

New Program Pays for Your Rays

Will solar power be the next big cash flow source for property owners?

By Martin N. Burton, Esq.

Current solar power programs have cut the electricity costs of thousands of residential and commercial property owners by granting utility bill credits for electricity generated from rooftop solar panels. Now, new programs are beginning to provide an additional incentive to put solar panels on your rooftop: cash for your kilowatts. The big question is whether the payments will be enough to provide a return on an owner's investment in solar power.

How do Pay For Rays programs work?

Simple. Residential and business owners install solar power systems on their property, tie into the grid, then sell the electricity created to the local utility for cash, becoming their own solar power plant. Europeans call this a "Feed-In Tariff", because the property owner "feeds in" electricity to the grid, for which the utility pays a "tariff" to the owner.

How is this different from current programs in California?

Current programs (called "net metering") credit a property owner for only as much electricity as will offset that property's electric bill. This results in undersized solar systems, since there is no incentive to generate more electricity than a property uses. More importantly,

it leaves many owners without an incentive to put up solar panels at all: such as for properties which use little electricity, like warehouses or parking lots, or whose utility bills are charged to third parties, like apartment complexes and office buildings.

How much energy can be produced just from urban rooftops?

Studies conducted by the Los Angeles Business Council and UCLA's Luskin Center have found total potential of nearly 20,000 megawatts in Los Angeles County alone – enough to power the entire City of Los Angeles. The studies conclude that 600 MW – roughly three percent of the City's need – can be developed in the next 10 years in the City of Los Angeles with only reasonable effort.

Have these programs been successful anywhere else?

Germany's highly successful feed-in tariff program has generated 8,000 MW of solar power and created 117,000 jobs in the past 10 years. Gainesville, Florida's program received enough applications in its first year (2009) to meet its cap for the next seven years and generate 32 MW. For a program to work, utilities must agree in advance to buy the electricity, based on a pre-negotiated price or formula.

How much can a property owner make from selling solar electricity?

That's the 600 MW question. Proponents of these programs want the payment to be set at enough to pay back the estimated cost to install the solar system, plus a reasonable rate of return – 3% to 6% per year – over 20 years. Recent studies indicate that a payment between \$0.22 per kilowatt hour (for large-scale rooftops) and \$0.34 per kilowatt hour (for residential rooftops) would accomplish the goal. A typical 4 kilowatt residential system, producing 5,400 kilowatt hours per year, could therefore bring in over \$150 per month on average. Property owners can increase their per-kilowatt returns by lowering initial construction costs through securing rebates and tax credits, shopping for lowest price, and maximizing solar coverage.

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Pay for Your Rays *continued*

Will these programs cost ratepayers?

Yes. The increased cost to Los Angeles ratepayers for a 600 MW program would be about \$0.48 per house per month, and \$9.37 per business per month. For comparison, Germany's solar program costs an average household about \$1.84 USD per month, while Gainesville's costs ratepayers about \$0.75 per month.

Why does solar power need any subsidy at all? Why can't utilities just pay market rates?

Solar power is competing with long-established nonrenewable energy sources, such as coal and natural gas, whose substantial head start in private investments and government subsidies has opened up a wide lead in cost-efficiencies in development and delivery infrastructure. As the price for nonrenewable energy continues to increase, and the cost to put up solar panels keeps going down, this gap will disappear. The cost of solar power is projected to draw even with conventional sources within ten years.

What properties are appropriate for a Los Angeles program?

The properties most likely to be favored will be commercial buildings with

large flat rooftops and few nearby trees or taller buildings. About 37% of commercial properties in the County have the highest potential, while only 18% of single family homes do. The properties that will likely receive the most interest initially are the 15,000 or so commercial parcels in the City that each have the capacity to produce 50 kilowatts of electricity or more.

Why not just develop a few big solar sites in the desert?

Desert solar power will take even longer, not just to develop the power plants but to design, permit and construct new transmission lines. Existing lines are highly congested and new ones take years to plan and permit, and there are often environmental impacts from both lines and plants. In contrast, rooftop solar programs can be placed in urban areas with little environmental impact, plus they provide a unique benefit: many more jobs. An estimated 11,000 green jobs are projected from a 600 MW proposal.

So why don't we have a program in place in California already?

First generation feed-in tariff programs have already arrived, but payments are

based on market prices (\$0.02 to \$0.11 per kilowatt hour), too low to incentivize any urban solar development. In Los Angeles, the Department of Water and Power has been evaluating two other proposals. DWP says such programs are complex to implement and need time for additional study.

Critics say it's not technological studies holding up the programs, it's the bureaucratic culture at DWP. As net metering solar programs have shown, getting thousands of solar power panels to feed in to the grid within the City is a relatively quick and simple technological task. The real challenge may be getting agreement to increase ratepayers' utility bills to pay for the program.

How can I find out more?

The Los Angeles Business Council has put forward its own proposal to implement a Pay For Rays program in 2011. For links to the Los Angeles Business Council and UCLA Luskin Center studies, and to find out if your property may be a good candidate for such a program, visit the Gilchrist & Rutter Sustainability Practice page on our website.

Financing Solar Projects

It's one thing to know you can make money from selling solar electricity, but how do you pay the up-front costs?

Property Assessed Clean Energy (PACE) bonds are an innovative solution. Through PACE bonds, local governments loan money to property owners to finance energy-efficient improvements. The owner then repays the loan over 20 years through a property tax assessment. The money saved or earned, through energy bill reductions or a Pay For Rays program, can be enough to retire the loan within just a few years.

California's PACE program was passed in 2008, and early adopters like Palm Desert and Berkeley immediately made hundreds of loans worth millions of dollars. But this summer, Fannie Mae and Freddie Mac announced their position that such bond financing displaces the first mortgage and would not be allowed on any home loans they purchase.

While PACE bond financing has stopped for now, it is too good an idea to stay down for long. Look for federal legislation or a settlement with the agencies to renew the program in 2011 – in a big way.