
Spotlight: Mutual Housing at Spring Lake

- 62 affordable residential units in Woodland, CA
- Community center
- Nation’s first 100% zero net energy (ZNE) rental community
- Size: 184 kW Incentive: $384,742

Photo Credit: California Energy Commission
Program Future

- CPUC approved $111.78M additional funding
- Upcoming workshop on program streamlining
- Program sunset date of June 1, 2018
- Last day to pay out is December 31, 2021
Contact Information

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(916) 654-3838

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Renewable@energy.ca.gov
(916) 653-0237
Thank you for attending our webinar

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wleon@cleanegroup.org

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