



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 [here](#).

Current Support Parameters

- Residential PV
- Approved equipment
- NEC 2017 & 2020
- 2018 & 2021 i-Codes
- Bus <225A
- Service <400A
- PV systems <4PSF
- Single phase utility supply
- No wood shake roofs
- No metal roofs w >15PSF snow load
- Main panel upgrades
- California's Title 24

Support In Progress

- Residential storage
- Roof Tiles
- Add-ons for existing systems

Planned

- EV chargers, electric appliances, and more...

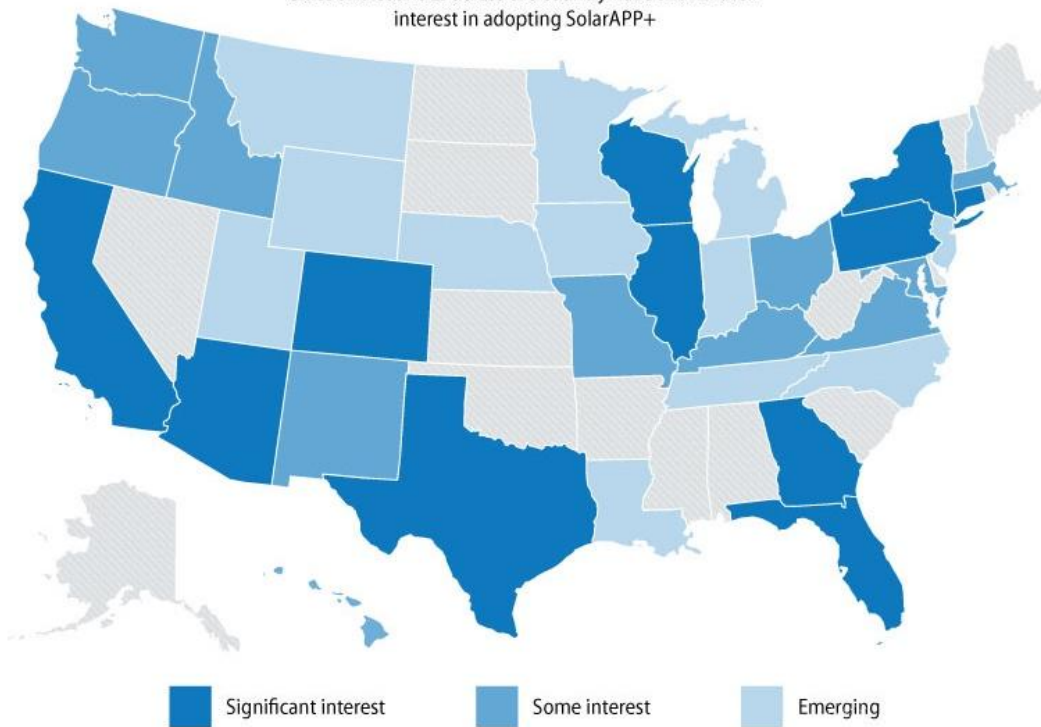


Let us know what you'd like to see next!

Interest in SolarAPP+

Engaged Jurisdictions

Cities and counties across the country have shown their interest in adopting SolarAPP+



Tucson's Experience with SolarAPP+

- 5,000 PV permits issued to date
- 30,000+ kW approved via SolarAPP+
- Over 5,000 hours of staff time saved in plan review
- Piloting PV+ storage



“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



27,000+

Residential rooftop PV permits approved to date, including 4,500+ revisions

2,400+

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 **25,000 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



SolarAPP+

BENEFITS



SHORTER Project Timelines

A typical SolarAPP+ project is permitted, installed, and inspected around 13 business days sooner than traditional projects
Based on differences in median durations



Staff Time SAVINGS

NREL estimates SolarAPP+ saved around 9,900 hours of jurisdiction staff time through automated permit reviews in 2022

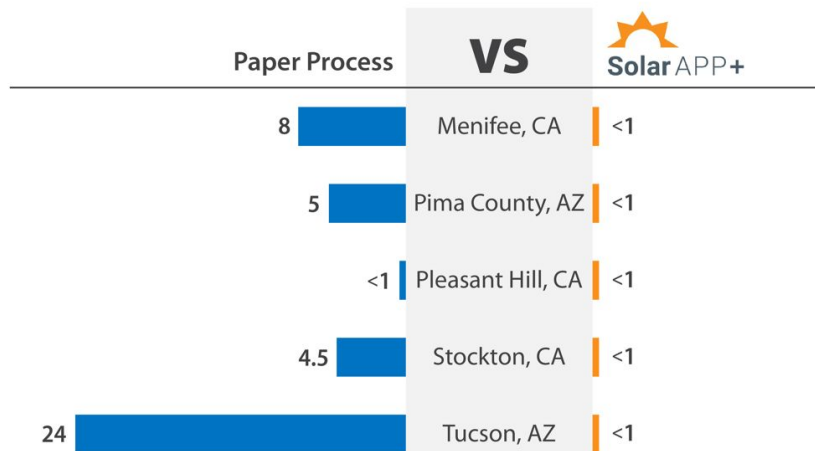


Potential Inspection BENEFITS

(further research required)

SolarAPP+ projects have been about 29% less likely to fail inspections than traditional projects
Based on data from 12 jurisdictions

Median Business Days for Permit Review



SolarAPP+ Flow

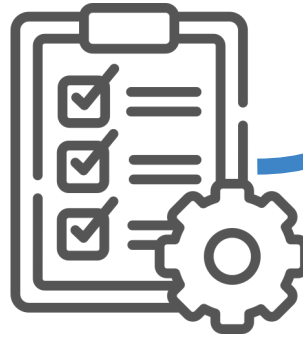
Installer submits an application with design specifications through SolarAPP+

1



2

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



3

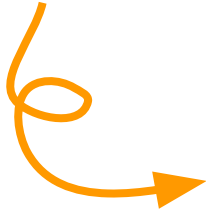
Code compliant applications are issued a permit *instantly* after fee payment

([Review sample approval docs here](#))



SolarAPP+ Project Inspections

Project Inspection Checklist:



Inspection Checklist



Address:
64 Alydar Pl
Paso Robles, CA 93446

Approval ID:
SA20230810-5558-43-7-A

AHJ:
County of San Luis Obispo, CA

SYSTEM SIZE: 4290W DC, 6000W AC
MODULES: (11) CANADIAN SOLAR:
CS3N-390MS
INVERTERS: (1) SOLAREGE
TECHNOLOGIES: SE6000H-USSN
RACKING: ADJUSTABLE TILE
HOOK, SEE DRAWING SNR-DC-00437
ENERGY STORAGE SYSTEM: (2)
TESLA: POWERWALL, 13.5KWh,
5KW INVERTER OUTPUT, LITHIUM-
ION BATTERY
(WEIGHT: 251.3LB EACH)
BACKUP GATEWAY: (1) 200A
TESLA POWERWALL CONTROL
PANEL

Scope of work:

General Guidelines

The installer shall follow the manufacturer's instructions for all installed equipment and shall have them available at the time of inspection.

All wire sizes shown are a minimum, unless indicated otherwise, and the installer may upsize them at their discretion.

All OCPD ratings shown must match the inspection checklist and be installed per the equipment manufacturer's instructions, any ratings that do not match the inspection checklist are valid reasons for inspection failure.

Conduit sizing to be confirmed at time of inspection. Contractor to provide conduit fill calculations where requested by inspector

Where distribution equipment, such as the main service panel or subpanel buses, are fed simultaneously by a primary source(s) of electricity and one or more other power sources, interconnection shall have a method of compliance at each panel board with both a primary source and other power source(s).

Main Service Panel Equipment

Pass

If grounding electrode is rod, pipe or plate, then supplemental electrode is properly installed. Exception: If a single rod, pipe, or plate grounding electrode has a resistance to earth of 25 ohms or less, the supplemental electrode shall not be required.

☐

EGC is installed ensuring continuity to all system components and finally to grounding electrode.

☐

Single Phase Grid Voltage

240 V

☐

Busbar 1

Pass

Existing Main Service Panel

☐

Approval ID: SA20230810-5558-43-7-A

Reviewed for Code compliance
08-10-2023
SolarAPP+

County of San Luis Obispo, CA



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NEC 2020 PV+ST m,u

IREC Inspector Training:



Clean Energy Resources and Training



Inspecting a SolarAPP+ System

★★★★☆ 4.13 (15 votes)

Register

Already registered? Log in now.

Overview

Contents (4)

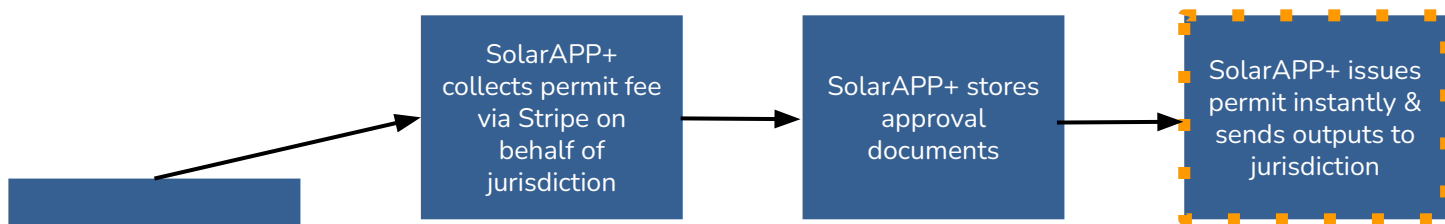
Use the inspection checklist from the SolarAPP+ tool to efficiently and effectively inspect a rooftop residential PV system without a traditional planset.

Adoption Options

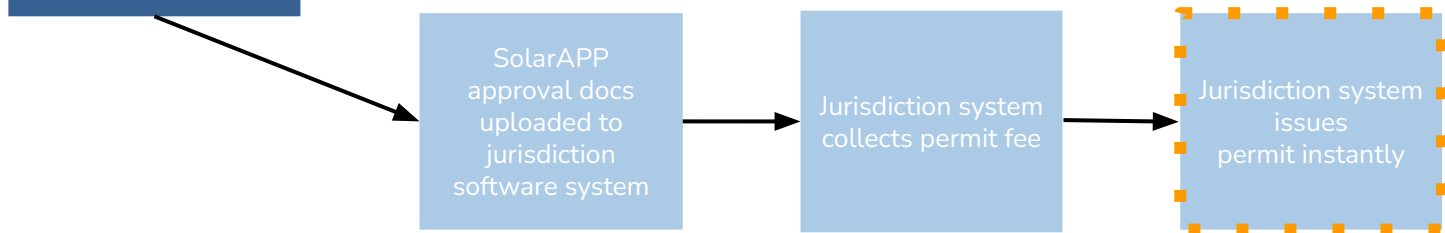
SolarAPP+
Software

Existing
Software

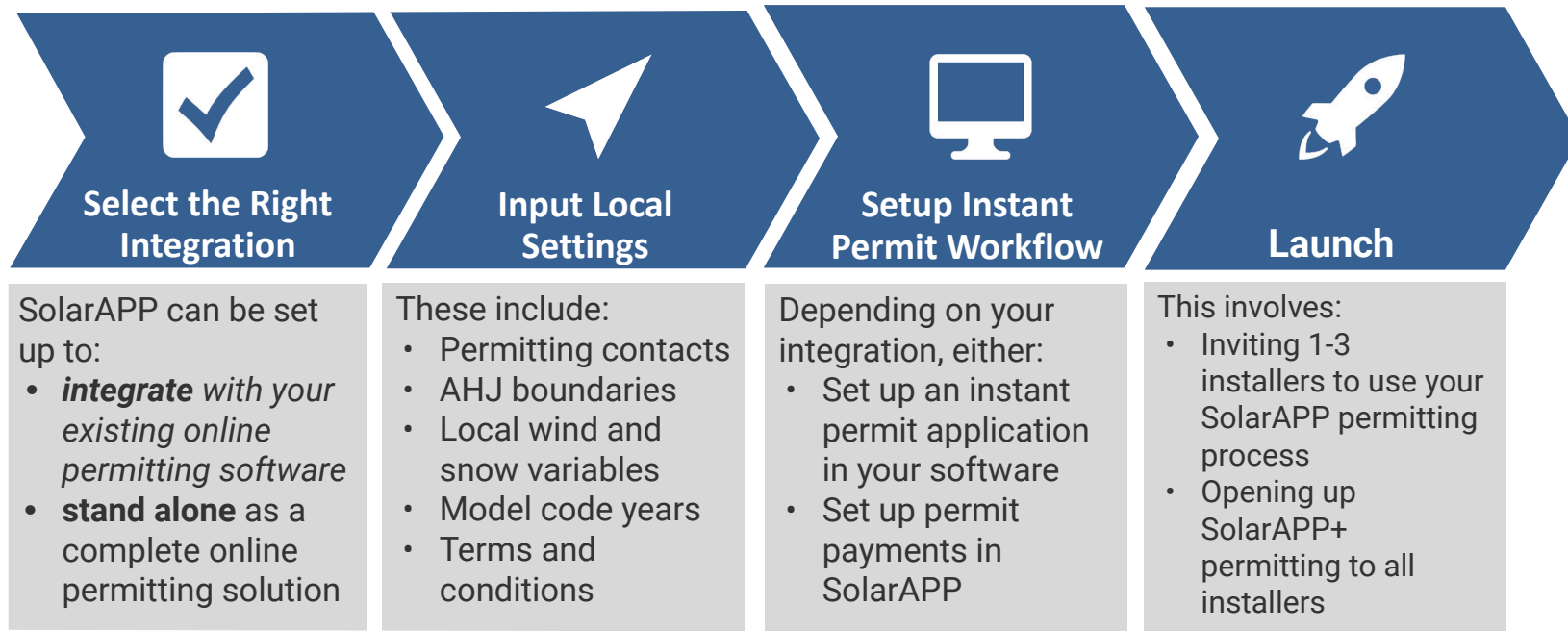
Stand Alone SolarAPP+ (For email and in-person jurisdictions)



Integrated with Existing Permitting Software (For already online jurisdictions)



Four Steps to Adopting SolarAPP+



Next Steps

- Start registration at solarapp.nrel.gov/register
- Email contact: team@solar-app.org
- Explore out our FAQs for set-up:



General	Standalone Method	Integration Method
 <u>Registration</u> bit.ly/3Yr5vKY	 <u>Stripe Set-Up</u> bit.ly/43Vl0vS	Accela Set-Up: bit.ly/45hgFnK EnerGov Set-Up: bit.ly/3rZqcBv E-TRAKiT Set-Up: bit.ly/3YqQB7n



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