

**BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA**

Order Instituting Rulemaking Regarding Policies,
Procedures and Incentives for Distributed
Generation and Distributed Energy Resources.

Rulemaking 04-03-017
(Filed March 16, 2004)

**Comments of the California Solar Energy Industries Association for
Consideration in the Performance Based Incentive Workshop
Proceedings Commencing March 16, 2006**

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The California Solar Energy Industries Association (CAL SEIA) is a 501(c) (6) not-for-profit trade association which has represented companies and individuals involved in the solar energy industry in California since its inception in 1977. CAL SEIA's members consist of over 140 contractors, manufacturers, distributors, architects, engineers, consultants, and utilities specializing in the design, sale and installation of solar energy products and services in California.

CAL SEIA notes that other stakeholders have made specific recommendations in regards to a design methodology for an effective Performance Based Incentive (PBI) Program, and we have had the opportunity to review comments contributed by other solar industry stakeholders. While we are generally supportive of same, we draw attention to the fact that CAL SEIA's membership constituency reflects a broader perspective of the solar industry as a whole, given the number of its members and the broad base of their businesses. We do not believe we have sufficient information to adequately characterize the receptivity of potential purchasers of solar energy equipment utilizing a PBI mechanism. CAL SEIA's members are the companies who have the actual experience and role of selling photovoltaic and solar thermal systems to end-use customers, and we do not feel that we know, at present, what terms and conditions a PBI program should have such that all parties can have confidence the Program will work effectively in continuing to attract new customers and achieve the goals of the California Solar Incentive Program (CSIP).

Further, we do not believe that other parties or participants to this proceeding possess the sufficient experience required to design a PBI-based financial incentive that can be assured will successfully replace the current system of up-front incentive payments. Instead, CALSEIA offers what our Association believes are very important guidelines that a PBI program should reflect. We also offer a strategy for arriving at one or more workable PBI programs.

History and Overview

Participants in the process of designing an effective California PBI program must recognize that there is little successful history that can serve as a lesson on how to incentivize the purchase of solar systems through a pay-for-generation mechanism. The two examples most often cited are the German program and the CEC pilot PBI program.

Germany

Germany's Feed-In Tariff program is often cited as a model for a California PBI, however little mention is made of the important differences in the financing and tax consequences of solar projects in Germany as compared with California. The German PBI program provides a guaranteed string of payments representing 100% of the value of the solar electricity generated by the system. The payments and the obligation to purchase the solar electricity are imposed by federal law on German utilities. The purchase agreement is readily financeable since the customer for the power, Germany's utilities, are credit worthy, and the incentive payments account for the entire revenue stream which repays the loan. The incentive payments are fixed and predictable throughout the tariff period and do not depend on future electric rates.

In contrast, the existing California PBI incentivizes only a portion of the value of the solar power generated in the form of a PBI. Moreover, the revenue stream generated by electricity savings and incentive payments may be shorter than the life of the equipment, and perhaps shorter than the term of the loan. The balance of any revenue for the ownership and operation of a solar generating system in California comes from the value of the savings the host-customer enjoys by directly consuming the solar electricity. The value of this revenue stream depends on a reliable, creditworthy host-customer that a financier can trust who will be willing and able to purchase and/or use the solar electricity over a long period of time. Further, the value this solar electricity has to its host-customer varies over time as utility rates vary, rate schedules change, and policy implementation such as net metering tariffs are enacted or repealed. In contrast, in Germany there is no need for a host-customer since all solar electricity produced by a system is purchased by the serving utility and, consequently, there is no risk to the owner or financier as to the value of that solar electricity over time.

Moreover, mention is often made that the German program further assists purchasers of solar systems through low interest rate loans. These loans are made at interest rates achievable in the United States only through the use of tax-exempt or tax-subsidized financing. CAL SEIA is concerned that in the course of this proceeding no mention has yet been made, to our knowledge, regarding the effect that low interest rate, tax-subsidized financing might have under IRS Section 48, on the potential loss of the ability of a purchaser to take the 30% Federal Income Tax Credit (ITC). It is doubtful that the benefits of low interest rate financing in California would offset the financial disadvantage of disqualification for the Federal ITC. The ITC is the single largest incentive available today to Americans purchasing solar systems. In the United States, we use our tax codes to encourage the purchase of solar, Germany does not.

In short, Germany has a very generous and successful program that appears to work for German citizens, but it does not directly translate to the US or California. The only comparably successful solar incentive program, it could be argued, is the Japanese PV program, which consisted of declining up-front rebates based on system size rather than a PBI model.

CEC Pilot PBI Program

In California, the CEC implemented a pilot PBI program in March of 2005 with \$10 million in funding to determine the effectiveness and market receptivity of one model program paying

\$0.50 per kWh for a period of three years. Has this PBI program worked in the California environment? After almost a year of operation, the answer is a resounding NO.

During the same period of time that the current up-front incentive programs have received applications for hundreds of millions of dollars of incentives and have been oversubscribed many times over within days of becoming available, the pilot PBI program after one year has only managed to commit \$7 million of its original \$10 million (as of February 3, 2006 according to the CEC website). This under-subscription comes at a time when there were no other incentives available to California customers for PV systems larger than 30 kW, after the postponement of the Self Generation Incentive Program to new applicants from March of 2005 until February 10th of this year.

CALSEIA does not fault the CEC program or its administrators in this regard. The PBI pilot program succeeded in doing what it was intended to do; that is, to determine if a 3 year, \$0.50/kWh PBI would work for potential California solar customers. It succeeded in finding out that the PBI Program as currently crafted does not attract or encourage potential purchasers of PV systems to buy. This is a very important lesson, as we now attempt to find a workable PBI to at least partially, or perhaps entirely, replace the current up-front incentive program.

With the above information as background, CALSEIA would make the following suggestions and recommendations.

1) Market and Performance Research First

The CPUC decision earmarked considerable funds for R&D and program evaluation and administration in conjunction with the CSIP. CAL SEIA suggests that some of these funds be used in advance of the program introduction to conduct market research to gather better data on the effects that PBI approaches would have on the willingness and financial ability of potential customers to purchase solar systems under a PBI approach.

We are not aware of any information provided in this proceeding which can establish adequate knowledge of potential customer response to any formulation of a PBI. We believe specific information regarding customer reaction to proposed incentive rates and payment schedules are essential in order to establish this record.

We are also concerned that the motivation and expectations for a change to a PBI approach are clearly understood by all parties. A clear understanding of what a PBI is intended to accomplish as it regards solar system performance would help determine what the optimal PBI payment period should be.

2) Hybrid Approaches

CALSEIA strongly urges that, whatever specific PBI models may eventually be adopted for use in 2007 and beyond, those models be phased in over time to ensure that the payment levels and schedule that are selected do not cause severe contraction or distortion of the California market

for solar systems. We note that the uptake on the CEC's pilot PBI has been less than enthusiastic, and if it were to have wholly replaced the existing Emerging Renewables Rebate program in 2005, the effect on sales of new PV systems this past year would have been disastrous.

For this reason we urge the CPUC to adopt a "phasing in" of any PBI type program. Perhaps one quarter to one third of the equivalent value of the up-front incentive payment might be shifted to a PBI formula in the initial year of any implanted PBI program, transitioning to a larger portion of PBI over a 3 to 4 year period. This would give time to research the effect of the PBI portion not only on overall sales levels, but also any effects on the particular classes of customers that are willing to "buy solar" under a hybrid incentive structure that is part PBI and part up-front incentive. CALSEIA believes that it is important that a shift to PBI incentives not make sales of future solar systems more difficult, such that overall CSIP program goals are not achieved. Another unintended consequence of a shift to PBI might also be the favoring of certain classes of potential solar system purchasers at the detriment of other current classes of customers. We are concerned that small business owners, farmers and other current customers for "smaller" commercial solar systems will be less willing to purchase solar at the higher initial costs that result from a PBI-based approach, and might be less able to obtain workable financing than might large institutional customers and those purchasing solar systems located on a property of a third party host.

Moreover, we believe that the combination of an up-front payment with some payment based on system performance over time may prove to be an optimal approach. Such a hybrid approach was implemented several years ago in some utility service territories in Pennsylvania. The up-front payment clearly minimized administrative costs since it involves the need to "cut" only one check, and appears to work well in the marketplace based on recent rebate reservation activity. Most reasons for poor system performance should become obvious within the first full year of operation, when any failure to meet expected annual kWh production or electric bill savings should become clear. A one to three year PBI payment period should enable system owners to identify under-performing systems, and allow for feedback to marketers and installers in regards to repair/upgrade of those systems.

3) Phase In a PBI Program By System Size

The SGIP has been oversubscribed for years, yet the program guidelines continue to allow for equal incentive payments for all systems from 30 kW up to one megawatt in size. In addition to the use of hybrid approaches, CALSEIA recommends that future PBI trial programs be implemented initially on larger systems only (250 kW to 1 MW). Purchasers of systems in this size range are typically larger entities, and are more capable of meeting the financing challenges of a PBI-type incentive schedule. There are also fewer potential purchasers of large systems, which would result in a minimization of administrative costs as program terms and administration details are worked out. Successful PBI terms could then be translated to a smaller class of systems sizes once success is achieved with a large system PBI.

CALSEIA also believes that there exists a class of small system sizes for which PBI may never be appropriate, including systems under 30 kW or those purchased by homeowners. For these

systems or customer classes the cost to meter, report, review, process and pay multiple small payments over a long period of years might not be cost justifiable. In addition, the revenue stream may be inadequate to persuade potential purchasers to invest. Any PBI for these customer categories should be a hybrid approach, with a small PBI payment at the end of the first year of operation. This would be adequate to get the attention of system owners should performance fail to meet expectations, and would provide feed back regarding system performance to the segment of the solar industry serving this customer class.

4) Payment Schedule

CALSEIA believes that monthly payments, rather than quarterly or annual payments, may be necessary for the PBI approach to succeed, because financing of system costs will likely become more common as the upfront system cost increases with the use of PBI. Also, lenders typically prefer to be repaid monthly. Monthly payments will more quickly reveal poor performance due to bad system design, improper installation or the over estimation of savings by retailers.

4) Multiple Trial or Pilot Programs

Given that the CPUC determined to ensure stable funding for the CSIP until 2017, there is adequate time to “get the details right” when it comes to PBI. The CEC tried one set of program terms, which as discussed above, failed to work very well. CALSEIA would strongly urge that the program administrators implement a series of additional “pilot” PBI programs to determine what combination(s) of incentive amounts and payment periods work adequately in the marketplace, and which customer classes respond best to which terms.

The program administrators should initially allocate relatively small portions of the available incentive funds, perhaps \$10 to 25 million annually, and offer a range of different PBI terms. Some pilots might have a higher incentive level paid over a short period (one to three years). Other trial PBI programs could have lower levels of incentive payments paid over 5, 10 or even 20 years. Some pilots might offer incentive levels that decline over time, assuming that the electricity savings would increase over time with rising utility rates, while other PBI trials could use fixed incentive levels that might be more comforting to system financiers.

5) Multiple PBI Program Terms

CALSEIA can see absolutely no reason to have only one set of PBI program terms applicable to all potential solar customers. The State could determine a discount rate, or other financial criteria, acceptable to it that could be used to “equate” various possible combinations of payment amounts and payments periods so that the State would be indifferent as to which combination were applied to any particular system size or customer class. In fact, ideally the State might offer three, four or more different sets of PBI terms to the market and let each customer pick which payment terms are best for them. In this way, it should be possible to offer PBI programs that permit a wide variety of potential customers to participate, yet at an equal cost to the State under each program.

6) Funding Equity By Customer Class

Finally, the Commission should develop a mechanism that allocates available incentive funds such that if a PBI program is advantageous to one class or type of customer, the available funds would not flow so overwhelmingly to that class that little funds were available to other customer classes. CALSEIA does not have a specific recommendation but some partitioning of incentive funds among the market segments recognized in R.04-03-017 is appropriate. These segments should include at least existing residential homes and commercial/industrial/agricultural customers, and to the extent that they are not covered by the proposed Renewable New Construction Component, newly constructed custom (non-tract, or “spec”) homes.

Summary

CAL SEIA believes that this informal comment filing structure in advance of the first workshop on the topic will allow for a much-needed discussion on the pros and cons of constructing a workable PBI. We believe that our comments offer a framework and a strategy for determining how and when to incorporate a PBI into the CSIP. We believe that there is ample time between 2007 and 2017 to arrive at a final and workable set of PBI programs through some combination of the strategies outlined above. Let’s make sure it’s done right. The consequences of rushing into a program structure and getting the terms wrong would have negative consequences on meeting the goals of the CSIP, not to mention on a healthy, growing solar industry, whose creation and nurturing for the benefit of all Californians is the underlying goal of the CSIP.

Respectfully submitted via email to all parties of knowledge February 24, 2006

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