BEFORE THE PUBLIC UTILITIES COMMISSION

OF THE STATE OF CALIFORNIA

Order Instituting Rulemaking Regarding Polices, Procedures and Incentives for Distributed Generation and Distributed Energy Resources.	Rulemaking 04-03-017 (Filed March 16, 2004)

PV NOW'S PROPOSALS FOR CONSIDERATION AT THE MARCH 16, 2006 PBI WORKSHOP

GOODIN, MACBRIDE, SQUERI, RITCHIE & DAY, LLP
Michael B. Day
Joseph F. Wiedman
505 Sansome Street, Suite 900
San Francisco, CA 94111
Telephone: (415) 392-7900
Facsimile: (415) 398-4321
Email: mday@gmssr.com
jwiedman@gmssr.com

Attorneys for PV NOW

Date: February 23, 2006

BEFORE THE PUBLIC UTILITIES COMMISSION

OF THE STATE OF CALIFORNIA

Order Instituting Rulemaking Regarding Polices, Procedures and Incentives for Distributed Generation and Distributed Energy Resources.	Rulemaking 04-03-017 (Filed March 16, 2004)

PV NOW'S PROPOSALS FOR CONSIDERATION AT THE MARCH 16, 2006 PBI WORKSHOP

PV Now[1] is pleased to participate in the upcoming workshop to consider proposals for a performance based incentive (PBI) component of the California Solar Initiative (CSI). As part of its recommendations to be shared at the workshop, PV Now offers the following principles, proposals, and comments to guide the development of such Performance Based Incentives: *PV Now's Policy Foundations for Performance Based Incentives*

- PV Now Supports PBI. PV Now supports a change in solar PV incentive structure to include a PBI component within the CSI as a simple means to assure that PV systems (paid for in part with ratepayer funds) are delivering expected energy and related public benefits. However, there are potential complexities and market barriers posed by PBI that, if not addressed, will override the expected performance benefits of PBI by reducing customer participation.
- Differentiate incentive structure from incentive level. While the German feed-in tariff is widely viewed as successful at driving market growth, this is primarily because of the high incentive level, on the order of $0.50/kWh subsidy guaranteed for 20 years, not strictly the incentive structure. The German program included a low-interest loan component which is now available through private banks. In addition, the German market does not have a budget cap, allowing for spurts in demand without resulting in drops in the feed-in tariff level. An alternative approach, the capital-based-incentive (CBI) Japanese model was similarly successful in creating what was for almost a decade the world's largest PV market.

[1] PV Now is a national solar industry advocacy group comprised of manufacturers in the solar PV energy industry, including Sharp Solar, Shell Solar, Powerlight, Schott Solar, SunPower Corp. and Evergreen Solar. PV Now is affiliated with the national Solar Energy Industries Association (SEIA). Both SunPower Corp. and Powerlight have their corporate headquarters located in California. Three of the other four PV Now companies have their U.S. headquarters located in California.

- Equivalent Customer Value. A critical factor in this transition will be to ensure that the incentives are structured so that end customers can expect an acceptable rate of return on their investment. PV Now recommends that any proposed incentive is at least equivalent in value to the then-current CBI levels. So, regardless of the incentive structure – CBI, PBI, tax incentive, or other – the aggregate incentive level should provide economic market signals at least as great as those envisioned under the baseline CBI structure. The up-front investment required for PV customers can be a significant barrier to system purchase and installation. Note also that, in most cases, the customer receiving an incentive payment will have a higher discount rate than the utilities or the state issuing the incentive payment, which means that a PBI structure will, all things being equal, be more expensive than a CBI to convey the same customer value.

- No Tax advantage for PBI vs. CBI. The structure of a solar incentive (CBI vs. PBI) does not affect the value of the Federal ITC for the project and does not affect the tax basis used for accelerated Federal tax depreciation, according to a recent analysis performed by legal counsel on behalf of the Solar Energy Industries Association (www.seia.org) which is attached as Exhibit B.

PV Now's PBI Proposal

- PBI proposal. PV Now proposes the following structure for a commercial-sector PBI incentive, beginning in 2007. In this proposal, a customer installing a system would receive a portion of the incentive a capacity payment and a portion as an energy payment to be paid over five years. Some of the design principles are described below.

Solar Incentive Levels

	Commercial PBI	
Initial Year of Operation	Capacity Payment $/Watt	Energy Payment $/kWh
2007	$ 2.23	$ 0.10
2008	$ 1.78	$ 0.14
2009	$ 1.32	$ 0.16
2010	$ 0.89	$ 0.16
2011	$ 0.70	$ 0.13
2012	$ 0.52	$ 0.09
2013	$ 0.35	$ 0.06
2014	$ 0.82	$ 0.15
2015	$ 0.62	$ 0.11
2016	$ 0.43	$ 0.08

- Commercial Sector Focus. PV Now recommends that only commercial sector customers receive PBI payments, at least until enough successful program experience is collected. The complexity, cost, and first-cost barriers are very likely to make PBI a larger market hurdle for residential customers, both retrofit and new customers.

- Declining Rebate Structure. PV Now supports the fundamental CSI objective of achieving a sustainable solar PV market by 2017 that does not rely on customer subsidies. As such, PV Now supports a target schedule of reductions in the PBI and/or CBI incentive levels that would be awarded to new projects each year (or sooner, depending on the trigger mechanism adopted in the CSI rulemaking). However, PBI or CBI levels should be flexible to accommodate other state and federal incentives. For example, the CSI incentive level, regardless of incentive structure, should increase if the 30% federal ITC expires.

- Support medium term and hybrid structure due to differing discount rates, weather risk, and program cash flow.
  - A key factor that will affect the design of a PBI program is that a PV consumers' discount rate will typically be higher than the utilities' discount rate. As such, PV Now supports adopting a PBI program that includes (at least at the outset of the program) a portion of the incentive be paid as capacity payment to be paid up front (CBI) to help overcome customer cost barriers, and reduce overall cost of the CSI to the State.
  - Differential discount rates also argue that customers receive the energy payment over a relatively shorter term (suggest 5 years).
  - A long PBI term exacerbates the timing mismatch between program inflows and outflows. In Germany, for example, the 20-year PBI payments are matched by year-by-year equivalent collections. The 11-year CSI collections structure is inconsistent with a long term approach.
  - On the other hand, the term should not be too short, less than three years, or weather uncertainty becomes an important financial risk.

- Support PBI phase-in PV Now believes that there will be market resistance to an incentive structure based on energy payments alone. Because it represents a significant change from past market practice, such an incentive structure imposes an adverse cash flow barrier and financing requirement on the project, and it will be viewed by customers and investors as more risky and complex. The experience of the California PBI pilot program supports this market resistance. The CSI program can mitigate any adverse impact on the PV market development by phasing in the energy payment component.

- Simple, flat energy payment for each project. PV Now supports a PBI structure that is as simple as possible, both to aid in the transition from a simple CBI, and to

minimize the complexity (and cost) of PBI program administration. As such, PV Now would propose that PBI contracts be structured with a flat energy payment for the term of the contract.

PV Now's Implementation Recommendations

- Data transparency and flexible adjustment. Timely availability of project data (both applications and installations) for the CSI program will be a critical factor in ensuring orderly growth and achieving the goals of the CSI program. PV Now recommends that at a minimum, project data be updated on a monthly basis, and at the same time, recommends that the program administrator be given the flexibility to respond to significant changes in the pace of market growth (too slow or too fast) by adjusting capacity or energy payment levels for new projects.

- Require surety of energy payments. Given that the PBI incentives will be used to secure long term financing for commercial PV projects, it is critical that the energy payments be guaranteed by the state or utility. To the extent that there is uncertainty or political risk associated with future energy payments, this will greatly reduce the ability of non-residential customers to secure the necessary financing to invest in PV projects.

- Affordable housing. PV Now supports the inclusion of special measures to insure that affordable housing developments have adequate incentives available that allow solar projects to be developed. Further data collection is necessary to determine what steps will be necessary to achieve this goal.

PV Now's Integrated Incentive Model

- Model. In addition to the PBI principles discussed above, PV Now has co-developed with other industry groups an integrated model that addresses incentive structure, incentive level, aggregate incentive budget, and market growth by segment. This model, attached as Exhibit A, encompasses assumptions about PV cost, customer economics, tax incentives, and other relevant factors. Therefore, the assumptions represent one reasonable scenario for accomplishing the overall CSI objectives.

- Policy recommendations.
  - No PBI for new and existing homes, at least initially
  - PBI defined as capacity payments and five-year fixed energy payments for commercial systems (>30 kW)
  - Annual declining incentives

- Major assumptions.
  - 30% Federal ITC extended through 2013
  - Commercial customer requires 9% after-tax rate of return to purchase
  - Cash rebate is taxed, and ITC and depreciation are taken on gross price, per SEIA 2006 tax guide
  - New homes receive approximately $300 million for installations from 2012 through 2016

- Expected Results. PV Now believes that the following solar incentive levels:
  - Offer California ratepayers sufficient economic incentives to grow a vibrant local market (MW projections shown below by sector)
  - Reflect a reasonable set of economic assumptions for the PV market
  - Accomplish the major policy objectives of the CSI
  - Respect the overall CSI budget

Solar Incentive Levels

	Commercial		Residential New Home		Residential Retrofit	
Initial Year of Operation*	Capacity Payment $/Watt	Energy Payment $/kWh	Capacity Payment $/Watt	Energy Payment $/kWh	Capacity Rebate $/Watt	Energy Payment $/kWh
2007	$ 2.23	$ 0.10	$ 2.80	$ -	$ 2.60	$ -
2008	$ 1.78	$ 0.14	$ 2.50	$ -	$ 2.40	$ -
2009	$ 1.32	$ 0.16	$ 2.20	$ -	$ 2.20	$ -
2010	$ 0.89	$ 0.16	$ 1.90	$ -	$ 2.00	$ -
2011	$ 0.70	$ 0.13	$ 1.60	$ -	$ 1.70	$ -
2012	$ 0.52	$ 0.09	$ 1.30	$ -	$ 1.40	$ -
2013	$ 0.35	$ 0.06	$ 1.00	$ -	$ 1.10	$ -
2014	$ 0.82	$ 0.15	$ 0.70	$ -	$ 0.80	$ -
2015	$ 0.62	$ 0.11	$ 0.40	$ -	$ 0.50	$ -
2016	$ 0.43	$ 0.08	$ 0.10	$ -	$ 0.20	$ -

Solar Electric Capacity Installed / Reserved

(Peak MW)

Initial Year of Operation	New Solar Capacity Installed (MWp)	*Cumulative Solar Capacity*	Commercial	Residential New Home	Residential Retrofit
2007	85	*85*	46	10	29
2008	110	*195*	57	18	34
2009	149	*345*	69	34	46
2010	211	*556*	80	62	69
2011	255	*811*	92	83	80
2012	284	*1,095*	103	89	92
2013	317	*1,413*	115	99	103
2014	375	*1,787*	149	110	115
2015	506	*2,293*	230	126	149
2016	713	*3,006*	310	172	230
Totals:	**3,006**		**1,253**	**805**	**948**

Respectfully submitted this February 23, 2006 at San Francisco, California.

GOODIN, MACBRIDE, SQUERI,
RITCHIE & DAY, LLP
Michael B. Day
Joseph F. Wiedman
505 Sansome Street, Suite 900
San Francisco, California 94111
Telephone: (415) 392-7900
Facsimile: (415) 398-4321
Email: mday@gmssr.com
jwiedman@gmssr.com

By */s/ Michael B. Day*
Michael B. Day

Attorneys for PV NOW

3194/001/X75420.v2