



CALIFORNIA ENERGY COMMISSION

# Staff Workshop Solar Offset Program

## May 20, 2010

California Energy Commission  
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# Agenda

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|---------------|--|
| 9:00 – 9:15   | Welcome and Overview of Agenda<br>Anthony Ng, Renewable Energy Office  |
| 9:15 – 10:00  | Senate Bill 1 Overview<br>Solar Offset Program – Staff Paper Overview<br>Sherrill Neidich, Renewable Energy Office |
| 10:00 – 12:00 | Public Comment   |



# Public Comment Agenda

- Solar as an Option
  - Disclosing Solar as an Option to Prospective Home Buyer
  - Energy Commission Verification of Solar as an Option Offer
- Solar Offset Program
  - Solar Offset System Design
  - Location of Offset System
  - Verification of Offset System
  - Energy Efficiency
  - Grandfathering
  - Banking
- Other Issues



## Senate Bill 1

SB 1 enacts Governor Schwarzenegger's  
*Million Solar Roofs Initiative*



- SB 1 (2006) includes the CPUC's CSI program, CEC's New Solar Homes Partnership (NSHP) and the publicly owned utilities programs
- Requires production homebuilders of 50+ homes to offer solar as an option for new homes starting in 2011
- Adds energy efficiency improvements as a condition to receiving an incentive for roof-top solar energy



## Senate Bill 1

SB 1 is moving California toward a cleaner energy future by creating a self-sustaining solar industry



- Largest solar program of its kind in the country
  - \$3.3 billion effort by CPUC, CEC, and publicly owned utilities with three distinct program components
  - Provides incentives to residential and nonresidential customers who install solar energy systems
- 
- 3,000 MW combined public/investor owned-utilities goal
  - Establish a self-sufficient solar industry in 10 years
  - Emphasis on energy efficiency and high performance installations



## Solar as an Option/Solar Offset Program

- Pursuant to Public Resources Code Section 25405.5, as enacted by SB 1, the Energy Commission is required to develop regulations to govern the requirements for alternatives to offering solar energy systems as an option for new production homes and to develop a solar offset program
- At its January 13, 2010 Business Meeting, the Energy Commission approved an Order Instituting Rulemaking
- The Renewables Committee will be overseeing the rulemaking process. The Renewables Committee consists of: Vice Chair James D. Boyd, as Presiding Member, and Commissioner Robert Weisenmiller, as Associate Member



## Rulemaking Process

Rulemaking process divided into two phases:

Informal Phase: Present issues and concerns that were raised with Energy Commission staff and stakeholders. Provides an opportunity for Energy Commission staff and stakeholders to identify and resolve any issues with the regulatory concepts

Formal Phase: Begins with the posting of the Notice of Proposed Action and the Express Terms (draft regulations) for a minimum 45-day public review and comment period



## Stakeholder Participation

- In February 2010, staff met informally with stakeholders from the building industry, solar industry and an environmental group to solicit their comments
- After meeting with stakeholders a staff paper was developed, *Solar Offset Program Pre-Rulemaking*, which presents issues and possible alternatives under consideration. The issues and discussion presented in the paper reflect staff views and does not obligate the Commission to adopt regulations based on these views
- During today's workshop we encourage the participation of all stakeholders and will devote most of the workshop to discussing the proposals outlined in the staff paper and any other issues that were not covered



## Solar as an Option

### *Disclosing Solar as an Option to the Home Buyer*

To comply with Public Resources Code Section 25405.5(b), sellers will need to include solar PV in their list of options made available to a prospective home buyer

### **Proposed**

If seller elects to offer solar as an option to a prospective home buyer they will need to, at minimum, disclose the following to the home buyer:

- Total installed cost of the solar energy system
- Estimated cost savings associated with the solar energy system option, as determined by the Energy Commission
- Information about California solar energy system incentives
- Refer potential home buyers to the Go Solar California website



## Solar as an Option

*Disclosing Solar as an Option to the Home Buyer cont.*

### Proposed Reporting Requirements

On an annual basis the seller of production homes will be responsible for reporting the following data to the Energy Commission:

- Subdivision location and community identified
  - Number of homes in each subdivision
  - Number of homes for which the solar as an option was offered
  - Number of homes for which the solar as an option was taken
- Size of solar energy system installed
- Number/amount of incentives taken
  - If incentive received, which incentive program (NSHP, POU)
  - Utility territory of development where offer was made
- The total installed cost of the solar energy system to home buyer per AC watt (both offered and paid price)



## Solar as an Option

### *Verification of Solar as an Option Offer*

In order to gauge if the PV installation goals of SB 1 are being met, it is important to know how solar as an option is helping to meet those goals

### **Proposed**

- The Energy Commission may annually review solar as an option materials delivered to the prospective home buyer
- A verification form could be developed that the seller would submit to the Energy Commission as proof of offers being made



## Solar Offset Program

### *Solar Offset System Design*

Calculation tools already exist for PV systems under the current NSHP program that are appropriate for the solar offset program

#### **Proposed**

The Energy Commission will use the California Energy Commission PV (CECPV) calculator to determine amount of electricity required to be generated at the offset location

- Use default installation characteristics from the California Flexible Installation Option within the NSHP program as the base system for calculating expected energy
- Energy equivalency will be determined using the Time-Dependent Valuation



## Solar Offset Program

### *Solar Offset System Design cont.*

#### **Proposed cont.**

- The base solar energy system will be comprised of modules/inverters most commonly used in the NSHP program
- All major system components must be new and satisfy eligibility requirements specified in the most recent approved edition of *Guidelines for California's Solar Electric Incentive Programs (Senate Bill 1)*
- Approved major components are posted on the Energy Commission's lists of eligible equipment available at:  
<http://gosolarcalifornia.ca.gov/equipment/index.html>



## Solar Offset Program

### *Solar Offset System Design cont.*

#### **Proposed cont.**

Determining an average solar energy system size is necessary in order to establish the amount of electricity required to be generated at the solar offset location

Program	Median Size Installed Residential Solar PV System
California Solar Initiative	3.6 kW
Emerging Renewable Program	3.1 kW
New Solar Homes Partnership	Custom Homes: 4.45 kW Large Development: 1.86 kW

Based on historical data noted above, it is proposed that a 2 kW solar energy system be used to determine the expected energy equivalency of the solar energy system for the offset location



## Solar Offset Program

### *Solar Offset System Design cont.*

#### **Proposed cont.**

In order to determine an accurate energy calculation the developer/seller who elects the solar offset program option will need to provide the Energy Commission with the following system installation specifications and characteristics:

- Module make and quantity
- Inverter make and quantity
- Azimuth
- Tilt
- Shading obstructions



## Solar Offset Program

### *Solar Offset System Design cont.*

#### **Proposed Reporting Requirements**

After the offset system has been installed the developer/seller will be required to report the following information to the Energy Commission:

- Expected TDV weighted energy generation from the CECPV calculator
- Number of homes offset, location and community identified
- Operational date of offset system
- Number/amount of incentives taken (CSI or POU and name of utility co.)
- Installed cost data for the offset system (includes modules, inverter(s), permitting fees and balance of system)



## Solar Offset Program

### *Location of Offset System*

The location of the offset system will affect how a calculation is made to determine the specification of the offset system.

Additional problems could arise if an offset system is located in a different utility territory than the homes the system is intending to offset

### **Proposed**

The offset system will be located within the same utility territory as the offset housing development



## Solar Offset Program

### *Energy Efficiency*

California energy policy places great emphasis on energy efficiency because it is the most cost effective means to meet the state's energy and environmental needs

### **Proposed**

If the developer/seller elects to participate in the offset option they will be required to build homes that have at least 15 percent greater efficiency than the base level of the CA Building Energy Efficiency Standards for the entire housing development



## Solar Offset Program

### *Verification of Offset System Installation*

Regardless of whether a PV system is installed on a home, on another building or is ground mounted, verification of proper installation and expected energy production remain important

### **Proposed**

The Energy Commission will use existing verification and inspection procedures from the NSHP program



## Solar Offset Program

### *Grandfathering*

Stakeholders requested that the Energy Commission adopt regulations with retroactive effect which would allow an offset system, installed prior to January 1, 2011, to count towards compliance with the offset program

### **Proposed**

The Energy Commission will consider developing regulations regarding grandfathering



## Solar Offset Program

### *Banking*

Banking is similar to grandfathering, except the installation of 'banked' PV would have happened after the regulations for offset are adopted

A large PV system would be installed and the developer would 'draw down' PV credits for use as offsets in their individual or numerous developments

### **Proposed**

Allow developers to install a large solar energy system and have that project count for multiple offset projects



## Solar Offset Program - Other Issues

### *Future Ordinances Requiring Solar*

Many cities and counties adopt ordinances governing new construction designed to exceed state level requirements

### **Proposed**

The Energy Commission will include language in the solar offset regulations which will provide that any ordinance that requires the installation of solar energy systems will supersede the solar offset regulations



## **Solar Offset Program - Other Issues**

### *Meeting Senate Bill 1 Solar Installation Goals*

SB 1 has a goal to install solar energy systems with a generation capacity equivalent to 3,000 MW by the end of 2016

### **Proposed**

On an annual basis the Energy Commission will gather solar offset data from the CSI, NSHP and POU incentive programs



## Next Steps

- Deadline for written comments – June 3
- Staff will brief Renewables Committee and then develop draft regulations
- Post the Notice of Proposed Action and Express Terms (draft regulations) for a minimum 45-day public review and comment period



# Public Comment Period

Written comments can be e-mailed to [Docket@energy.state.ca.us], or mailed to the following address (e-mailing is preferred) by June 3, 2010:

**California Energy Commission**

**Dockets Office, MS-4**

**RE: Docket No. 09-SOPR-1**

**1516 Ninth Street**

**Sacramento, California 95814-5512**



## Additional Information

- California Energy Commission  
Solar Offset Program Pre-Rulemaking  
<http://www.energy.ca.gov/2009-SOPR-1/index.html>
- Senate Bill 1  
<http://www.energy.ca.gov/sb1/index.html>
- Go Solar California  
<http://www.gosolarcalifornia.org/>



# Public Comment