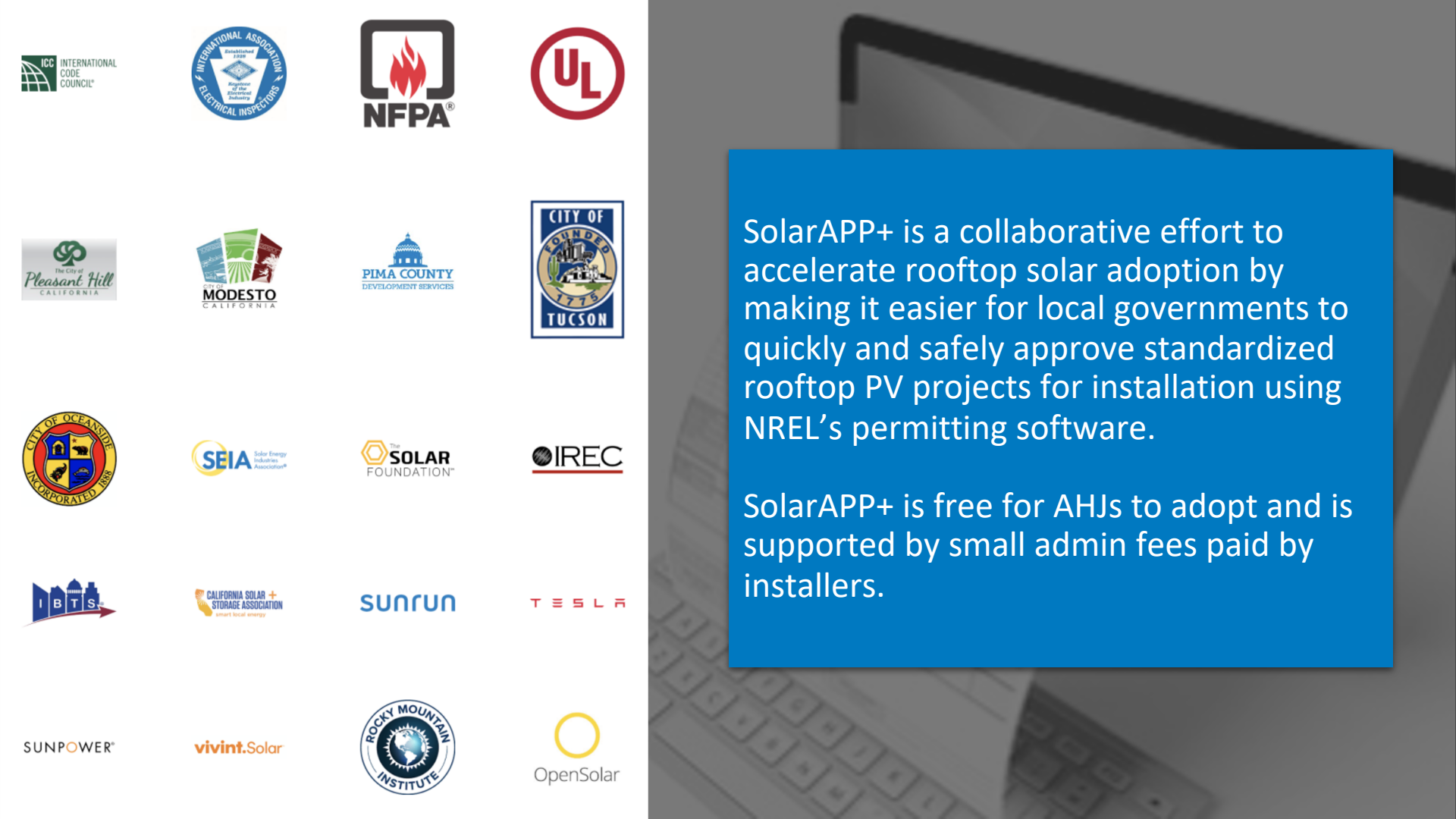
NREL
NATIONAL RENEWABLE ENERGY LABORATORY

SolarAPP+
The Emerging US Permitting Solution


SolarAPP+ is a collaborative effort to accelerate rooftop solar adoption by making it easier for local governments to quickly and safely approve standardized rooftop PV projects for installation using NREL's permitting software.
SolarAPP+ is free for AHJs to adopt and is supported by small admin fees paid by installers.

Local Governments and Rooftop Solar Are Allies

Shared Values:

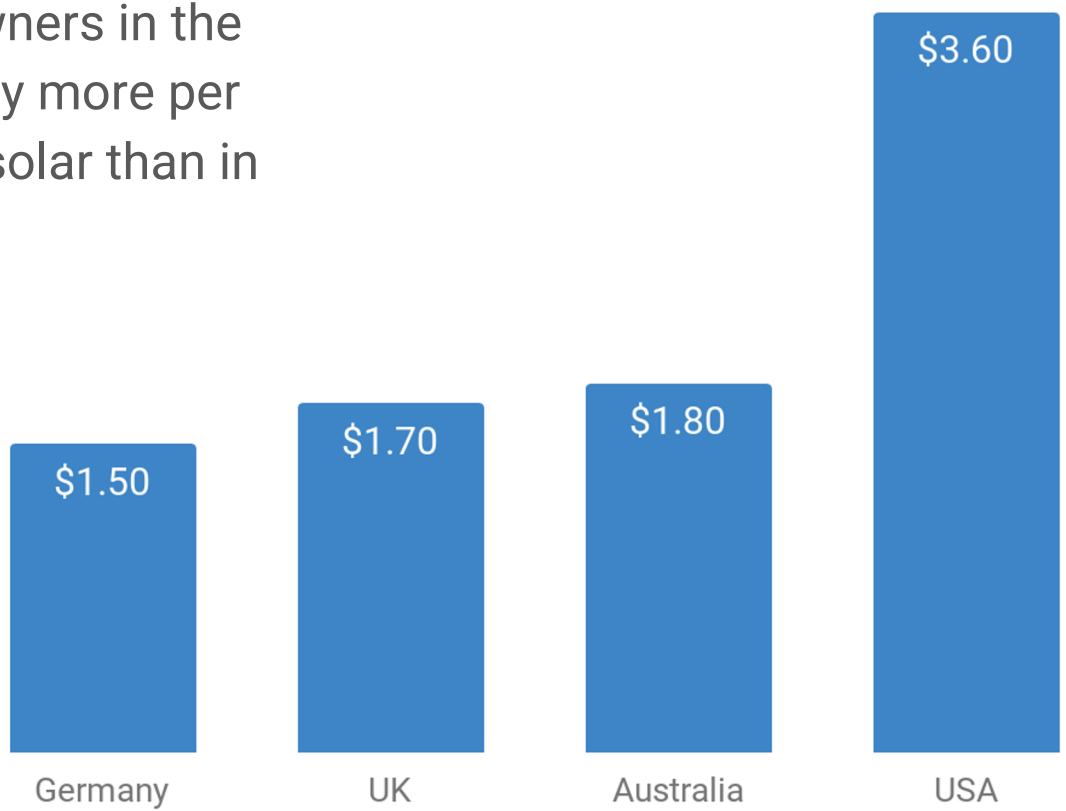
- Safety and quality
- Local resilience
- Economic development
- Environmental goals

Safe & efficient solar adoption experiences create growth

- Plan review efficiency is difficult due to volume
- Homeowners want certainty
- New, smart home tech is emerging
- Code is always changing

Goal: Determine if SolarAPP+ can help manage solar growth, revised code, and new technologies.

Unfortunately, homeowners in the U.S. wait longer and pay more per watt to install rooftop solar than in any other country.



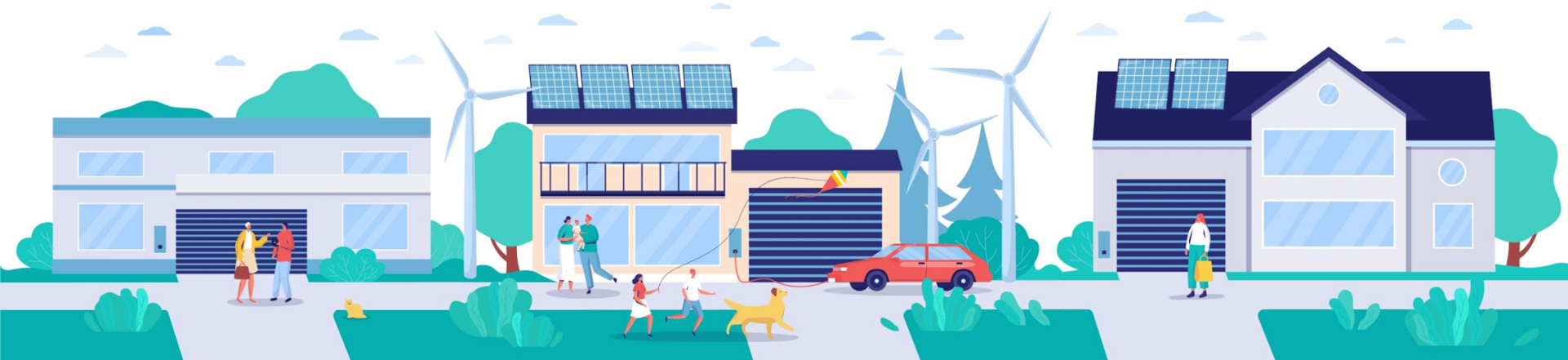
Sources: Lawrence Berkeley National Laboratory (2018), International Renewable Energy Agency (2018)

Rooftop solar is consistent & common

What does SolarAPP do?

SolarAPP provides automated plan review and approval for standardized systems

- Uses yes/no questions & ranges to automate compliance checks
- Catches code issues, typos, and errors; returning corrections instantly
- Tough projects go through typical review. Stale applications require no action
- Produces an inspection checklist replicating permit details for verification



SolarAPP+ Eligibility

SolarAPP+ can cover standardized systems as defined here.

Current Support Parameters

- Residential PV
- Approved equipment
- NEC 2017 / 2018 i-Codes
- Bus <225A
- Service <400A
- PV systems <4PSF
- Single phase utility supply
- No wood shake roofs
- No metal roofs w >15PSF snow load

Support In Progress

- NEC 2020
- Residential storage
- Add-ons for existing systems
- Main panel upgrades

Planned

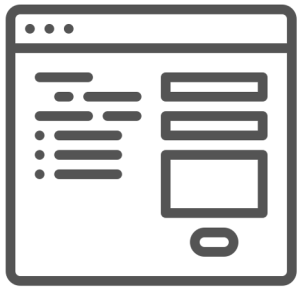
- EV chargers, electric appliances, roof tiles, and more…

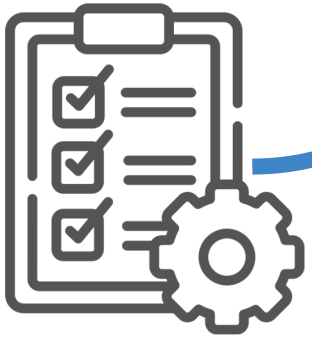
Let us know what you'd like to see next!

SolarAPP+ Flow

Installer submits an application with design specifications through SolarAPP

1





2

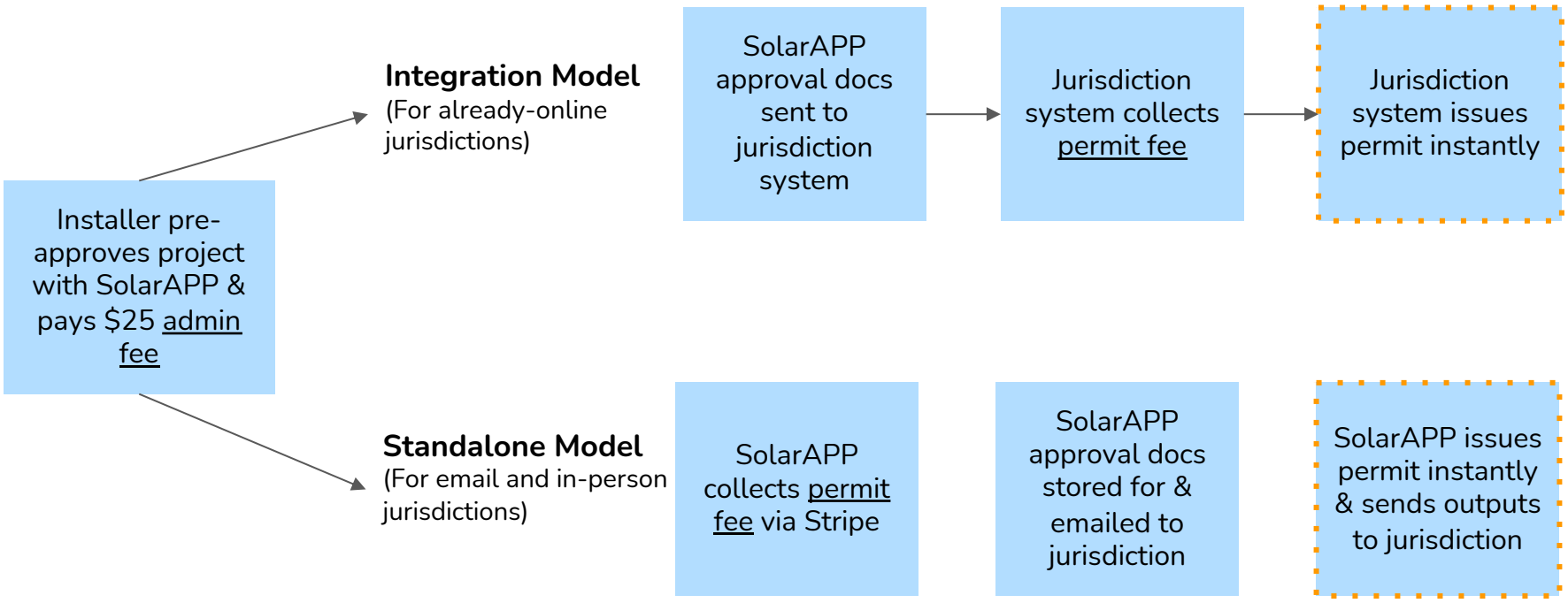
SolarAPP checks the application to ensure the system design is code compliant

3

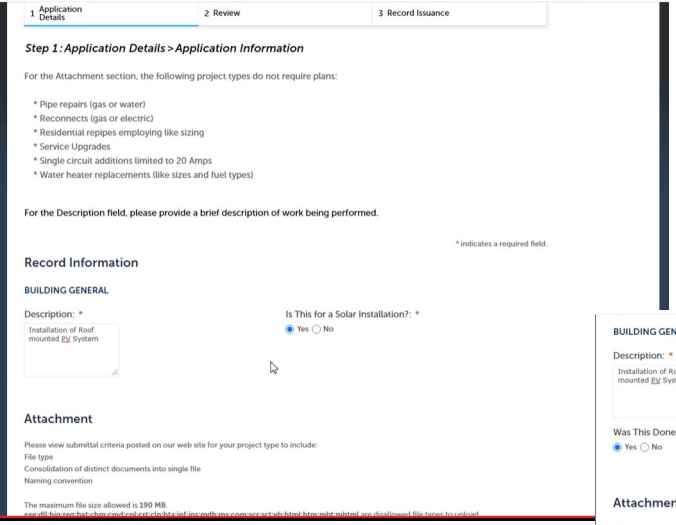
Code compliant applications are issued a permit instantly after fee payment

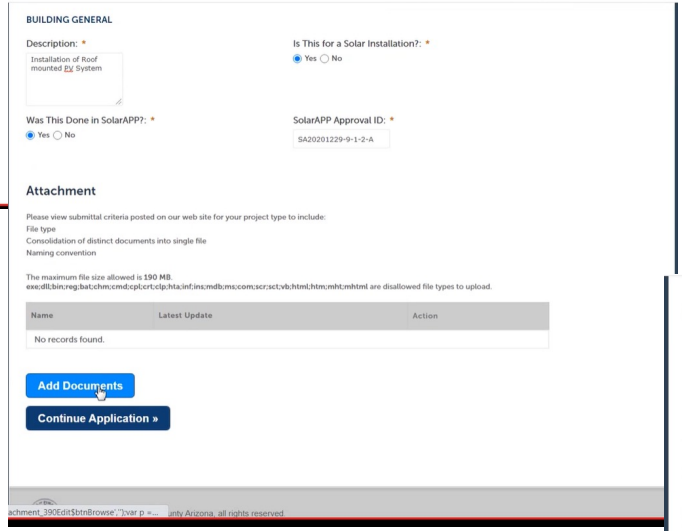
(Review sample approval docs here)

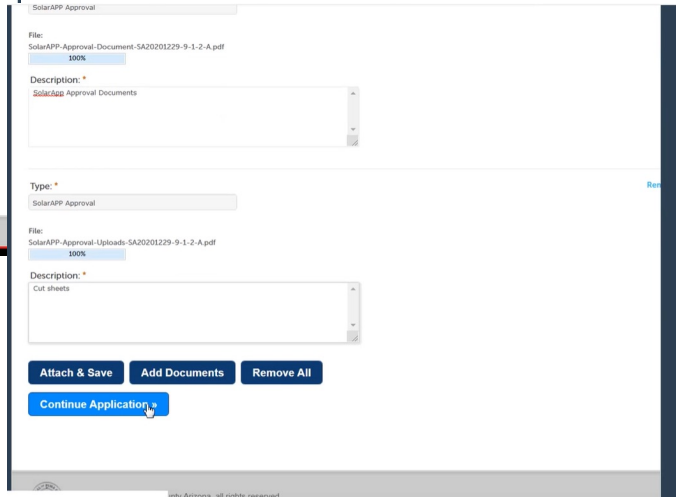
Adoption Options



Example Permit Application from Partner Pima County (Accela software)







SolarAPP Outreach Materials

- Website:
  - https://solarapp.nrel.gov/
- Kickoff webinar:
  - https://www.youtube.com/watch?v=pllKb165xYI
- Demonstration webinar:
  - https://www.youtube.com/watch?v=wMDZYo7wf4I&t=1869s
- Piloting webinar:
  - https://youtu.be/iaocESF9Ilg.
- SolarAPP Benefits Memo:
  - https://www.thesolarfoundation.org/wp-content/uploads/2020/07/SolarAPP-Benefits-OnePager.pdf

Questions and Thank You!

For more information contact:

solarapp@nrel.gov

To sign-up for piloting:
https://www.surveymonkey.com/r/SolarAPPInterest.

www.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.

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Solar TRACE Demonstration

Permitting, Inspection, and Interconnection Data and Analytics: https://solarapp.nrel.gov/solarpii