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SolarAPP+

LOWERING THE COST OF SOLAR AND EXPANDING THE MARKET

Why California needs SolarAPP+

Currently, only 10 percent of properties in California have solar, a figure that needs to grow rapidly for the state to meet its clean energy goals.

One of the biggest obstacles to solar growth is permitting. Properties that install solar first need to receive a permit from the local building department, but outdated and bureaucratic permitting requirements in many areas combined with chronic staffing shortages can add months of delays and thousands of dollars to solar projects. In many cases, property owners give up on solar entirely when permitting becomes too difficult of an obstacle. Even in the cities and counties with streamlined permitting, different processes and requirements unique to that jurisdiction can add significant costs to contractors who pass those on to their customers. As a result, fewer homes go solar than otherwise would.

For California to meet its clean energy goals and bring rooftop solar and solar batteries to more people, we need to remove permitting obstacles. The single biggest solution to this problem is to get California cities and counties to adopt SolarAPP+.

How SolarAPP+ works

SolarAPP+ (Solar Automated Permitting Platform) is software that automates permitting for residential rooftop solar systems, as well as rooftop solar paired with battery storage. SolarAPP+ asks the contractor a series of questions to verify the solar system's design is up to code, and then issues a permit automatically for installation to begin.

SolarAPP+, which Energy Secretary Jennifer Granholm launched in 2021, was developed by the National Renewable Energy Laboratory (NREL) in collaboration with building safety and industry stakeholders. It is free for all permitting offices and easy to use. The California Energy Commission launched a program in June, 2022, that provides incentives to municipalities to adopt SolarAPP+.

SolarAPP+ enables more solar

By automating permitting, SolarAPP+ lowers the cost of installing solar by thousands of dollars. By lowering the cost of solar, more homeowners, especially low-income homeowners, become willing to go solar.

(See tables on page 3 for more details.)

SolarAPP+ gets solar installed faster

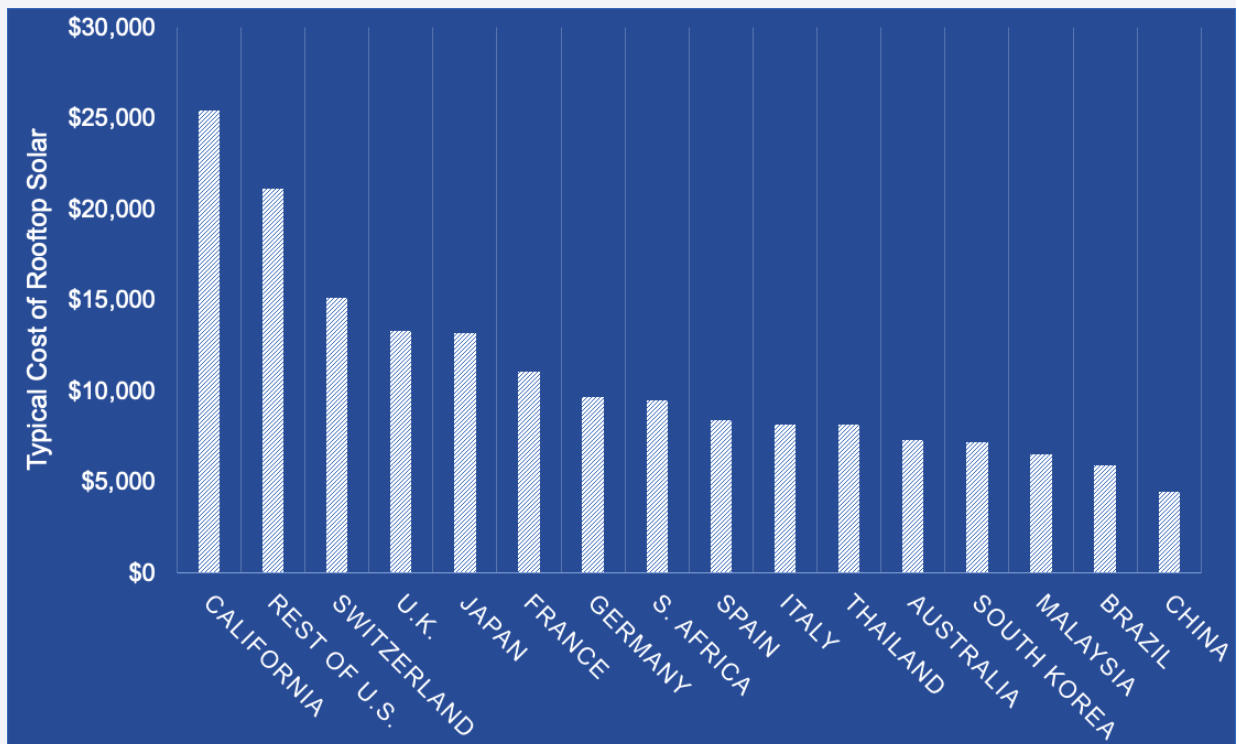
In California, obtaining a permit for a residential rooftop solar system takes 13-19 days on average and frequently takes more than 60 days. This is disruptive to contractor project planning and leads to a total installation timeline of 99 days on average. In Germany, the total installation timeline is 35 days on average, which is largely the result of the permitting process going faster.

Permitting delays also can cause homeowners to cancel projects entirely. Across the United States, 11 percent of solar projects are canceled, and installers cite the permitting process and associated delays as the top reason for cancellations.

By automating permitting via SolarAPP+, homes receive permits as soon as the installer submits the application, allowing solar to be installed that day. According to NREL, solar projects submitted through SolarAPP+ are installed and inspected on average 12 business days faster than projects using the conventional process.

Did you know? Solar costs more in California than the rest of the world.

In the last decade, the cost of residential solar systems in the United States has dropped by 64 percent, largely due to reduced costs and increased efficiencies of solar panels and other hardware. However, the soft costs of solar – which are the costs other than system hardware and installation labor – have stayed relatively constant. While other countries have reduced their soft costs, they remain high in the United States, especially in California, resulting in solar carrying a higher price tag here than in the rest of the world. By reducing the costs of permitting, one of the largest soft costs, SolarAPP+ has the potential to dramatically bring down the cost of solar in California.



SolarAPP+ lowers the cost of solar	System type	Average cost to homeowners today	Savings in typical municipalities	Savings in challenging municipalities
	Solar	\$21,120	\$1,228	\$2,572
	Solar + storage	\$33,620	\$2,270	\$5,120

Increase in middle-income homes that become willing to go solar due to SolarAPP+	System type	Typical municipality	Challenging municipality
	Solar	7%	16-17%
	Solar + storage	7-10%	22-25%

Increase in low-income homes that become willing to go solar due to SolarAPP+	System type	Typical municipality	Challenging municipality
	Solar	22-26%	45-75%
	Solar + storage	19-28%	61-100%

Notes

The figures in the above tables come from a report titled "Potential of SolarAPP+ Automated Permitting to Reduce Costs & Increase Solar Adoption in California," which was commissioned by CALSSA and written by Flagstaff Research. The report surveyed installers to determine the cost savings from SolarAPP+ adoption and conducted a sensitivity analysis with data on prospective customer behavior from the National Renewable Energy Laboratory to determine the potential impact on the market. The full report can be found at www.calssa.org/solarapp-report. "Typical" and "challenging" municipalities refer to the ease or difficulty of receiving a permit today. The percent increase in homeowners willing to invest in solar is presented as a range to reflect differences across the state.

The data shown in the graph on page 2 come from the International Renewable Energy Agency's (IRENA) report titled "Renewable Power Generation Costs in 2020." The costs reflect a 6 kilowatt (kW) system in 2020 US dollars. Some sources on system costs in California provide lower figures (e.g., "Tracking the Sun" published by Lawrence Berkeley National Laboratory shows a per kilowatt cost equivalent to \$23,000 for a 6 kW system). This fact sheet uses IRENA figures for California to keep the methodology consistent with the methodology used for the countries in the graph.