

How Much Do Solar Panels Boost Home Sale Prices?



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Add a new steel front door to your house and you'll likely recoup the investment if you have to sell. But what about a solar power system?

A group of California economists looked at that question in a recent study and found that on average, homeowners in California who install photovoltaic solar panels to power their homes can recover nearly all the investment costs if they move--and that's on top of the annual energy savings.



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And if they live in a liberal community (with more registered Green Party members and Toyota Priuses) there's an even greater payback.

The economists looked at utility data, sales records of single family homes and building permit data in San Diego County and Sacramento County from 2003 through year-end 2010. The study, published by the National Bureau of Economic Research, titled "Understanding the Solar Home Price Premium: Electricity Generation and 'Green' Social Status," is [available here](#).

For the average installation, the authors found that solar panels added a \$20,194 premium to the sales price of the house based on repeat sales data (houses were in the mid-\$500,000 range). Solar is really expensive to install—the average total

system cost is \$35,967, but the effective price to homeowners with subsidies including the federal tax credit is \$20,892. Thus, homeowners appear to recover approximately 97% of their investment costs – in addition to the savings associated with reduced energy bills.

By contrast, a luxury kitchen remodel brings a 60% payback, according to Hanley Wood's 2010-2011 Cost v. Value report. A new steel front door brings a 102% payback. For the Hanley Wood report, [click here](#). Of course it depends on your personality as to whether you get more enjoyment out of ushering guests through a steel door, showing off new granite countertops, or leading a tour of the mechanical guts of a photovoltaic system.

The solar study has big implications for state and federal policy. "Are subsidies necessary if the value is already there?" asks Joshua Graff Zivin, one of the co-authors and an economist at the University of California, San Diego. "It doesn't mean there is no role, but we don't see the government in the business of subsidizing people to remodel their kitchens," he says.

In addition, the professors looked at the solar consumer--what types of people live in solar homes. Don't look for solar installations in small homes in poor minority neighborhoods. Instead, neighborhoods where solar panels have been installed are richer, whiter, more educated, have more registered Democrats, and have larger homes, the study found.

When everyone in the household is a registered liberal and the household contributes to environmental causes, the probability of being in a solar home increases even more. Despite the fact that true environmentalists should be minimizing their footprint, homes with solar are bigger, have more bedrooms and bathrooms and are more likely to have a view and a pool.

Why should the "green" neighborhoods with high levels of Prius penetration have a solar premium while neighborhoods with a large share of trucks don't? "In the same way as driving a Prius, with solar panels, you're advertising that you're green and virtuous," Graff Zivin says.

Co-author Matthew Kahn, an economist at the University of California at Los Angeles, says the solar premium will just get bigger in California if the state allows people to sell excess power back to the grid, or if it introduces real-time pricing (with the introduction of smart meters) where households will be exposed to high kilowatt rates and solar panels will be more valuable.

For how a New Jersey retired couple did the math and went solar, [click here](#).

For 10 green tax breaks available in 2011, [click here](#).