





## New Municipal Roles in Supporting Solar Development

May 3, 2024

#### **CEU SIGN IN**



#### **QR CODE INSTRUCTIONS:**

- 1. Open the Camera app on your phone.
- 2. Hold your phone so that the QR code appears in view.
- 3. Tap the notification to open the link.
- 4. You **MUST** Sign in to receive CEU credits.

#### **WIFI INFORMATION: 2 Open Networks**

1.sustainablenj: Ballroom, GS3, Nonprofit Exhibit area2.Bell\_Works\_Conf\_Center: Bell Theatre & Conference





OF NJ POPULATION LIVES IN A

COMMUNITY



OF MUNICIPALITIES **PARTICIPATING** 

of NJ public school districts registered with Sustainable Jersey for Schools







**SUSTAINABILITY ACTIONS COMPLETED** by both municipalities and schools

IN GRANTS FOR MUNICIPALITIES, SCHOOLS & SCHOOL DISTRICTS

## Statistics

2009 Program Started

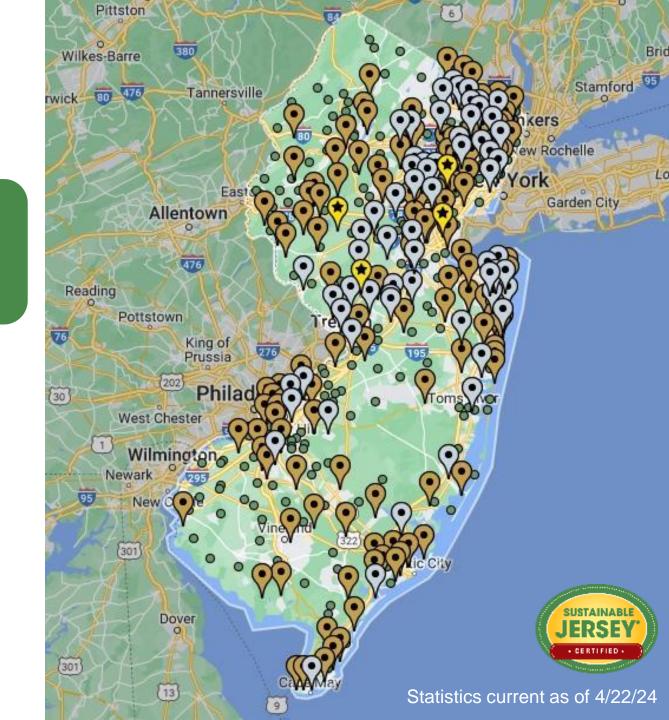
83% Participating

91% Population



**16,710** Actions

Actions Implemented



## **Agenda**

**New Jersey Community Solar program** 

Sawyer Morgan, New Jersey Board of Public Utilities

**SolarAPP+ -- US Permitting Solution** 

Stephen Pope, Solar Energy Industries Association (SEIA)

**Solar Resources** 

Tracey Woods, Sustainable Jersey

Q and A



## Sustainable Jersey Energy Actions

	Energy Efficiency	Renewable Energy	Alternative Fuel Vehicles
Municipal Operations	<ul> <li>Energy Efficiency for Municipal Facilities</li> <li>Energy Tracking and Management</li> </ul>	<ul> <li>On-Site Geothermal</li> <li>On-Site Solar +10 pt storage/resilience +5 pt solar thermal</li> <li>On-Site Wind</li> <li>Buy Renewable Energy</li> </ul>	<ul> <li>Fleet Inventory</li> <li>Purchase Alternative Fuel Vehicles</li> <li>Meet Green Fleet Targets</li> </ul>
Community Energy Use	<ul> <li>Energy Assistance Outreach</li> <li>Commercial Energy Efficiency Outreach</li> <li>Residential Energy Efficiency Outreach</li> </ul>	<ul> <li>Make Your Town Solar Friendly</li> <li>Municipally Supported     Community Solar</li> <li>Solar Outreach</li> <li>Renewable Government     Energy Aggregation (R-GEA)</li> </ul>	<ul> <li>Make Your Town Electric Vehicle (EV) Friendly</li> <li>Public EV Chargers</li> <li>Electric Vehicle Outreach</li> </ul>

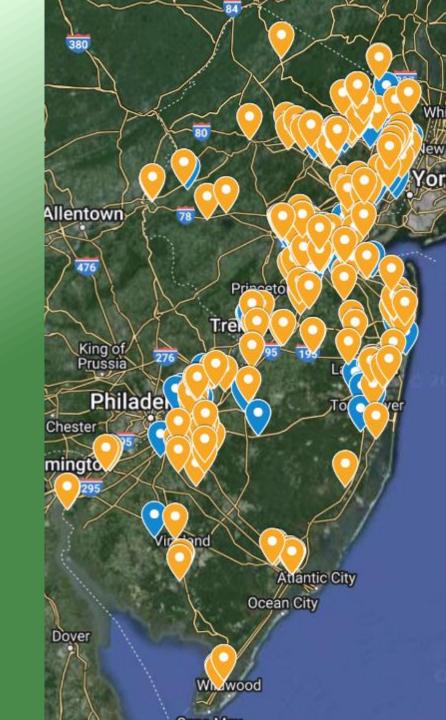




# New Jersey's Community Solar Program

May 3, 2024

Sawyer Morgan, Ph.D.
Research Scientist, Division of Clean Energy
New Jersey Board of Public Utilities



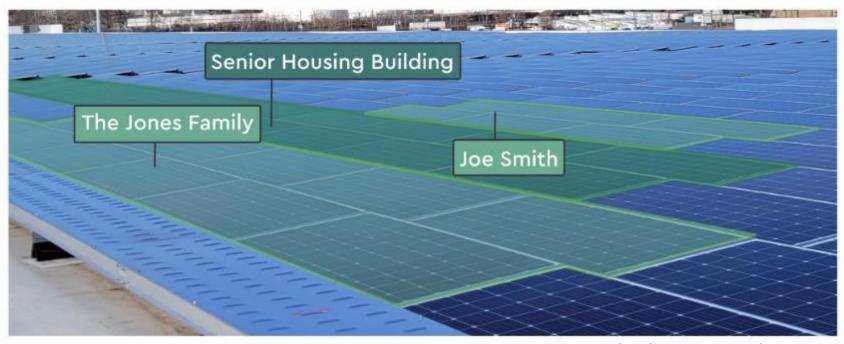


## New Jersey's Community Solar Energy Program



## Community Solar: What is it?

NJCleanEnergy.com/COMMUNITYSOLAR



Perth Amboy Community Solar Project

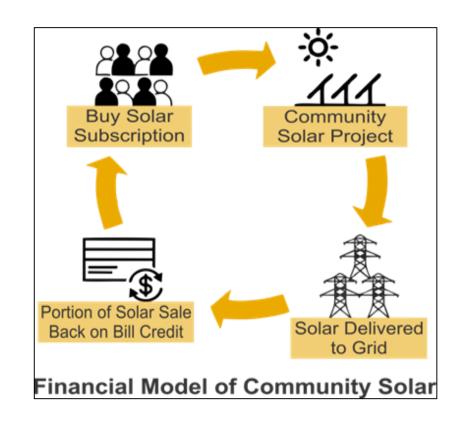
- A large remotely located solar array that is virtually divided among multiple participants (subscribers) by means of a credit on their utility bills.
- Enables access to solar energy for those who have not been able to install solar, including renters and households, institutions, or businesses where the roof isn't appropriate for solar installation, or solar is cost-prohibitive.



## Community Solar: What is it?

NJCleanEnergy.com/COMMUNITYSOLAR

- Most community solar subscriptions structured to result in 10 – 30% savings
- Many projects offer lowand moderate-income residents a higher percentage of savings





## Subscribing to a project

NJCleanEnergy.com/COMMUNITYSOLAR

- 1. Potential subscriber picks a community solar project to subscribe to
- 2. Subscriber receives a community solar billing credit on their electric bill
- 3. Subscriber receives separate bill for community solar subscription fee

Community Solar Credit - see page 5 for details  This month's charges and credits	-\$115.57 <b>\$138.7</b> 3
Plus WorryFree Protection Plan charge - see page 5 for details	\$49.38
Gas charges - PSE&G  Plus Electric charges - PSE&G	\$12.56 \$192.36

Example above is excerpted from sample <u>PSE&G</u> residential bill showing community solar billing credit.

## EXAMPLE COMMUNITY SOLAR INVOICE

Community Solar billing credit from electric bill

\$115.57

% of the billing credit retained by the customer, in this example 20%. - \$23.11

Fee for Community Solar Subscription \$92.45



## Subscribing to a project

NJCleanEnergy.com/COMMUNITYSOLAR

#### My Community Solar Status

		Community Solar			
Date	kWh you used	Carryover from previous months	kWh credit received	Applied to Bill	
Nov-17	850	0	550	550	
Dec-17	900	0	650	650	
Jan-18	971	0	750	750	
Feb-18	1071	0	800	800	
Community Sola	ar Delivery Credit	800 kWh x \$	0.030621	\$ (24.50)	
Community Sola	ar Supply Credit	800 kWh x \$	0.113846	\$ (91.08)	
Total Commu	nity Solar Credit			\$ (115.57)	

#### Your Community Solar

Each month you are billed for your monthly usage, and you receive a kWh allocation based on your subscription percentage and the solar facility's monthly generation.

Your monthly allocation is limited to your monthly usage amount. Any credit in excess of your usage will be carried over to a future month's bill.

Annually kWh not applied to prior bills will be credited at the avoided cost of power.

#### **Details of your Electric Charges**

Residential Service - service number 0500 0000 0000 7000 0000 00 Electricity you used this period

Meter Number Energy Type	Current Reading	Previous Reading	Difference	Multiplier	Total <u>Use</u>
1ND333333333	Oct 1	Aug 31			
Use (kWh)	011496	010881	615	1	615
	(actual)	(actual)			

Your next meter reading is scheduled for October 28, 2021



**Community Solar Bill Credit:** These credit reflect the kWh allocation you receive based on your subscription percentage and the solar facility's monthly generation.

Subscriber Organization ACE EX01

Applied C<u>redit kWh</u> 463

Rate Per kWh 0.157996-

73.15-

Electric Summary Balance from your last bill	\$134.00
Community Solar Credit	\$73.15-
Changes to electric	\$73.15-
Payment Sep 12	\$134.00-
Total Payments	\$134.00-
Electric Charges (Residential Service)	\$125.19
New electric charges	\$125.19
Total amount due by Oct 22, 2021	\$52.04

## Community Solar Pilot Program

NJCleanEnergy.com/COMMUNITYSOLAR

- Two program years, with awards made in 2019 and 2021
  - The Board awarded 150 projects totaling 243 MW
    - 102 projects with 141 MW have come online
    - 16 projects with 51 MW are still in construction
- The Board elected to forego PY3 and develop the permanent Community Solar Energy Program





## Community Solar Energy Program

NJCleanEnergy.com/COMMUNITYSOLAR

- Permanent program established by the Board on August 16, 2023
- Registration opened November 15, 2023
- 225 MW made available, divided among EDCs
- 224 projects with 225 MW accepted so far
- The Board will open an additional 275 MW on May 15





## CSEP eligibility

NJCleanEnergy.com/COMMUNITYSOLAR

#### Siting

- Projects may be sited on:
  - Rooftops
  - Carports and canopies over impervious surfaces
  - Contaminated sites and landfills
  - Man-made bodies of water that have little to no established floral and faunal resources (floating solar)
  - Mining sites (sand mines, gravel pits, former mines)









New Jersey Resources

## **CSEP** eligibility

NJCleanEnergy.com/COMMUNITYSOLAR

#### Size and co-location

- Maximum size is 5 MW
- May co-locate with net-metered projects
- May be on separate buildings on different properties



## Project registration process

NJCleanEnergy.com/COMMUNITYSOLAR





Tri-County Landfill Solar Farm, Delanco – Soltage/AC Power

#### Project registration process

NJCleanEnergy.com/COMMUNITYSOLAR

#### **Maturity requirements**

- Conditional approval to install from the utility
- All discretionary permits applied for
- Subscriber acquisition and community engagement plan
  - Letter of support from municipality
- For contaminated sites and landfills, NJDEP verification of eligibility with BPU certification, permit readiness checklist
- Refundable escrow of \$40,000 per MW to ensure project completion



#### Project registration process

NJCleanEnergy.com/COMMUNITYSOLAR

#### **Application and project selection**

- Online portal registration
- First-come, first-served
- If more projects apply in the first two weeks than there is capacity, a tiebreaker will be used
  - Projects with highest bill credit offered to subscribers will be accepted
    - Was 31.02% in PSE&G



## Standards for Subscribers

NJCleanEnergy.com/COMMUNITYSOLAF





South Brunswick – Nexamp

## LMI Participation

NJCleanEnergy.com/COMMUNITYSOLAR

#### Low- to moderate-income households

- All projects must have 51% of capacity subscribed by LMI subscribers.
- LMI households have income below 80% of area median income.
- LMI status may be verified with participation in assistance programs, residence in certain census block groups, and selfattestation.



## LMI participation

NJCleanEnergy.com/COMMUNITYSOLAR

#### Affordable/master-metered housing

- Master-metered affordable housing may qualify as LMI by providing an affidavit that they are passing on benefits to residents
- Affordable housing providers receive special bill credit to incentivize participation



## Billing NJCleanEnergy.com/COMMUNITYSOLAR

#### **Bill savings**

- Subscribers will receive at least the project's guaranteed bill credit savings rate
- Bill credit savings rate must be a minimum of 20%





North Brunswick - Solar Landscape

#### **Consolidated billing**

- Coming in January 2025
- Utility consolidated billing will reduce customer confusion and hassle of two bills
- Residential subscribers are billed with the net crediting method.
  - The bill discount rate is applied to the applicable portion of the bill.
    - Applied bill credit x guaranteed savings rate = net credit Customer bill total – net credit = final amount billed
- Consolidated billing is a prerequisite to automatic enrollment.



#### Automatic enrollment

NJCleanEnergy.com/COMMUNITYSOLAR

#### **Automatic enrollment**

- Municipalities would be able to automatically enroll residents to a project they own or partner with within 15 miles
- The public entity may select residents to enroll, and 80% of the capacity must be LMI.
- Residents must have the opportunity to opt out of subscribing
- Coming in 2025



## Community Solar Project Finder

NJCleanEnergy.com/COMMUNITYSOLAR

The New Jersey Board of Public Utilities partnered with Sustainable Jersey to develop the New Jersey Community Solar Project Finder.



SustainableJersey.com/communitysolar



## Community Solar Project Finder

NJCleanEnergy.com/COMMUNITYSOLAR

## New Jersey Community Solar Project Finder includes:

- Overview of Community Solar Program
- List of projects accepting subscribers
- Community solar FAQs

SustainableJersey.com/communitysolar





#### New Jersey Community Solar Project Finder



Enter your zip code to see projects serving your community:

Enter a value

Enter your zip code to see a list of community solar projects that are available in your municipality.

Some zip codes may not overlap perfectly with municipal boundaries. Community solar project sign-ups are by municipality, please check the chart to verify your eligibility.

Community solar subscribers can only subscribe to a project located in their electric utility service territory.

Not sure what some of the terms included in the chart below mean? See the glossary of common community solar terms.

1

Project Name Subscriber Organization Developer Project Description +	Link to Project Website	Date Project Operational	Eligibility Requirements	Estimated Percent Customer Savings*	Subscription Contract Terms	Electric Utility Service Territory	Municipalities Served by Project
Emerald City Solar Subscriber Organization Subscribes LLC Project Developer: Solar Builder, Inc. Project Description: 3.3 MW Solar array on Sesame Street	Click here for more information and sign up.	projected to be operational 02/25/2025	Credit check required? NO Automated payment required (credit/debit card)? YES Is project open to residents who live in master-metered buildings? YES	All customers 20% LMI customers 25%	Subscription contract length: 1 year Deposit or subscription fee: None Is there a fee to leave project during contract period? No fee to leave the project with 30-day notice Does percentage of savings change over life of contract? NO	Atlantic City Electric	Emerald City, West Emerald City
Good Guys Soler for All Subscriber Organization: Subscriber LLC Project Developer: Solar Builder, Inc. Project Description: 2.3 MW Solar array on Emerald City Brownfield Site	Click here for more information and sign up.	operational since 1/1/2023	Credit check required? NO Automated payment required (credit/debit card)? YES is project open to residents who live in master-metered buildings? NO	All customers 15% LMI customers 20% Emerald City Senoirs 20%	Subscription contract length: 2 years Deposit or subscription fee: None Is there a fee to leave project during contract period? No fee to leave the project with 30-day notice Does percentage of savings change over life of contract? NO	PSE&G	Emerald City, South Gotham
Gotham Solar Project Subscriber Organization: Find Customer, LLC Project Developer: Solar Builder, Inc. Project Description: 2.3	Click here for more information and sign up.	operational since 7/1/2022	Credit check required? YES Automated payment required (credit/debit card)? YES. Is project open to residents who live in master-metered buildings? NO	All customers 10% LMI customers 15%	Subscription contract length: 2 years Deposit or subscription fee: None Is there a fee to leave project during contract period? No fee to leave the project Does percentage of savings change over	PSE&G	Gotham, South Gotham

#### Solar For All

NJCleanEnergy.com/COMMUNITYSOLAR

NJBPU has been awarded \$156 million through the GGRF Solar For All program

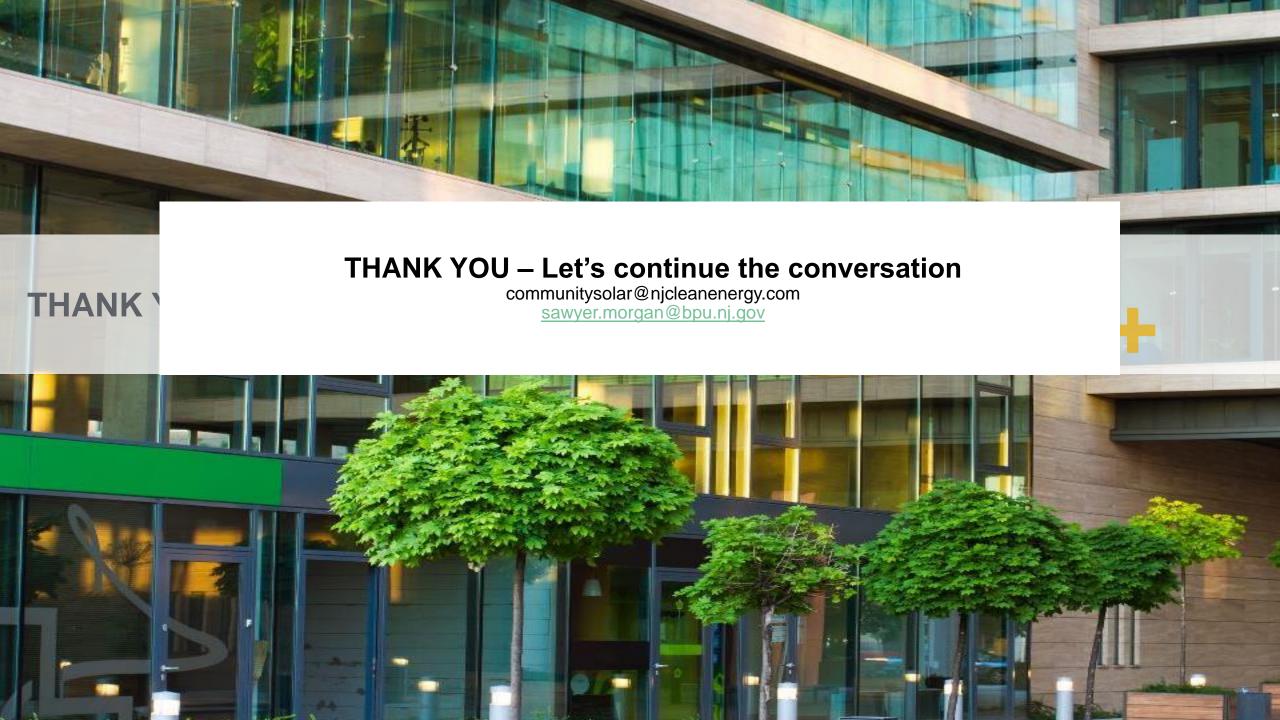
#### Four funding priorities:

- Low-income residential rooftop solar
- Multi-family housing solar and storage
- Community solar
- Technical assistance and workforce development

Developing program for 2025 launch











# SolarAPP+ The Emerging US Permitting Solution

May 3, 2024

Stephen Pope SolarAPP+ Outreach Manager Solar Energy Industries Association (SEIA)





#### A Few Questions Before We Get Started

#### **Everyone**, please answer these questions in the chat as you join:

- What Jurisdiction/organization do you represent?
- What does your current permit process and fee collection system look like?
  - Using Accela, EnerGov, etc.? Mail, email, in-person only?





# SolarAPP+ The Emerging US Permitting Solution













































SolarAPP+ is a standardized plan review software that can run compliance checks and process building permit approvals for eligible rooftop solar systems.

The tool was developed through a collaborative effort to accelerate rooftop solar adoption by making it easier for local governments to quickly and safely approve rooftop PV projects for installation

## SolarAPP+ Eligibility

SolarAPP+ can cover standardized systems as defined <a href="here">here</a>.

#### **Current Support Parameters**

- Residential PV
- Approved equipment
- NEC 2017 & 2020
- 2018 & 2021 i-Codes
- Bus <225A</li>
- Service <400A</li>

#### Support In Progress

- Residential storage
- Roof Tiles

- PV systems <4PSF</li>
- Single phase utility supply
- No wood shake roofs
- No metal roofs w >15PSF snow load
- Main panel upgrades
- California's Title 24



Add-ons for existing systems

#### Planned

EV chargers, electric appliances, and more...

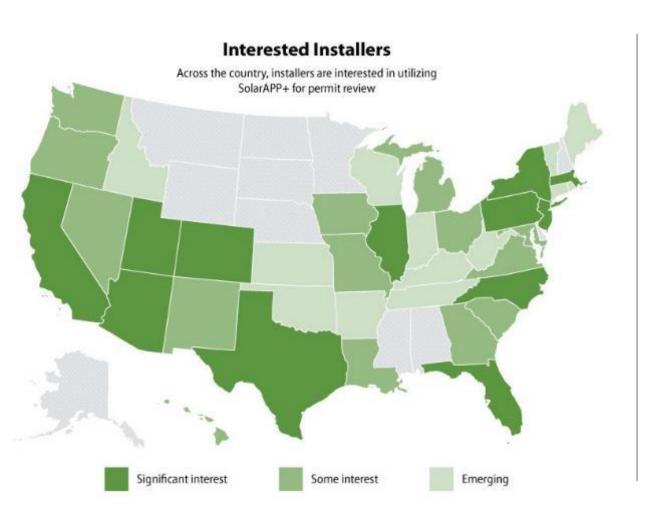
Let us know what you'd like to see next!

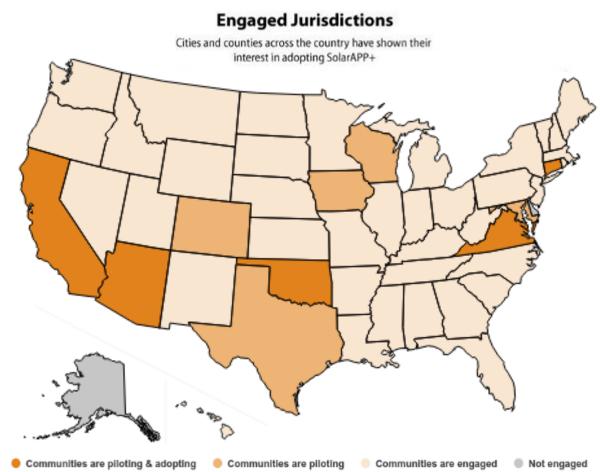
## What does SolarAPP+ Check?

- Validates Equipment listings
  - UL 1741 for Inverters
  - UL 61730 1/2 or UL 1703 for modules
  - UL 9540 for Energy Storage Systems (ESS)
  - UL 2703 for specific racking and module combinations
    - Grounding and bonding
    - Fire Classification
  - Utility Interconnection rule 21
- Verifies circuit parameters by calculating:
  - PV Source circuit string voltage with temperature correction
  - PV Source circuit ampacity with high irradiance factor
  - Inverter Max AC output current
  - Combined Inverter Max AC output current
  - Wire ampacity
  - Minimum wire size
  - Minimum overcurrent protective device rating

- Locates project address in a jurisdiction
  - AHJ Registry
- Considers local design criteria for every address
- Calculates PV array area to inform ridge setbacks
- Checks ESS for
  - Individual unit rating
  - Location
  - Maximum aggregate ratings by location
  - Minimum Spacing of individual units
  - Load Calculations for backup panels
  - Mounting
    - Restrictions for seismic zones
  - Approved Fire Detection solutions
- Ensures proper interconnection of power production sources at every busbar and conductor within the circuit per NEC article 705

#### Interest in SolarAPP+





## Tucson's Experience with SolarAPP+



- 10,200 PV permits issued to date
- 30,000+ kW approved via SolarAPP+
- Over 10,000 hours of staff time saved in plan review
- SolarAPP+ features: PV, PV+ST, MPUs, MPDs

"The permitting process was taking four weeks. Now with SolarAPP+ we give a permit the same day. We just approved about 450 installations in the last 60 days alone."

- Tucson Mayor Regina Romero

# SolarAPP+ Pilot Statistics



36,800+

Residential rooftop PV permits approved to date, including 6,500+ revisions

7,600+

Permits approved to date for Solar+Storage projects



By providing instantaneous review SolarAPP+ has reduced the average permit review time to

# less than 1 day

saving local government staff over **35,000 hours** in review

#### No time added

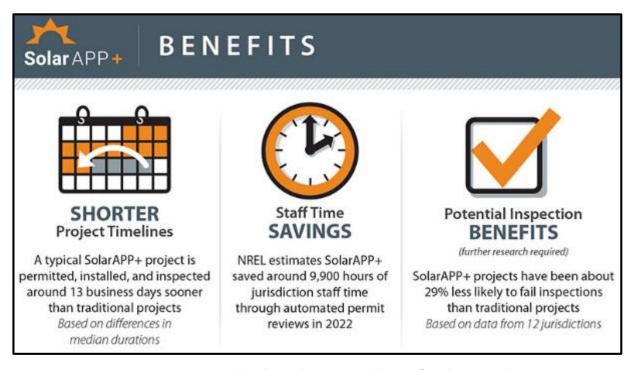
to inspections of PV systems in the field, with improved inspection passage rates from traditional inspections!



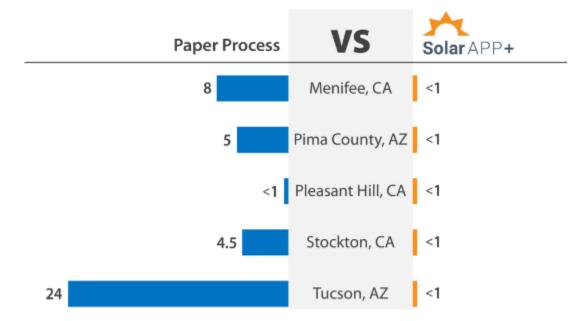
Projects submitted through SolarAPP+ were installed and inspected

# 13 days faster

on average than projects using the traditional process



#### Median Business Days for Permit Review



# SolarAPP+ Flow

Installer submits an application with design specifications through SolarAPP+

1





2

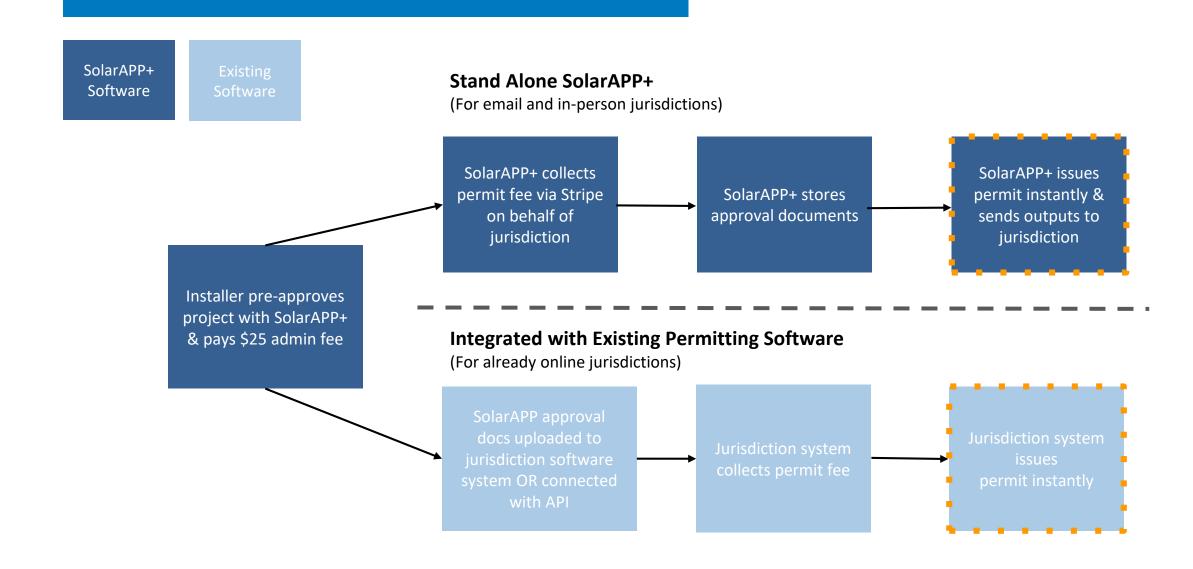
SolarAPP+ checks the application to ensure the system design is code compliant



Code compliant applications are issued a permit *instantly* after fee payment

(Review sample approval docs here)

# **Adoption Options**



# Four Steps to Adopting SolarAPP+



#### SolarAPP can be set up to:

- integrate with your existing online permitting software
- stand alone as a complete online permitting solution

#### These include:

- Permitting contacts
- AHJ boundaries
- Local environment variables
- Model code years
- Terms & conditions
- Other customizations

# Customization in SolarAPP+

# The Local Government may activate the following during the onboarding process or at any time afterwards.

- Fire Bulletin Appendix
- Project Valuation to calculate permit fees
- Workers Comp upload
- Upload a Utility Interconnect Agreement
- Select Building code Edition
- Select Electrical code edition
- Enable Fault Calculations
- Allow Main Panel Upgrades
- Allow Main Breaker derates
- Allow new Sub Panels
- Enforce a Rigid supply-side connection conduit rule
- Allow PCS Functionality

- Require prescriptive structural checks
- Require a Structural Observation letter
- Enable Structural DB
- Require pre-approval of racking products
- Require Flashing approval
- Enable Electrical diagrams
- Allow NEC 2020 MLO panel exception
- Disable UL 9540A reduced spacing
- Assign Local Weather variables
- Block addresses that exceed specified snow load
- Block addresses that exceed specified wind speed
- Block addresses with specific zoning
- Allow for local ordinances
- Allow for local geographic, climatic, environmental,

# Four Steps to Adopting SolarAPP+



SolarAPP can be set up to:

- integrate with your existing online permitting software
- stand alone as a complete online permitting solution

These include:

- Permitting contacts
- AHJ boundaries
- Local environment variables
- Model code years
- Terms & conditions
- Other customizations

Depending on your integration, either:

- Set up an instant permit application in your software
- Set up permit payments in SolarAPP

#### This involves:

- Inviting 1-3 installers to use your SolarAPP permitting process
- Opening up SolarAPP+ permitting to all installers

# **Next Steps**

Start registration at solarapp.nrel.gov/register



Email contact: <u>team@solar-app.org</u>

Explore out our FAQs for set-up:

General	Standalone Method	Integration Method					
Registration bit.ly/3Yr5vKY	Stripe Set-Up bit.ly/43V10vS	Accela Set-Up: bit.ly/45hgFnK EnerGov Set-Up: bit.ly/3rZqcBv E-TRAKiT Set-Up: bit.ly/3YqQB7n					



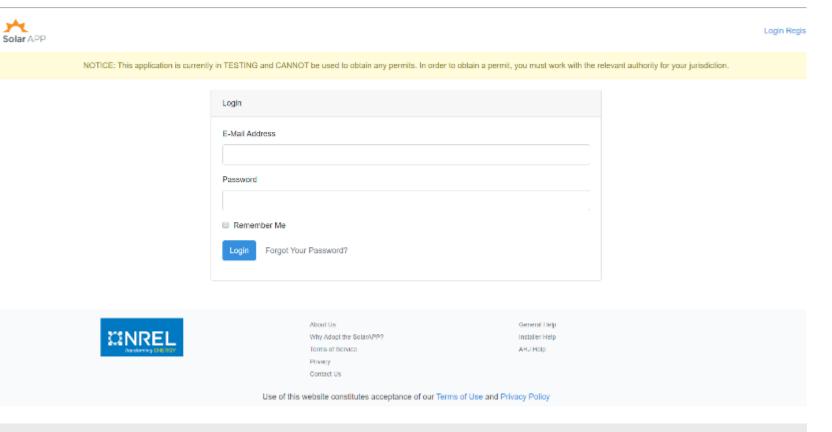


# SolarAPP+ The Emerging US Permitting Solution

# **Next Steps**

# SolarAPP Demonstration

# Registering and Logging In



- Registration Process
  - Onboarding with NREL and verification of authenticity
- Log-in (stand alone or plug-in)
  - Email and password

# Address

- Inputs
  - Project Information
  - Location
  - Licensing
  - Address validation
- Review SolarAPP eligibility



Installar Hear

NOTICE. The application is convertly in TESTING and CANNOT be used to obtain any permits in order to obtain a permit, you must work with the relevant authority for your jurisdiction.

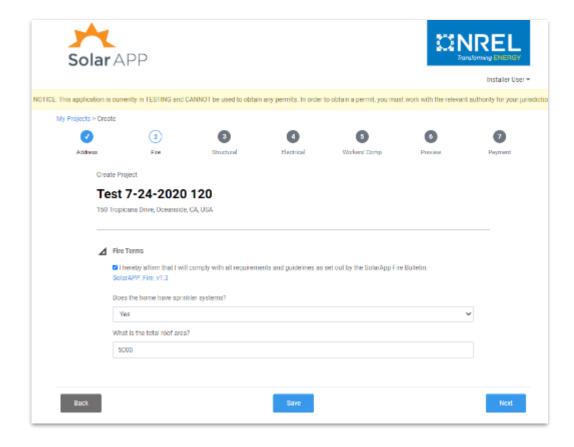
#### My-Projects > Create Create a New Project Address \$tructural Electrical Workers' Comp Summary Project Title Test Project Project Type: Rupitup Solar Scope of Work 3.5 kW rooftop solar System Size (kW) 3.5 AH.I Modesto, California I hereby affirm that I have reviewed the SolarAPP oligibility requirements and I am submitting an eligible project. All work will comply with the 2017 National Flectrical Code® (NEPA 70), and the 2018 international Basidential Code (IRC), UI Standards, Manufacturer's instructions, and Municipal requirements. Yos Oily Business License # Teel License 1234 Contractor License ₹ Test License-1234 Address 939 West Roseburg /wenue, Modeste, CA, USA Address Validated 806 W Rosoburg /wo Modesto, CA 95330 Atlantik. General Links Insuler Rep Terra of Severe AHJ Help I'there

Contact Us.

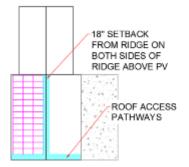
Use of this website constitutes acceptance of our Terms of Use and Privacy Policy.

## Fire

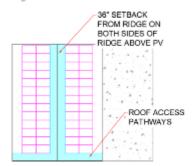
- Disconnecting Means
- Signs, Placards, Directories, and Marking
- Roof Access, Egress, and Ventilation



Ridge Setbacks - PV Less Than 33% Roof Area (66% for homes with sprinkler systems)



Ridge Setbacks - PV More Than 33% Roof Area (66% for homes with sprinkler systems)



## Structural

- Home age
- Roof pitch
- Roof structure and covering
- Module height/weight
- Snow load
- Wind speed



NOTICE: This application is currently in TESTING and CANNOT be used to obtain any permits. In order to obtain a permit, you must work with the relevant a chortly for your juried critical

My-Projects > Create

#### Create a New Project

	Firm	Structural	Electrical	Workers' Comp						
			de la constant de l'Indonesia							
	femily divelling	ii assasti i i oqui ementa spec	ale to a root mountain throws	flan. (PV) System endafation at a residenta						
Δ	Structural Information									
	What year was the home of	masinuted?								
	1973			*1						
	What is the weight of the P	V system in Roby II?								
		let to roof) or "tilt up" system?								
	tet									
	What is the maximum height or	ht of the module above the root	laufspa?							
	How many distinct roof plan  1	nes will be used for installation.	,							
	No.	ave dissimilar mof coverings o	, bearer							
	What is the current roof co-	en i na pravincia P								
	0810	CTYTOLEN:								
	How many layers of compa	site shingle are currently press	1172							
	1	, , , , , , , , , , , , , , , , , , , ,								
	What is the pitch of the real	Lau face?								
	4/12									
	What is the height of at least 20% of the solar array from the roof's surface?									
	÷.									
	What is the local ground on	on knef?								
	10psf									
	evenis distribute load into ti	urling system rated by the mains exponding structure? (walld)ing system mechanical load on	sted through the UL 1703 or 64	was force of the local wind speed and 1735 most in rating for mechanical local						
	per .									
	load and evenly distribute is	urting system rated by the ma cad into the supporting structur I UL 2703 mounting system me	(c) I wait distinct through the UL 1.	viward foxe of the local ground above VUS or 61/20 module rating for						
	yes									
	Does the roof structure app engoing?	ear to be structurally sound, w	thout signs of alterations or sig	prificent structural deterioration or						
	yes									







May Supplie 2 to 2 4 4 7 9 7 Control Us

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## **Electrical**

- Equipment inputs
  - Inverter
  - Module
  - Racking
  - Rapid shutdown method



NOTICE. This application is carrently in TESTING and CVANOTibe used to obtain any perints. In order to obtain a perint, you must work with the relevant authority for your pure detain.

My Projects > Create

#### Create a New Project









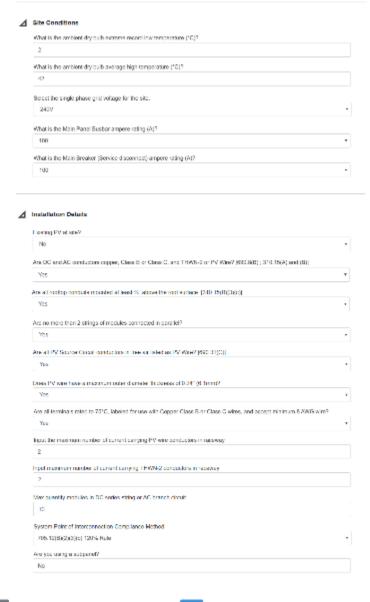




∠ Equipment Selection Datasheet for Inverter 1588537452834-dutusheed or invertex-fest Dutusheet pdf Investor f. Model V. PVIDGOITTO SI IIS A J240VJ Inverter 1 Manufacturer Inexter La UL 1741 Ixled? 798 Inverter 1 Architecture Sing liverer without DC BC Converters Do you have a 2nd Inverter? Datasheet for Nodale 1986997471821-datastical or Modales lest Datasticat pdf Module 1 Wodel 4: A100-M60-240 Module 1 Vanutedurer A10Green lectrology Nodele 1 is UC 1703 or 01730 listed? Vocale 1 Quantity 10 Datasteel for Backing System INRXGOCSER databased orBackingSystem feel (talashee) pdf Rucking System Model Number SnapNHackHL-U Racking System Vanutacturer Does the racking system hold a valid hold glob UL 2708 for grounding and bonding with the PV module models specified above. Select the Repid Shutdown compliance method: Controlled conductors within the unity boundary to 80V within 80sec [890.12]81(2)(2)(2) Datashoot for Rapid Shuttlown Dovice. 1586537514638-dutusheett ortkapidShaldownDevice-lest Dutasheet.pdf Repid Sholdown Nanafacturer Faget Shulthern Model Number T34 F Rapid shuldown devices are listed to UL 17/17 Yes

## **Electrical**

- Site Conditions
  - Temperatures
  - Main panel and breaker ratings
  - Grid voltage
- Installation Details
  - Conductors
  - Conduit
  - Wiring
  - Point of interconnection compliance method
  - Overcurrent protection devices



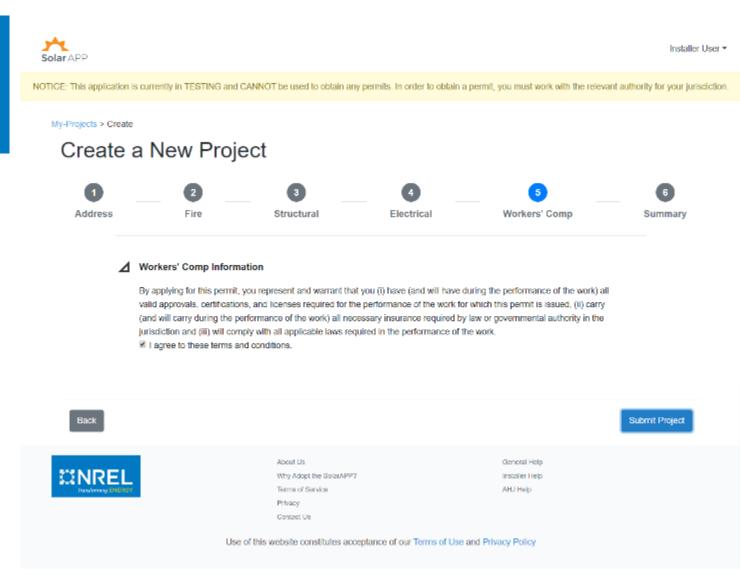




Hoxt

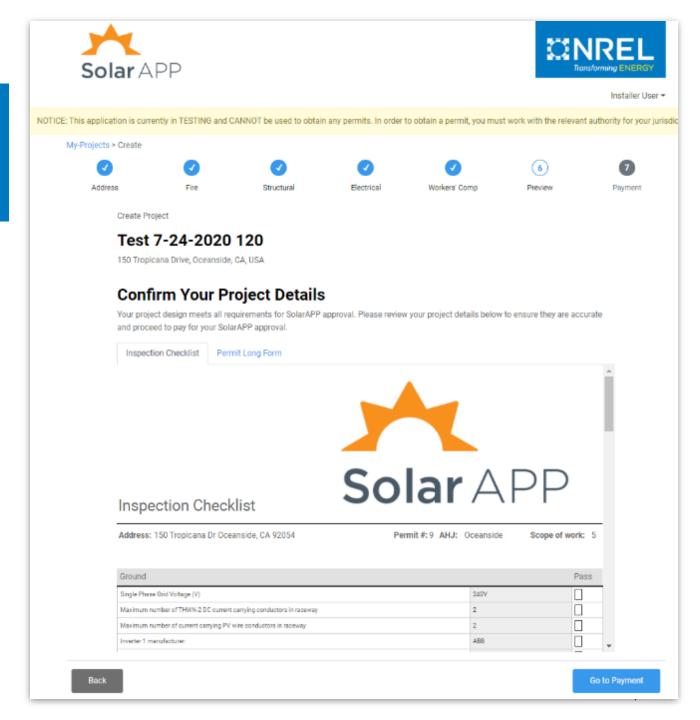
# Workers' Comp

 Attestation that the contractor holds all valid licenses, certifications, and necessary insurance for the performance of the work.



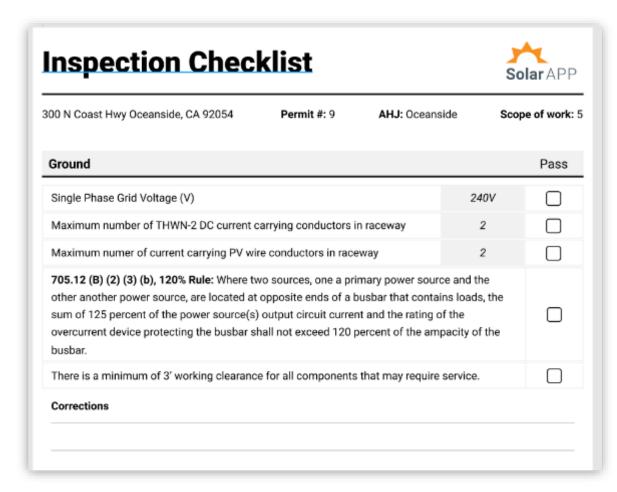
# Outputs

- Permit & Inspection Job Card
- Inspection
   Checklist
- Long Form



# **Inspection Checklist**

- A simple, clear checklist.
- Intended for all inspectors regardless of their solar expertise.
  - Focus on workmanship in the field.
- The Inspection Checklist along with the Long Form replace the need for a planset.



# Long Form

- The Long Form elucidates the magic!
- Shows inputs and related approval calculations.
- Serves as reference guide

# 4. Table for selection of minimum Inverter output wire size and inverter output overcurrent protection size

3. Inverter 1: Inverter Continuous Output Current = Power/Site Voltage =

 $(((PVI-3.0-OUTD-S-US-A [240V]) \rightarrow (3kw))*1000)W/(240)V = 12.5 Amp$ 

Inverter Continuous Output Current	12	16	20	24	28	32	36	40	48	56	64	72	80	88	100
OCPD amperage size	15	20	25	30	35	40	45	50	60	70	80	90	100	110	125
AWG wire size for <3 CCC in raceway	12	12	10	10	8	8	8	8	6	6	4	4	3	3	2
AWG wire size for 4 - 6 CCC in raceway	12	12	10	10	8	8	8	8	6	6	4	4	3	3	2
AWG wire size for 7 - 9 CCC in raceway	12	12	10	10	8	8	8	6	6	4	4	3	3	2	1

[240.4(D); Table 310.15(B)(3)(a); Table 310.15(B)(2)(b); Table 310.15(B)(16); 690.8; 690.9; 705.30]

#### Overcurrent Protective Device rating

Inverter 1 - Select the Overcurrent Protective Device rating
 (12.5)→(20)A from the table above based on the inverter continuous output current rating. [690.9(A): 690.9(B)]

# Permit & Inspection Job Card

- After payment, the contractor can download their Permit & Inspection Job Card.
- After AHJ onboarding, prototype permit would look similar to what is pictured to the right.



BUILDING SAFETY 1010 10TH STREET 3RD FLOOR, STE 3100 MODESTO, CA (209) 577-5232

NEIGHBORHOOD PRESERVATION UNIT 1010 10TH STREET 3RD FLOOR, STE 3100 MODESTO, CA (209) 577-5232

#### Post this Permit on Jobsite

#### Project

SolarAPP ID 42932593

PERMIT EXPIRATION 10/1/2020

NAME Bob Contractor

Contractor

PHONE 415-555-5555

STATE LICENSE

PERMIT ISSUANCE 7/1/2020

SYSTEM SIZE

ADDRESS

3 Main Street, Importantville, CA

SCOPE OF WORK

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Lorem ipsum dolor sit amet, consectetur adipiscing elit.

ADDRESS

7 Main Street, Modesto, CA

STATE LICENSE NUMBER 51221-19231

**Fee Summary** 

Modesto, CA

Permit Fee

SolarAPP

**EXPIRATION** 5/21/2024

CITY BUSINESS CITY BUSINESS LICENSE EXPIRATION 75121-29101 3/28/2024

#### Inspection

PHONE WEBSITE

310-555-5555

555inspectors.modestogov.com

REQUEST CODE

PROJECT TYPE

VΒ

EMAIL ADDRESS SCHEDULE INSPECTION AHJ@gmail.com Call or email

RESULT

Platform Administrative Fee

\$20

Total Paid \$220

#### Inspection Activities

REUESTED

COMPLETED

SIGNATURE

DESCRIPTION

7/12/2020

Electrical Service Inspection



This permit is valid for 30 days and is required to [more legal info]



\$200

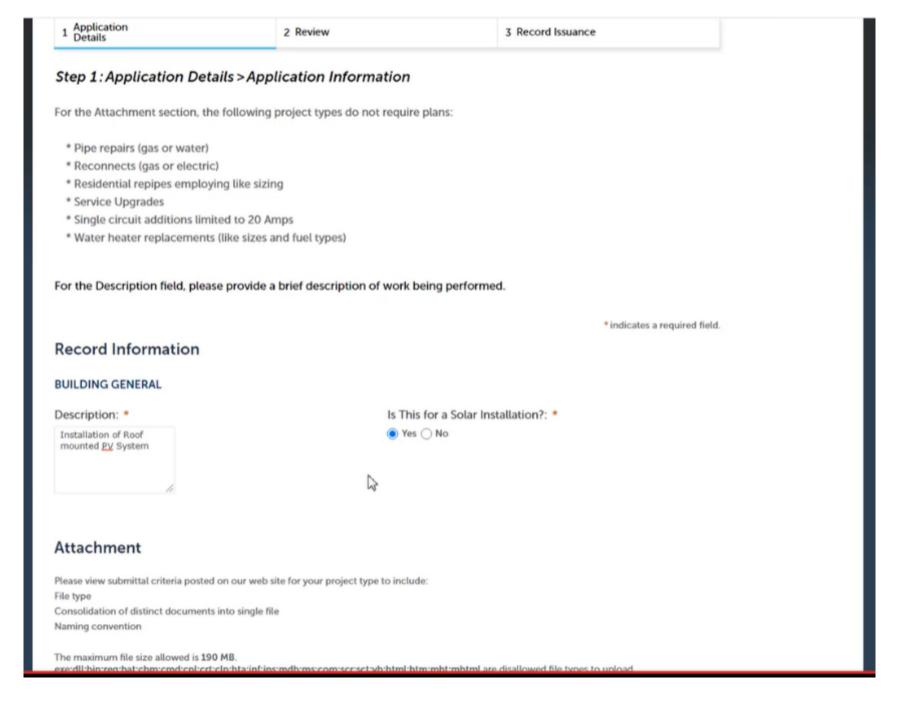
NREL

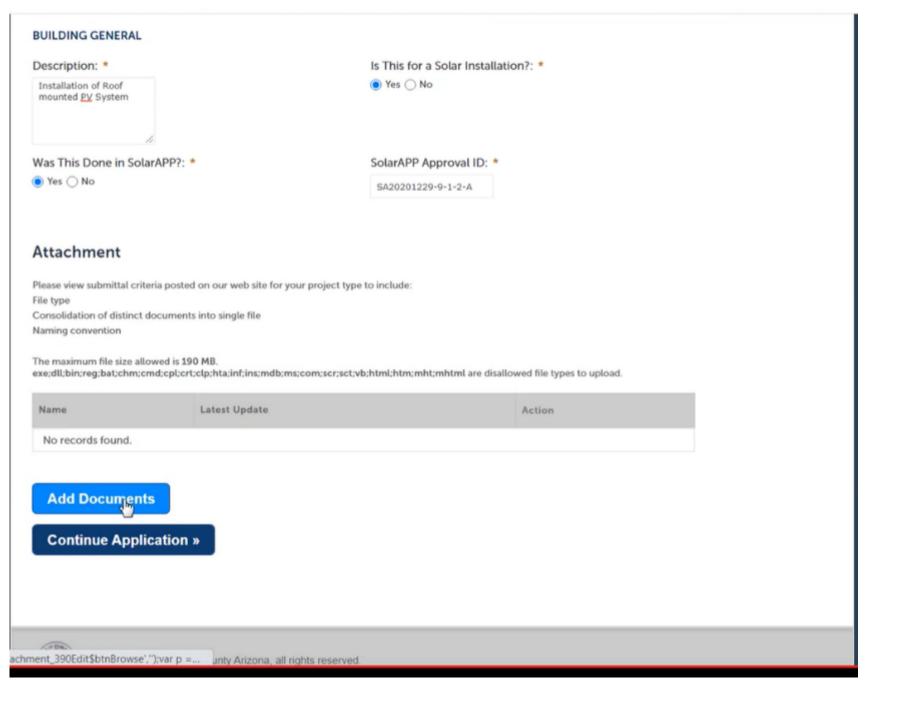
# Gov Software Integration Approach

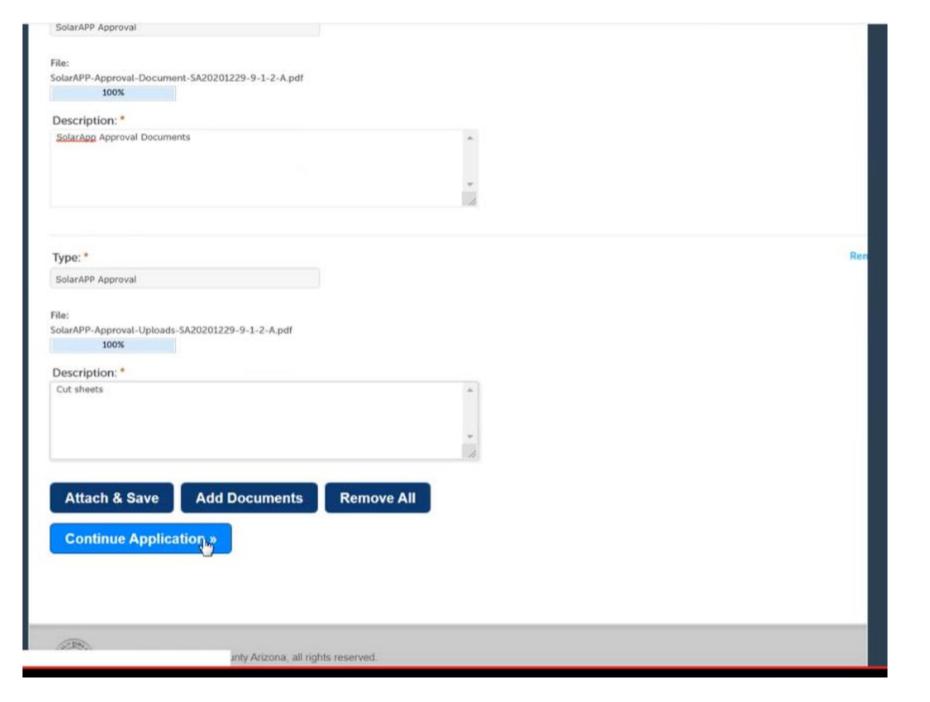
# Gov Software Integration Approach

- Contractor starts solar/storage permit application in SolarAPP+ by completing questions, passing compliance checks for the relevant city or county, and paying a \$25 SolarAPP+ admin fee
- 1. **SolarAPP+ pre-approves the permit** and sends the contractor a *SolarAPP approval ID*. SolarAPP also sends a copy of permit materials to the relevant city/county's permitting team by email.
- 1. Contractor finishes the permit process in the city/county's permitting software system by entering the SolarAPP approval ID and paying the city/county's permit fee.
- 1. City/county's permitting software instantly approves the permit and sends it to the contractor, allowing their customer to install rooftop solar immediately.

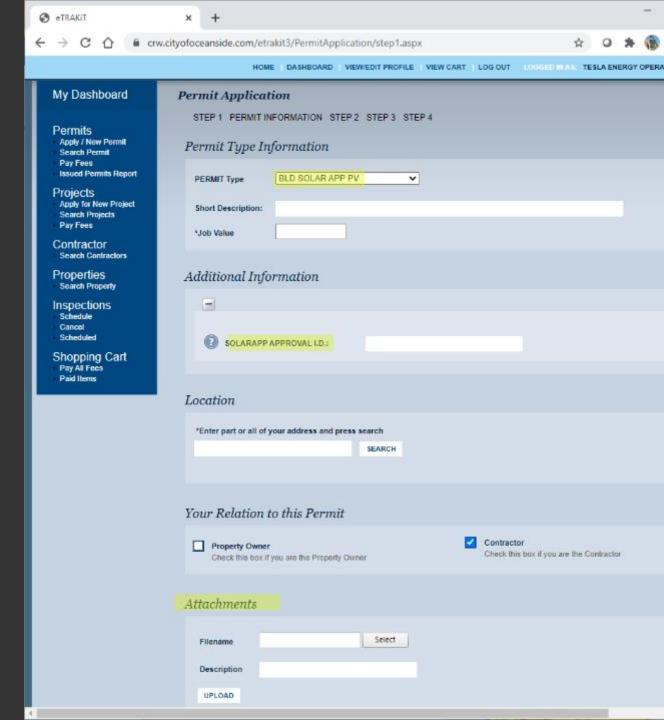








Example:
Oceanside (CA)
using ETRAKiT



# **APPENDIX**

#### More information:

#### SolarAPP Outreach Materials

- Website:
  - https://solarapp.nrel.gov/
- Pilot Results:
  - https://www.nrel.gov/docs/fy22osti/81603.pdf
- Demonstration webinar:
  - https://www.youtube.com/watch?v=XmXLvQevPEs
- Where is SolarAPP+ available?
  - https://help.solar-app.org/article/108-where-is-solarapp-available.
- Piloting webinar:
  - https://youtu.be/iaocESF9Ilg.
- SolarAPP Benefits Memo:
  - https://solarapp.nrel.gov/docs/SolarAPP Benefits Memo.pdf
- For more information contact:
  - team@solar-app.org

# CalAPP Grant

The California Automated Permit Process Program (CalAPP) is a \$20 million funding program that provides grants to cities and counties to help implement SolarAPP+

CalAPP application deadline is May 1<sup>st</sup>, 2023

#### **Proposed Grant Sizes:**

- Population <50,000: Up to \$40K
- Population 50,000-99,999: Up to \$60K
- Population 100,000-200,000: Up to \$80K
- Population >200,000: \$100K

#### **Grant Can Cover:**

- IT staff time on adoption
- Inspector time on training
- Time spent meeting with NREL
- And more



For more information visit: <a href="https://www.energy.ca.gov/programs-and-">https://www.energy.ca.gov/programs-and-</a> topics/programs/california-automated-permit-processing-program-calapp

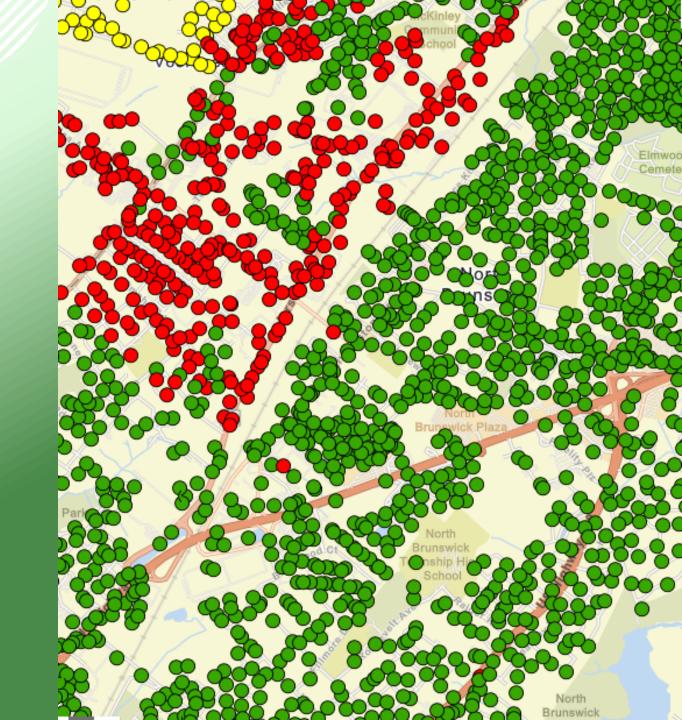




# Solar Resources

May 3, 2024

Tracey Woods Energy Program Manager Sustainable Jersey



# Municipal On-Site Solar

5 points Solar thermal system

**10 - 30 points** On-site photovoltaic solar system, points vary by percentage of electricity offset

**Additional 10 points** System includes islanding/grid-interactive infrastructure and energy storage

**Additional 5 points** for having a solar thermal system AND solar array

# Direct Pay Program Opens Up Solar Purchasing Options for Local Governments

Inflation Reduction Act's Elective Pay Program (a.k.a "Direct Pay")

- Municipalities and Schools able to receive full value of tax credits for clean energy projects
- Program also offers grants for eligible projects

What does this mean for Local Governments? Local Governments should consider both Power Purchase Agreements (PPAs) and Direct Purchase

whitehouse.gov/cleanenergy/directpay

# Solar Outreach

# 10 points: Solar Purchasing Program

- Solarize program
- Solar Marketplace
- Outreach Partnership with Solar Program

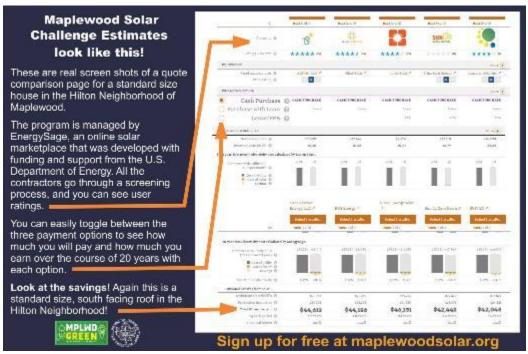
#### Additional 5 points (15 points total)

- At least one activity to promote solar, such as newsletter or social media
- At least one incentive to promote solar, such as waiver for permitting fee for non-profits

**TOP RIGHT:** Ribbon cutting event for Paterson's solar outreach campaign. *Image Courtesy of PosiGen Solar & Energy Efficiency* 

BOTTOM RIGHT: Social media graphic from Maplewood's Solar Challenge





# Make Your Town Solar Friendly

#### **15-30 points**

#### **Supportive Solar Zoning Ordinance**

- Adopt Solar Zoning Ordinance
- Amend Permitting Fee Ordinance



Note: <u>Solsmart</u> Silver designation qualifies for 15 points for this action

#### **Streamlined Permitting**

Post requirements online

#### Additional activities:

- Train first responders
- Cross-train codes and permitting staff
- Expedited permitting
- Offer narrow inspection timeframe
- Expedite or eliminate zoning review

# Municipally Supported Community Solar Action

#### 15 points

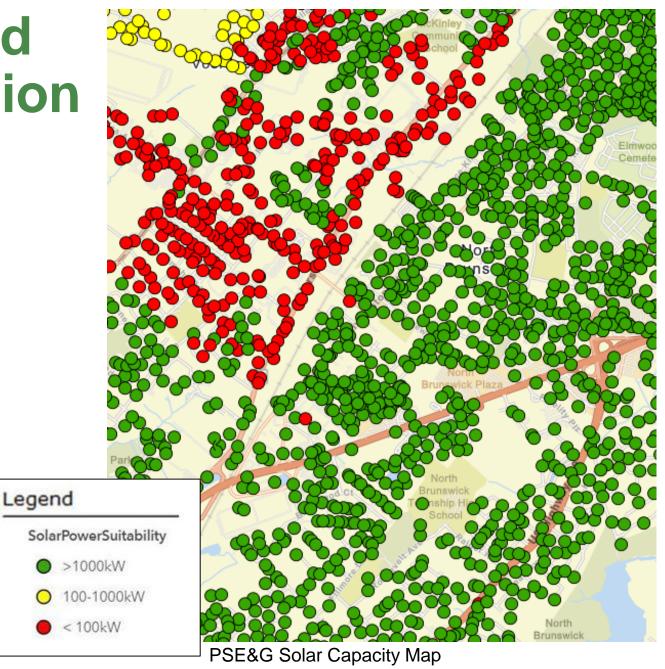
#### Municipality:

- Establishes community criteria for project
- Municipal outreach campaign
  - Education and outreach campaign
  - Outreach partner
  - Project ambassador

#### **10 additional points** (at least TWO):

Project featured in outreach campaign includes:

- Anchor subscriber
- Site host
- Workforce training
- Low- and moderate-income discount
- Energy efficiency services

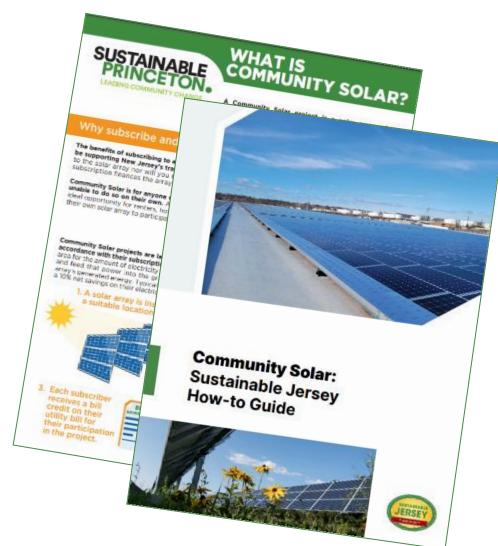


# Sustainable Jersey Community Solar Resources

- Sustainable Jersey Community Solar How-To Guide
- Sustainable Jersey Certification Program action Municipally Supported Community Solar
- Sustainable Princeton
  - Community Solar Factsheet
  - Subscriber Tip Sheet

#### **Upcoming Resources**

- Guidance to support municipalities in Automatic Enrollment project for LMI residents
- Updates to Community Solar Project Finder to reflect permanent program





# Sustainable Jersey has provided technical assistance to over 100 municipalities and school districts!

# Sustainable Jersey Energy Technical Assistance

- Assistance applying for State and utility energy efficiency incentives
- Energy tracking and management
- Completing energy actions for Sustainable Jersey certification

Get free energy technical assistance for your school district or municipality <a href="mailto:info@sustainablejersey.com">info@sustainablejersey.com</a>







# **CEU SIGN OUT**



#### **QR CODE INSTRUCTIONS:**

- 1.Open the Camera app on your phone.
- 2. Hold your phone so that the QR code appears in view.
- 3. Tap the notification to open the link.
- 4. You MUST Sign out to receive CEU credits.

#### **WIFI INFORMATION: 2 Open Networks**

1.sustainablenj: Ballroom, GS3, Nonprofit Exhibit area

**2.Bell\_Works\_Conf\_Center:** Bell Theatre & Conference

# **UPCOMING EVENTS AND OPPORTUNITIES**

#### ■ EARNING YOUR DIGITAL SCHOOLS STAR: TIPS FOR SUCCESS WEBINAR

This webinar offers an overview of the Digital Schools program, insights and examples of ways to improve digital school action submissions and earn points to attain Digital Schools Star recognition. The informational webinar will be held on

Wednesday, May 8, 2024, 3:30pm-4:30pm.

Register: bit.ly/4dhdj91

#### 2024 MUNICIPAL CERTIFICATION CYCLE

The next deadline to apply for certification is **Friday, May 10, 2024**. The final application deadline is **Wednesday, July 31, 2024**. View the full cycle timeline on the 2024 Certification Cycle page.

Learn More: bit.ly/SJ2024CertCycle

#### NJBPU'S COMMUNITY ENERGY PLANNING GRANTS

The New Jersey Board of Public Utilities is offering a new round of Community Energy Plan Grants for all New Jersey municipalities.

Application Deadline: Friday, May 24, 2024

Learn More: bit.ly/3WcmAt7

#### ■ TRI-COUNTY SUSTAINABILITY GENERAL MEETINGS

This Sustainable Jersey Regional Hub will host virtual meetings on a variety of sustainability topics throughout the year. The next meeting is

Tuesday, May 28, 2024, 7:00pm-8:00pm.

Learn More: bit.ly/Tri-CountySustainability

#### 2024 SUSTAINABLE COMMUNITIES GRANT PROGRAM

Atlantic City Electric is contributing \$35,000 to support municipal environmental stewardship and resiliency projects within its service territory. Join us for an informational webinar on **Monday, May 13 from 1:00pm-2:00pm** to learn more about the program and how to use the online application portal.

Application Deadline: Thursday, June 27, 2024

Learn More: bit.ly/SustainableCommunitiesGrantProgram

#### ☐ 2024 SCHOOL CERTIFICATION CYCLE

The final deadline to apply for certification and Digital Schools Star Recognition is **Thursday, June 13, 2024.** View the full cycle timeline on the 2024 Certification Cycle page.

Learn More: bit.ly/SJS2024CertCycle

#### HOW TO ADOPT OR UPDATE A COMPLETE AND GREEN STREETS POLICY WEBINAR

Save the date! Join a one-hour walkthrough on how to create your own model municipal Complete and Green Streets Policy, brought to you by the Voorhees Transportation Center at Rutgers University, Sustainable Jersey, the New Jersey Department of Transportation, and the North Jersey Transportation Planning Authority, on Tuesday, September 17, 2024, 12:00pm-1:00pm. Registration information coming soon. Follow-up Open House Q&A for attendees to be held virtually on Wednesday, October 30, 2024 from 3:00pm-5:00pm.

#### PROGRAM UNDERWRITERS



















#### **CORPORATE SPONSORS**

















































