



**Testimony before the California State Assembly Utilities and Commerce Committee  
Informational Hearing on Implementation of the California Solar Initiative**

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October 30, 2007**

Dear Chairman Levine and members of the committee. Thank you for the opportunity to testify before you today on the implementation of the California Solar Initiative.

Environment California Research & Policy Center applauds this committee's leadership in promoting clean renewable energy, and solar power in particular. With the recent passage of both SB 1 (Murray), the Million Solar Roofs Initiative in 2006 and AB 1470 (Huffman), the Solar Water Heating and Efficiency Act of 2007, California has become a world leader in making solar power a mainstream energy resource for all to enjoy.

Environment California Research & Policy Center is a statewide, nonprofit, nonpartisan environmental organization. Along with our sister 501(c)(4) organization, Environment California - the sponsor of both SB 1 and AB 1470 - we strongly support California's landmark solar initiatives.

Ten months after the launch of the California Solar Initiative, it is our opinion that the program is, by and large, going well. California is not only home to the largest market for solar power in the country but this program in particular is one of the most exciting and successful ones anywhere in the world.

In just ten months, California has seen 160 megawatts (MW) of distributed solar power applications filed through the California Solar Initiative at the Public Utilities Commission (PUC). In addition, we've seen a growth in the number of new housing developments incorporating solar power as a standard feature. To put this amount of solar power in perspective, a typical natural gas-fired peaking power plant is between 50-75 MW. This means that in just ten months - a far shorter time frame than any fossil fuel power plant can achieve - California is close to installing the equivalent of two peaking power plants.

It is important to note that this program is not only good for the environment, reducing global warming pollution and smog-forming pollutants, but it is also good for all ratepayers whether they participate in the solar program or not. This is because it is cheaper for ratepayers to subsidize the private investment in roof-top solar power than it is to purchase fossil-fuel powered electricity. In other words, the California Solar Initiative is a win-win for the environment and for ratepayers.

My comments today will be brief and will touch upon three major points:

1. California's legislative leaders need to play a role in clarifying the proper mindset when it comes to implementing California's precedent-setting solar programs;

2. There is a need for California's policy makers to distinguish between growing pains experienced as a result of these two historic programs getting off the ground, and true roadblocks to our future success in building a million solar roofs in ten years;
3. And, the state legislature should focus on removing all remaining roadblocks to California's million solar roofs goal as well as creating "on ramps" that can help ensure our future success.

### **Mindset Issues**

Upon observing the implementation of the California Solar Initiative over the past ten months, there are three main mindset issues that need clarification. These three are:

- a) SB 1 and the California Solar Initiative are not "green building" initiatives. Instead, they are market transformation initiatives setting out to create a market large enough to drive down the price of solar power and create a mainstream, self-sufficient solar market within ten years. That said, SB 1 does envision a program in which complementary energy efficiency measures are incorporated into the program. But there has to be a balance between the solar goals and energy efficiency. Energy efficiency should be coupled with solar power but not at the expense of growing a mainstream solar market.
- b) In order to achieve the goal of creating a mainstream, self-sufficient solar market, SB 1 sets two specific goals of 1) building both a million solar roofs and 2) installing 3,000 MW of solar power within ten years. The assumption is that the average system size is 3 kilowatts (kW) which, when multiplied by a million, equals 3,000 MW. It is important to remember these two concurrent goals because without both of them being more or less met by 2017, California might fail to achieve its overarching market transformation goal. For example, if California were to only pay attention to the 3,000 MW goal, we could see market growth mostly in the commercial sector. Instead of adding a million solar roofs or our existing 25,000 solar roofs, we might add only 10,000 solar roofs each with a 300 kW system. In contrast, adding a million solar roofs to our existing 25,000 solar roofs increases our market 33x. Of course, the actual growth will not be exact. It is possible that California will ultimately see the addition of 900,000 solar roofs with an average system size of 3.3 kW. Or, conversely, we could see the addition of 1,100,000 solar roofs with an average system size of 2.7 kW. The point is California needs robust growth in both the residential and commercial sectors and that the two goals of capacity and number of roofs are equally important.
- c) Administration of the California Solar Initiative is a privilege and expectations for successful implementation should be high and evaluation rigorous. Right now, implementation is being overseen by the Public Utilities Commission but the actual administration is being handled by the state's investor-owned utilities or their subcontractors (as is the case in San Diego). This set up makes sense in a number of ways and could work but it shouldn't be assumed that this is the only way to administer this critically important program. Administration privileges should be revoked if the utilities are not aggressively, proactively and effectively meeting California's goals.

### **Growing Pains vs. Roadblocks**

California has embarked on the nation's biggest and longest-term solar rebate program. This historic new initiative is bound to experience some hiccups, growing pains, and minor mistakes within the first year of implementation. Many of these "growing pains" are being addressed by the PUC and program administrators. Some still need attention. The good news is there seems to be a descent forum for

communication between solar installers, administrators, PUC staff and the public. The legislature should continue to ensure rough spots are being ironed out.

This said, the California Solar Initiative still faces some serious roadblocks that must be addressed by the legislature, the PUC and Congress. These roadblocks were either written into SB 1, with the assumption that the legislature would come back to them in the coming years, or they were simply not addressed by SB 1 at all. They include:

- a) **Time of Use Rates** – Mandatory Time of Use rates for all solar installations is a serious roadblock to the emergence of a mainstream, cost-effective solar market. Until Time of Use rates are mandatory for *all* ratepayers it should remain an *option* for solar customers. The emergency bill passed and signed last spring to delay mandatory Time of Use rates for all solar installations buys some time but the roadblock remains. In fact, it is anticipated that this problem will flare up in Edison territory as soon as 2009. This means that the legislature must remove the mandatory Time-of-Use rate requirement in 2008 if it is to avoid another emergency situation in 2009.
- b) **Net Metering Cap** – To build a million solar roofs in California, the cap on net metering must be lifted to at least 5%. The current 2.5% cap in SB 1 leaves only enough room for around 1500 MW of solar power, if not less in some utility territories. Under projections for solar growth under the California Solar Initiative, this 2.5% cap is likely to be hit sometime around 2009/2010.
- c) **Rate Structure** – Electric rates and rate structure have a tremendous impact on the viability of going solar. The main reason why PG&E is seeing more solar installed than Southern California Edison, for example, is not because northern Californians are more “green”, it is because PG&E has a rate structure that favors energy efficiency and grid-tied solar power. Edison is installing less solar than PG&E even though they have a larger territory with more sunshine. This can be fixed by changing Edison’s rate structure.
- d) **Federal Tax Credits** – SB 1 and the California Solar Initiative assume that the federal government will extend federal tax credits for solar power out ten years. Without these tax credits, the California Solar Initiative will remain in place, but a much higher rebate will be needed to make solar a cost-effective investment for consumers. In other words, without the federal tax credit, we would not likely get 3,000 MW out of our \$3.2 billion investment. In fact, it is quite possible that we’d get almost half as much solar power for the same amount of money. To be clear, this is because the math used to set the size of the California rebate assumes the continued existence of the federal tax credit. Together, they shave off about 50% of the cost of going solar. Without the tax credit, the California rebate would have to be higher, meaning less solar for our confined pot of money.

### **Solar On Ramps**

Mindset issues and roadblocks aside, it is also important that California continue to ease the way for consumers to invest in solar power. Growing our state market from 25,000 solar roofs to 1,000,000 solar roofs in ten years, is going to take a lot of effort. SB 1 and the California Solar Initiative are great starts and, with the above roadblocks removed, are likely to get us there within the 10-year timeframe. With some additional on-ramps added, however, California could be given greater assurance of success on a

faster timeline. There are many “on ramps” that could be added to California’s statewide solar program. Some of the most promising include:

- a) **Excess Credit Buy-back** – One of the biggest complaints I hear from the public is that the utilities get all their excess credits for free at the end of the year. While net metering allows a homeowner to accrue credits throughout the year to offset electricity used during the night or when the sun is not shining brightly, at the end of the year if excess credits exist (e.g. if the homeowner generated overall more electricity with their solar system during the year than they consumed), they are zeroed out and the utility “gets them” for free. This unfair dynamic leads to some “bad mouthing” of the program where a solar system owner tells their friends and family that it is a big rip off because the utility takes away their solar power for free. It also discourages greater energy efficiency and conservation. While the wrong attitude, many people are so irked by this that they seek only to “zero” out their bill as opposed to taking additional measures to lower their energy consumption beyond simply investing in a solar system. One simple way to address this problem is to require the utilities to buy any excess credits at the end of the year for some set price that accounted for transmission and distribution costs but valued the solar electricity as a peak resource. Such a policy change would require legislation.
- b) **Multi-family/Multi-site Installations** – Currently, the California Solar Initiative favors single-family homes and single occupancy commercial buildings. Sites with one roof and one utility contract. While the vast majority of solar roofs are going to be as such, there are a number of buildings in California that are occupied by more than one utility customer and that should be allowed into the program without any difficulty. A bill, AB 1223 (Arambula) would have addressed one angle of this problem – the fact that farmers have multiple electricity demands on one contiguous piece of property and should be able to install one solar system to offset electricity used throughout their farm. This bill did not pass the legislature last year but should be reconsidered. Furthermore, there are a number of neighborhoods in California where the individual roofs of a home are shaded with trees and therefore not suitable for solar. However, if these homes were able to pool their resources and purchase a joint solar system, placed in some nearby location and tied to their meters at home, they could participate equally in the million solar roofs program.
- c) **Creative Financing Mechanisms** – For many consumers, paying upfront for a solar system is not an option. Instead, their options right now are limited to mortgages or home equity loans as a way to finance the \$10,000+ upfront investment. There are many ways that California can provide alternative financing mechanisms for consumers, including in-bill financing through utility bills, financing through tax bills (such as has been recently set up in the City of Berkeley), or state-backed loans with lower or zero percent interest rates.

Thank you again for the opportunity to submit these comments. We greatly appreciate the legislature’s vigilance in ensuring California’s historic million solar roofs program gets off the ground and that we succeed in realizing the vision of making solar power a mainstream, cost-effective energy resource for all Californians to enjoy. I’d be more than happy to meet with you to discuss these issues further at any time. I can be reached at 916-446-8062 x 103 or by email at [Bernadette@environmentcalifornia.org](mailto:Bernadette@environmentcalifornia.org).