What to know before you get balcony (plug-in) solar

States are starting to embrace plug-and-play solar. Get up to speed on the cost, payback, and safety bona fides of the systems before they hit shelves near you.

By **Alison F. Takemura** 17 April 2026

Plug-in solar could be coming soon to a balcony near you. (Yuma Solar/Unsplash; Binh Nguyen/Canary Media)

Canary Media's "Electrified Life" column shares real-world tales, tips, and insights to demystify what individuals can do to shift their homes and lives to clean electric power.

Balcony solar is poised to take the U.S. by storm.

The DIY systems, which you can hang on a balcony and plug into a normal 120-volt outlet, help lower energy bills and carbon emissions. Already huge in Germany, solar that's as easy to install as an appliance would be a game changer for the four out of 10 U.S. households that can't get rooftop systems for financial or logistical reasons.

In 2025, deep-red Utah became the first state to pass a bill making it easier to adopt plug-in solar systems. So far this year, four more states have all advanced similar measures — and nearly two dozen others are weighing bills of their own.

Considering a balcony power plant yourself? Check our tracker to see the status of plug-in solar legislation in your state, and keep reading for some FAQs on the tech. (AA note: MN currently has a new bill this year, to allow balcony solar. It is currently "in the works".)

What is balcony (or plug-in) solar?

Balcony solar systems are modest in size, ranging from just one to a few solar panels. Most states, including California and New York, are considering capping systems at 1,200 watts — a sixth of the average home-solar installation.

The panels connect to an inverter that converts their direct current into alternating current, the kind our homes use. A plug from the inverter fits into a typical 120-volt outlet (15 or 20 amps), pumping the power of the sun directly into a home's existing wiring.

The systems can cover a small but meaningful fraction of a home's electricity use: An 800-watt unit can power the equivalent of a fridge or a few small appliances when the sun's shining.

One or two people can set up a system in less than an hour without the help of a professional. In states with balcony solar laws, you don't need permission from your utility, unlike when installing a larger rooftop array. Nor do you need to pay the utility a fee.

The plug-in solar nonprofit Bright Saver compares the benefits of its DIY kit with a traditional solar installation in California. (Bright Saver)

How much does it cost — and how much could I save?

Balcony solar costs range from several hundred dollars to more than $1,000, depending on the system size, and can save a household hundreds of dollars per year.

In Los Angeles and the San Francisco Bay Area, for example, the plug-in solar nonprofit Bright Saver offers a two-panel, 800-watt system for $1,499 and a four-panel, 1,600-watt system for $2,348. (Because of utility rules, Bright Saver currently provides these products only to residents who already have rooftop solar and want to expand.)

At $1.47 to $1.87 per watt before taxes, that's a pretty good deal in the U.S. Nationally, the average rooftop system costs $2.58 per watt before local and state incentives.

The payback period depends on how much electricity your home uses and your utility rate. But according to Bright Saver, these systems can save California households nearly $500 per year and have a payback period of four to five years.

Once they're paid off, every sunny hour can provide you with free power for the life of the solar panels, many of which are warranted to last 30-plus years.

Can I install balcony solar even if I don't have a balcony?

Absolutely. Physically, the panels can go anywhere they're safely secured and able to soak up a lot of sun, such as a deck, patio, porch, fence, or yard.

Unless, of course, your home is subject to limiting regulations. Your city or homeowners' association may have rules about where you can put solar panels. If you're a renter, you'll want to double-check your lease to make sure you're not prohibited from hanging them outside.

Is balcony solar safe?

Balcony solar produces electricity and sends it directly into the home's circuitry at a wall outlet. Rooftop solar, by contrast, pours power into a home's electrical panel.

That distinction has prompted some safety concerns, even as a few companies start to sell these products.

If the solar panels provide too much power, and circuit breakers don't trip, the wires in the wall could overheat, creating a fire risk, said Ken Boyce, vice president of engineering at safety science company UL Solutions. If a person were to touch the plug prongs either while the panels are illuminated and partially plugged into an outlet or in the fraction of a second after the plug is disconnected but still energized, the individual could get shocked or electrocuted.

But these hazards can be tamed with technical fixes. For example, a special plug could be designed with a built-in circuit breaker and no exposed conductive parts.

In their plug-in solar bills, states are legislating that manufacturers adhere to rigorous standards to protect consumers. Utah's law, for example, requires that systems are certified safe for consumers by UL Solutions or another nationally recognized testing laboratory, and that they meet the standards of the National Electric Code.

The National Electric Code doesn't specifically address plug-in solar, leaving the tech in a legal gray area on that requirement. And as of publication, no manufacturer has had a complete balcony-solar product certified as safe.

But that could soon change. After Utah's law passed, UL created a new safety standard for plug-in solar, UL 3700, and launched a certification program in January. The company is now working with manufacturers to get their systems certified. Boyce anticipates the first certification in "weeks to months rather than years."

So, if you're itching to get plug-in solar but concerned about safety, sit tight: A vetted product should hit the market soon.

And, bigger picture, take solace in the evidence from across the Atlantic.

Germany has seen balcony solar grow from roughly 40,000 systems in 2017 to as many as 4 million in 2025. Sebastian Müller, chair of the German Balcony Solar Association, said last year that the country had yet to see any safety issues beyond a few cases of individuals attempting to hook up unsuitable hardware, like a car battery, to the devices.

Can I use my plug-in solar in a blackout?

Not without a battery. For the safety of utility line workers, a blackout will trigger the inverter to stop putting out AC power. But if you plug the solar panels into a battery instead of an inverter that feeds your home, then you can pull the stored electrons when you need them.

That peace of mind isn't cheap, though. For example, while EcoFlow's inverter retails for $299, a 1.92-kilowatt-hour EcoFlow inverter-battery combo costs $1,199.

Are people quietly installing these systems anyway?

Indeed they are. Bright Saver estimates more than 1,000 plug-in solar systems have been installed in California alone.

Bentham Paulos, senior research associate for the Clean Energy States Alliance, recently installed a system at his home in Berkeley, California, for just $0.66 per watt. (He has a rooftop array, and his utility's rules allow him to add up to 1,000 watts without another interconnection agreement.) To prepare, Paulos, who also authored a plug-in solar policy report released in January, spent many hours studying amps, volts, and wiring configurations on YouTube to assure himself that he could safely put plug-in solar on his garage.

What's in store for balcony solar?

The market for balcony solar could rapidly transform in the U.S. over the next year, as states green-light the tech and manufacturers roll out compliant products.

"I think a lot of companies are waiting for the regulatory landscape to be clear," Paulos said. Once a handful of states explicitly allow balcony solar, he anticipates that manufacturers will show "a lot of innovation to make this a really super easy and safe consumer product."

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