



SolarAPP Campaign: Cutting Red Tape for Rooftop Solar

The **Solar Automated Permit Processing (SolarAPP) Campaign** will create a low-cost, seamless process for rooftop solar installations, while enhancing safety and reliability. It will improve the process for permitting, inspection, and interconnection by automating simple tasks and allowing building officials to focus their efforts on areas that would benefit from additional attention. Solar energy is now mainstream for homes and businesses, with over 2 million U.S. solar customers. However, solar in the U.S. is a long way from realizing its full potential. Direct and indirect costs of permitting, inspection and interconnection add about \$7,000 (\$1.00 per watt) to the cost of a typical residential solar energy system.

That is about the same as the value of the 30% federal investment tax credit for solar, which is set to begin phasing out at the end of 2019. A patchwork of permitting and interconnection processes create installation and activation delays, increase cancellations and impose costs on solar installations that are far higher than in other mature solar markets.

5 Years
SolarAPP
Impacts

=



2.4 Million
Solar Homes

+



\$7,000 in Savings
per Solar System

+



About 30,000
Solar Jobs

The SolarAPP Campaign seeks to:

1. Develop and provide free and simple online permitting tools for local governments.
2. Help local governments provide instantaneous permitting and innovative inspections for qualifying solar projects.

Achieving these objectives would help millions of Americans choose affordable solar and storage for their homes and businesses over the next five years. Local governments will also benefit from added revenues from increased adoption.

Key Deliverables for SolarAPP

The SolarAPP Campaign seeks a fundamental reshaping of solar permitting at the federal, state and local levels. This will allow most routine rooftop solar projects to receive instantaneous approval and efficient inspections, while enhancing safety. To make this possible, the SolarAPP Campaign will:

- **Facilitate regional collaboratives** for local governments, solar companies, and policymakers to discuss the direction of this campaign and adoption of its products.
- **Develop a simple, standardized, and free online application portal** with and for local governments that will enable qualifying solar installers to register their systems and receive immediate approval from local governments to proceed with install.
- **Incorporate an inspection score tracking system into our online permitting portal** that will enable virtual inspections, as well as reduced inspections or audits for top installers.
- **Partner with certification and code bodies** to improve and centralize a national certified equipment list while also providing local governments and jurisdictions with simple explanations of these certifications via the online portal.
- **Create safety training(s) and new best practices** for permitting and interconnection solar and solar with battery storage.

Expected Results

The SolarAPP Campaign aims to achieve the following results by 2025:

- Make solar energy more affordable and accessible for homeowners and businesses at a wide range of income levels.
- Save a typical solar consumer more than \$7,000 in red tape tied to installation costs.
- Help local governments and jurisdictions operate more effectively and efficiently without compromising safety or quality of solar systems.
- Save taxpayer money by reducing local government staff time and costs associated with permit review and inspections at the local level.
- Open new market opportunities for solar installers, manufacturers, developers, owners, and operators, resulting in more American jobs.

The SolarAPP Campaign's activities will be coordinated by The Solar Foundation, in collaboration with industry partners such as the Solar Energy Industries Association (SEIA) and other implementing supporters, including the National Renewable Energy Laboratory (NREL), Interstate Renewable Energy Council (IREC) and many other solar companies, industry groups and nonprofit organizations!

Achieving the SolarAPP Campaign's vision will require sustained commitments from policymakers and the solar industry. Visit <http://www.thesolarfoundation.org/solarapp> to get involved!

Model Solar Permitting Practices

Where are we today?

After a decade of widespread growth, the solar industry has gained the experience and knowledge to consistently install safe, simple, and standardized solar systems backed by strong insurance policies. However, complex permitting and interconnection requirements can delay installations and increase costs to solar consumers, while also leading to cancellations.

- External soft costs, delays and resulting cancellations can add \$1 per watt (or \$7,000) per project for solar customers
- Every week shaved off external processes can increase local installations by up to 10%

Fortunately, solutions are available through a collaboration between the industry and AHJs. We provide examples below that reduce costs and resource needs for everyone involved. These recommendations reduce costs and resource needs for everyone involved. If we succeed and solar access expands, so will permitting revenue and community resilience!

What is the solar industry doing to improve the situation?

- Working with municipal leaders and the National Renewable Energy Laboratory (NREL) to develop a Department of Energy backed online permitting application portal that will enable automated compliance checks and instant permits
- Improving a national certified equipment list with system design standards, spec sheets, and certification explanations
- Partnering with the Interstate Renewable Energy Council on a series of training programs for AHJs, regulators and more
- Asking you to join our campaign and provide input on these topics at thesolarfoundation.org/solarapp

What AHJs policies improve the situation?

- Instantaneous permitting for solar and storage
- Online application portals that include live inspection scheduling and tracking
- Flat or algorithm-based fees under \$500 for solar with or without storage
- No requirement to meet onsite for inspection
- For high performers; video inspections, audits instead of inspections, and/or full inspections reduced to 10%

What do AHJs gain from improved processes?

- Firmly places liability on the installer
- More installs with less work and the same fees per project
- Greater community resilience, especially as storage proliferates
- Fewer full inspections for high performing installers provides a carrot for new and struggling installers
- Fewer full inspections mean fewer on-the-job injuries

What AHJs provide permitting and inspection models?

- [City of Las Vegas, Nevada](#) provides an online portal that asks for the system size and homeowner customer address. A fee based on system size is calculated and paid, then the contractor is immediately allowed to build. They are working on adopting the Tucson model for inspections as well!
- [Clark County, Nevada](#) provides online applications, instant permits, and reduced inspections. Full inspections are performed on 10% of projects, while the remaining 90% are performed from the ground by photo.
- [City of Los Angeles, California](#) provides an online portal that asks for system components, calculates those input values using a computer program, and after this instantaneous compliance check, it outputs an instant permit online.
- [Pasco County, Florida](#) allows solar inspections by video. Contractors schedule an appointment with the inspector to meet them via VuSpex: Virtual Inspections. The appointment window is no longer than 30 minutes. The AHJ doesn't need to send the inspector on site, saving time and money on truck rolls.

This resource is brought to you by the SolarAPP campaign, led by:



SolarAPP's Online Permitting Portal

In 2018, the Solar Automated Permit Processing (SolarAPP) campaign was founded with the intent to streamline permitting, inspection and interconnection processes and impacts, thereby aiming to reduce soft costs by \$1/W for residential solar and solar plus storage customers. The campaign was founded by the Solar Foundation and Solar Energy Industries Association (SEIA) in collaboration with the National Renewable Energy Laboratory (NREL), solar stakeholders, and authorities having jurisdiction (AHJs) across the country. Together, we have identified the digitization of external approval processes as the fastest route to improvement.

With the support of the DOE's Office of Technology Transitions, we are developing a flexible, web-based portal that can process residential solar and solar plus storage permit applications and inspections at no cost to an AHJ.

What could the online portal do?

We are still working on the details with campaign participants and we want your help! The following bullets summarize our main objectives, but we welcome feedback from stakeholders across the solar landscape. Currently, the campaign aims for the portal to:

- Standardize instant permitting and virtual inspection for residential solar and solar plus storage, with potential for including additional advanced home technologies if funding allows
- Enable instant permitting, online fee payment, virtual (i.e. photo and video) inspections, inspection record tracking, and a variety of inspection models, including audits
- Organize and evaluate standardized applications, questions, and single line diagrams based on code year
- Stand alone as the sole online system for an AHJ or integrate with current backend government, utility, and installer databases like Accela, GovPilot, Salesforce, PowerClerk and more
- Unify national registries of contractor licenses and component certifications for compliance and educational purposes
- Incorporate a library of resources and training from entities like the International Code Commission (ICC), Interstate Renewable Energy Council (IREC), International Association of Electrical Inspectors (IAEI), and more

What are the benefits of the portal?

Online and instant permitting is common practice for many localities in the US, but not quite widespread because of start up costs that can climb as high as \$100,000. Where online and instant permitting has been enabled, AHJs are able to shift the focus of their employees to post-installation and inspection, wasting no time on projects that end up cancelling before install. Efficiency is gained, human error is reduced, and safety outcomes stay stable or improve. When installation timelines improve, cancellation rates go down and adoption goes up, thus expanding AHJ revenues from permitting and inspection fees as the local solar market grows.

Learning from existing best practices

Instant, online permitting is already available and proven throughout the United States. Some examples include:

- NV: The City of Las Vegas and Clark County produce online, instant permits via a registration model very much like what is available in Germany and Australia. After the project address, proposed system capacity, and installer information is entered, contractors pay a fee and are instantly provided a printable permit.
- CA/NY/SC/FL: Several major jurisdictions across these states, including the Cities of Los Angeles and New York, provide instant permits after installers enter full design and component details. It's not exactly registration, but it still produces instant permits and that is what matters most when attempting to improve costs and increase adoption rates!
- TX: Several jurisdictions have no permitting processes at all and fully rely on inspection for safety assurance.

Working together to improve soft costs via a national, open source permitting portal is not just smart, it is the right thing to do for our communities and our future. We look forward to accomplishing this goal with you!

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