

EARTH TALK™

Questions & Answers About Our Environment

Dear EarthTalk: Why do rooftop solar panels have to be so big and unsightly? Are there any better-looking alternatives out there?

—Maise Lipscomb, Helena, Montana

If aesthetics is the reason you've been holding off on converting your home to solar power, 2017 just might be the year for you to take the renewables leap.

For starters, several panel makers now sell "frameless" or "seamless" designs whereby photovoltaic panels appear to "float" on the roof surface, with sightlines unencumbered by big black metal framework apparatus.

But getting rid of the frames hardly constitutes an aesthetic revolution.

For that, we turn to electric-car pioneer Tesla, which made a big splash recently with the launch of its new Solar Roof system, which uses attractive, integrated solar tiles made out of tempered quartz glass to replace conventional roof tiles and shingles.

The Solar Roof tiles can withstand upwards of three times the storm force of other traditional roof tiles—and as such come with a warranty lasting the lifetime of the home or infinity, whichever comes first.

While the Solar Roof system still costs about a third more than a traditional photovoltaic rooftop set-up, its visual appeal could make the transition much more palatable to many potential rooftop solar wannabes.

Photovoltaic installer SolarCity (co-founded by Elon Musk and then acquired by Tesla in late 2016) will roll out the new system, available for outright purchase

or through a lease, in California beginning in June and plans to expand to other parts of the United States soon thereafter.

But Tesla's new Solar Roof isn't the only option when it comes to more attractive rooftop solar installations.

Italian start-up Dyaqua, inspired to bring the historic retrofit industry into the 21st century, has ramped up manufacturing on its so-called "Invisible Solar" photovoltaic roof tiles that are indistinguishable from traditional terra cotta, wood or stone roofing.

This replacement roofing looks opaque but is translucent to the sun's rays so light can enter and stoke the silicon solar cells inside.

Meanwhile, Boston-based Sistine Solar is developing a "solar skin" product that matches the underlying rooftop.

These newfangled Massachusetts Institute of Technology-designed panels reflect back an image of the roof below while still letting light through to the photovoltaic cells within.

Sistine's "camouflaged" solar panels cost about 10 percent more than typical photovoltaics, but the start-up is banking on homeowner willingness to spend a little more so unsightly roof panels don't stick out like sore thumbs in the neighborhood.

For that matter, the rooftop isn't the only option any more.

Maryland-based Solar Window Technologies is developing invisible window coatings that house ultra-small solar cells designed to convert light from both the sun and artificial sources into electricity.

And California-based Sunflare is pioneering a new generation of "thin-film" photovoltaics that are only a few micrometers thick and can be affixed to just about any surface with some double-sided tape.

Given that we could power all of humanity's electrical and industrial activities for a year with the amount of sunlight that hits the Earth's surface in just an hour,



A Boston-based start-up is developing "solar skin" photovoltaic panels that match the underlying rooftop. Even though these panels cost slightly more than traditional photovoltaics, some homeowners would gladly pay an aesthetics premium so their houses don't stick out like sore thumbs in the neighborhood.

(Photo courtesy of Sistine Solar)

it's a shame that solar power still accounts for less than one percent of global energy production.

But with the costs of solar panels coming down, maybe improving their look is just what we need to kickstart the transition away from fossil fuel home power.

Contacts: Tesla Solar Roof, www.tesla.com/solarroof; Dyaqua, www.dyaqua.it; Sistine Solar, www.sistinesolar.com; Solar Window Technologies, www.solarwindow.com; Sunflare, www.sunflare.com.

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MULTNOMAH NOTEBOOK

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According to Claire Coleman-Evans, Bridlemile land use chair, this bill was devised by and is supported by the Oregon Home Builders Association and 1000 Friends of Oregon.

"Under the guise of promoting 'affordable housing,'" Coleman-Evans wrote, "HB 2007 calls for faster permitting turnaround times, prohibiting discretionary design review for any housing project, affordable or not, and calls for ADUs (accessory dwelling units) and duplexes in all residential zones without any requirement that these buildings be affordable."

Association leaders urged concerned citizens to contact their state legislators regarding this bill.

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