



Solar Photovoltaic Systems and Cool Roofs

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Combining the energy-saving logic behind cool roofs with the energy producing value of a rooftop solar system, makes great sense. The idea is garnering increasing attention from both the solar industry and Federal Government, and may qualify for federal investment tax credits. This photo was taken on the Advanced Powering Services building in Rancho Santa Margarita, CA. Photo courtesy of Coat 'N' Cool.

It seems like a natural marriage of sustainable technologies . . . solar panels and cool roofs. Why not combine the energy-saving logic behind cool roofs with the energy producing value of a rooftop solar system? According to an article in [Architecture Week](#), one company reports that the output of its solar power system when combined with a cool roof increases 20% due to the improved collection of reflected and diffuse light.

Insulated cool roofs, made of highly reflective and emissive materials, lower daytime air conditioning electricity usage by reflecting away sunlight and heat. The rapid adoption of cool roofs in the western and sunbelt states of the U.S. has been helped by the support of the U.S. Department of Energy's [ENERGY STAR Program](#) and by the requirements of the [California Title 24](#) Energy Standard, which prescribes cool roofs to be employed whenever low-slope commercial roofs are constructed or replaced.

Partnering with other companies may be the ticket for roofing contractors. That's just what four companies in Southern California have done by forming a strategic alliance to promote the installation of photovoltaics with cool roofs. [Coat 'N' Cool](#), the cool roof provider, has joined forces with [Advanced Powering Services](#), [Montross Companies](#) and [Lineside Electric](#), to capture a larger share of the increasing popularity of solar energy systems by advancing the marriage with cool roofs.

How do cool roofs designed to reflect sunlight work with solar panels, which are designed to absorb it? Very well, in fact. Rather than working against the panels, the reflectivity of cool roofs sends more light to the panels from all directions. While this may not do much in aiding flush mounted arrays and panels that are not in a position to absorb any of the reflected light waves, it does not

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hurt either.

Combining photovoltaics with a cool roof is garnering increasing attention from both the solar industry and Federal Government. In a recently issued “private letter ruling” ([P.L.R. 200947027](#)), the Internal Revenue Service determined that the cost of a “highly reflective” roof installed in connection with a rooftop solar panel installation qualifies for the federal investment tax credit . In the letter, the IRS informed the owner of a manufacturing facility that the cost of the improvements to the existing roof qualified for the investment tax credit because the highly reflective roof surface “meaningfully increased” the amount of electricity generated by the PV panels. Of course, each situation is different and either the contractor or the customer should consult their own tax advisor concerning the federal tax implications of an investment of a cool roof in connection with PV panels.



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Installation of solar photovoltaic panels on a cool roof in Rancho Santa Margarita, California. Photo courtesy of Coat 'N' Cool.