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CONSUMERS

Stop That (Solar) Thief!

*As more solar panels are stolen, companies find new ways to protect them*By [STEPHANIE SIMON](#)

Solar power is giving Larry Lagatta heartburn.

Five times in the past year, Mr. Lagatta, the director of maintenance for a school district in northern California, has rushed to a campus to respond to reports of a brazen theft. Five times, he has looked up to the roof and despaired to see 20, 30 or 50 solar panels missing, ripped off the top of school buildings overnight.

Covering the insurance deductibles has cost the Pleasanton School District \$25,000. Mr. Lagatta is installing motion-triggered lights around the schools, but says he's eager for more robust security. "We've been waiting for the industry to catch up with that need," he says.

That wait may soon be over. Responding to a surge of photovoltaic theft—not only in the U.S., but around the world—entrepreneurs are bringing to market a host of new security products specifically designed for solar panels. They include an alarm system that automatically calls police if the panels are disturbed; a variety of devices to lock the panels to roofs; and specialty labels that burn an identifying bar code into every panel.

Heating Up

Solar-panel theft is such a new phenomenon that there are no hard-and-fast statistics—just a series of anecdotal reports from countries as far-flung as South Africa, Australia, India and Britain. Theft appears to be down in recent months as demand for the panels softens and prices drop. But solar consultants, insurance agents and law-enforcement officers say the problem is real.

Solar panels are relatively easy to remove and transport in a pickup truck, and reports indicate there's a thriving black market in the U.S. and Mexico. So, as the economy picks up and demand for solar power increases, authorities expect a rise in theft as well.

Detective Todd Hancock, a sheriff's deputy in California, puts it this way: "It seems to be the theft du jour."

In the past 16 months, at least 10 wineries in Det. Hancock's turf of Napa County have fallen prey to

panel thieves. So have schools and commercial buildings.

The bandits take, on average, 40 to 50 panels per job, each one costing more than \$1,000 new and worth perhaps a few hundred dollars on the black market. A pair of thieves working together can dismantle an entire roof's worth of panels in a couple of hours. They may sell them to unethical installers of solar arrays, truck them to Mexico or unload them online, where scores of secondhand panels are always on offer at sites like Craigslist and eBay.

"Do the math: It's quite a lot of profit for very little work," says Ryan Hunt, director of sales and marketing for Heliotex LLC, a maker of solar-panel security systems in Palm Desert, Calif.

Still, some experts believe that residential consumers have little need for expensive lockdowns. "In your average neighborhood, if a truck pulled up and guys started pulling panels off your roof, someone would see it," says Tom McCalmont, CEO of Regrid Power Inc., which installs solar systems in central and northern California. "The neighborhood-watch approach seems to work pretty well."

Mr. McCalmont and other installers say security is most vital for solar arrays located in remote areas or in office parks that see little traffic on weekends. Last year, in fact, thieves ripped 29 panels off the roof of Mr. McCalmont's corporate office. He responded by rigging security cameras, motion detectors and alarms to create a homemade security system that he says "probably cost as much as the panels are worth."

Playing Defense

However, advocates of these security devices say they're a good precaution anywhere. "You'd be surprised," says Mr. Hunt, of Heliotex. "Someone can back a truck that says Acme Solar up to a house and unload a roof in the middle of the day. It happens."

Heliotex, which got its start making systems for washing solar panels, recently began selling customized stainless-steel bolts to lock the panels down. The bolts are cut in an odd pattern so ordinary wrenches and screwdrivers won't work on them; only the installer has access to the special key needed to unfasten them. Each installation company gets its own unique bolt and key. A similar system is being marketed by Bryce Fastener Inc. of Gilbert, Ariz., which for years has sold bolts to secure voting machines, lottery kiosks and the laptops on display at office-supply stores.

Critics say that determined thieves can pry out the bolts or cut through them with a hacksaw, but advocates insist they make a heist so tough, most bad guys will give up and go elsewhere. Both Heliotex and Bryce Fastener price the bolts at about \$5 per panel. They also keep copies of the key-and-lock combination, in case the installer goes out of business.

Meanwhile, CodeSource LLC of Denton, Texas, has adapted a product originally intended for the military. CodeSource trains an electron beam on sheets of plastic to mold them into an ultrastrong label that won't fade in the sun. Lasers etch a bar code and serial number on the label.

Solar panels already have such bar codes, but they're often printed on ordinary stickers that can be peeled off, leaving the panel untraceable. By contrast, when a CodeSource label is removed, it leaves a ghostly residue of the bar code that can be seen under ultraviolet light, making it easier for law enforcement to identify black-market panels, says Bob Velisek, director of marketing and business development for the company.

Consumers can achieve a similar effect by engraving the serial number—or their contact information—

into the panel's frame, though insurers advise checking with the manufacturer first to be sure such tampering does not void the warranty.

For those hoping to catch thieves red-handed, Gridlock Solar Security in Santa Rosa, Calif., offers a rooftop watchdog.

An alarm system wired through each panel blasts out a deafening siren if the panels are disturbed. At the same time, the system automatically dials several preprogrammed numbers— your cellphone, your neighbor, the police—to summon help to the scene. The system costs \$995 to \$2,300, depending on the features.

No Easy Access

Security consultants say there are simple steps panel owners can take to protect their investment. For one thing, block access to exterior ladders and make sure no movable ladders are lying about. They also advise consumers to record the serial number for each panel.

Consumers should be sure to talk with their insurance agents, too. Most policies cover replacements for stolen panels. But if there's catastrophic damage to the house—from fire, for example—the insurance company will pay out only up to the policy's predefined limit. If the homeowner bought a \$300,000 policy years ago, that might not be enough to rebuild the house plus replace a \$50,000 solar system.

Insurers also advise homeowners with solar panels to be aware of their deductibles and adjust them if necessary. And, of course, be aware of the risk of theft—and take preventive steps.

"People will spend a tremendous amount of mental effort figuring out what kind of alarm to put in a \$20,000 car, but they'll put a \$100,000 solar array on the roof without giving it a second thought," says Stephen Clarke, an assistant vice president at ISO, which provides risk analysis for insurance firms.

"Anytime you have that kind of investment sitting out in the open," Mr. Clarke says, "it's a very good idea to practice risk management."

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