



New Solar Homes Partnership

Solar Forum, August 25, 2006

Sanford Miller

Renewable Energy Program



Presentation Overview

- Background/Goals
- Eligible NSHP Participants and Technologies
- Incentive Funding and Structure
- PV Performance Issues
- Administrative Procedures and Structure
- Recent Events

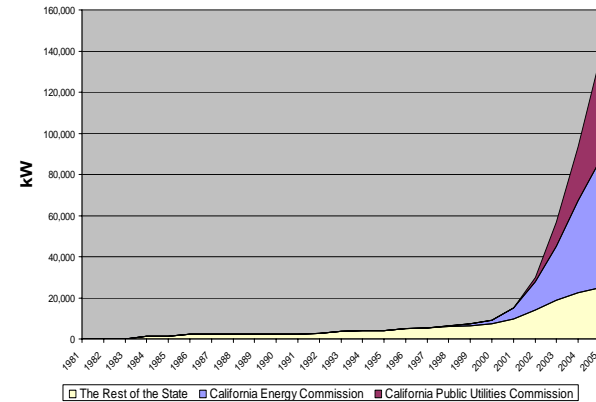


Summary

- Baseline: Existing Programs (Includes state & non-state programs)
 - ~150 MW since 2000
- CSI Funding/Goal:
 - \$3.35 Billion
 - 3,000 MW by 2016
- NSHP Funding/Goal:
 - \$350 Million
 - 400 MW by 2016

Transition

Grid-Connected PV Capacity Installed in California Cumulative





New Solar Homes Partnership



- New residential buildings only
 - Production homes
 - Affordable Housing(pending legislation)
 - Multi-family apartments
 - Custom homes
- CEC will specifically target and work with the builder/developer community and affordable housing stakeholders



Six of Nine IEPR Policy Principles Covered in Initial Design

- Promote **high performing systems** that result in cost-effective public funding (in terms of long-term energy generation per \$ of incentives)
- Target PV installations to **climate zones with high peak demand** for air conditioning and where PVs will have most benefit to the grid
- Establish a **performance-based incentive** structure with **long-term declining** incentives. Incentive paid up-front.
- Leverage energy efficiency improvements while deploying photovoltaics, integrating **high energy efficiency** and considering time-of-use energy
- Incorporate PVs into the **2008 Building Energy Efficiency Standards**



Other Three IEPR Policy Principles To Be Phased Into Final Program

- Advanced Metering And Time Variant Pricing
- Viable, Significant Utility Role
- Incorporation of Solar Thermal Technologies (later)



Process:

- Advisory Groups- Stakeholder input
- Workshops
- Approval at fall CommissionBusiness meeting



Eligible Participants and Technologies

- Eligible Participants
 - New Homes In IOU Service Territories
 - Builder, Homeowner, or Installer Could Get Incentive (likely to be builder)
 - Work With Publicly Owned Utilities To Coordinate Statewide (per SB 1)
- Technologies
 - Certified Systems and Components
 - Photovoltaics
- Other Eligibility Requirements
 - High Level of Energy Efficiency
 - Metering and Rate Design



High Levels of Energy Efficiency

- New Solar Homes Partnership Goal (IEPR)
 - Readily available energy efficiency measures
 - Smaller and less expensive PV systems
 - Maximizes use of societal resources
 - Honors state loading order priority (delivers both priority technologies at once)
- Lowest level under consideration
 - Energy Star (15% better than T24)
- Higher level under consideration
 - Building America (30-40% better than T24)
- Energy Star appliances and high efficacy lighting



Incentive Structure and Levels

- Basic Incentive Structure:
 - Expected Performance Based Incentive (EPBI)
 - Probable Enhanced Incentive For Higher EE
- Other Cases Or Enhancements/Incentives
 - Affordable Housing – Workshops: June 13th & September 22
 - Ancillary Assistance: Training, Recognition, Technical, Marketing and Outreach

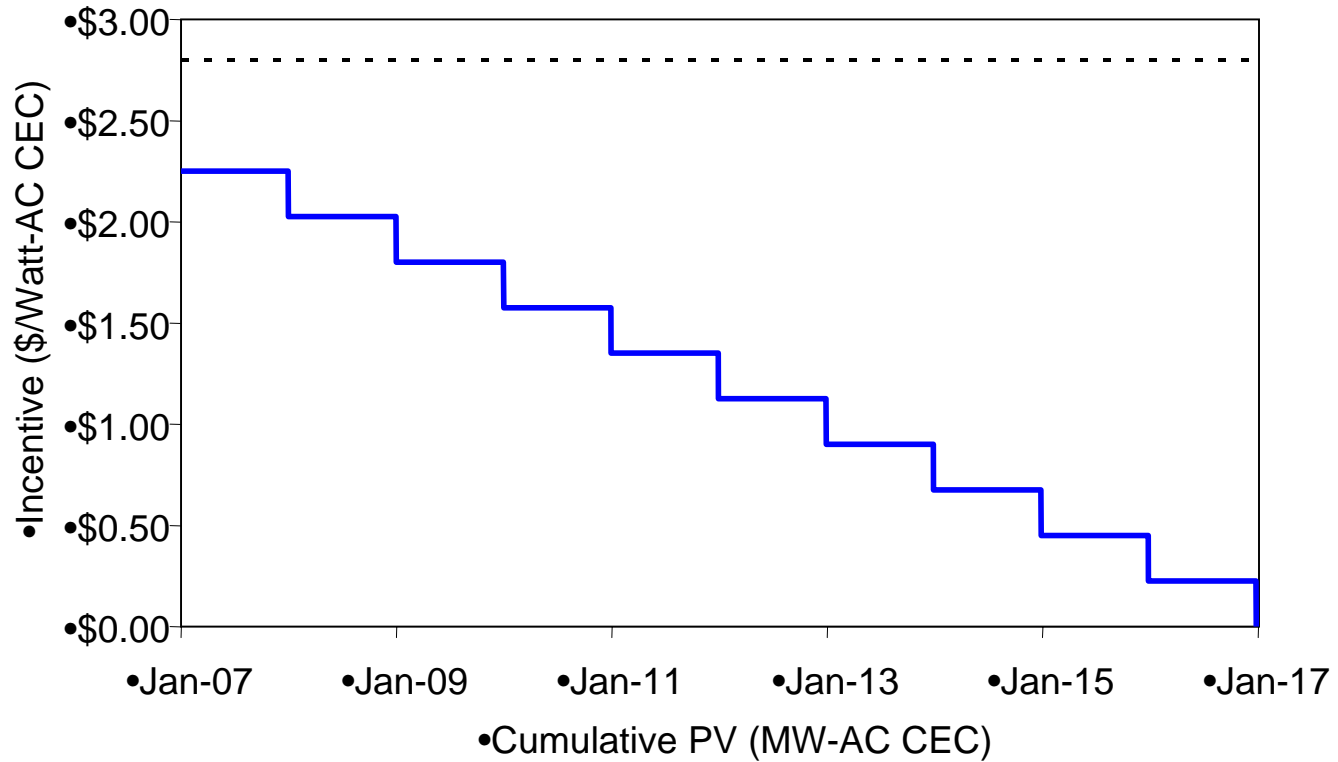


Expected Performance Based Incentives (EPBI)

- Incentives Based on PV Performance Calculator with TDV Place Priority on High production in sunnier climates
 - Higher incentives in high peak load, high growth, high T&D cost areas
 - Higher incentives for most efficient PV modules and inverters
 - Lower incentives for partially shaded arrays, poor orientation, or tilt, etc.
- CEC defines reference system/location
- Performance calculator used to determine expected performance of actual system/location and compare to the reference to determine the incentive

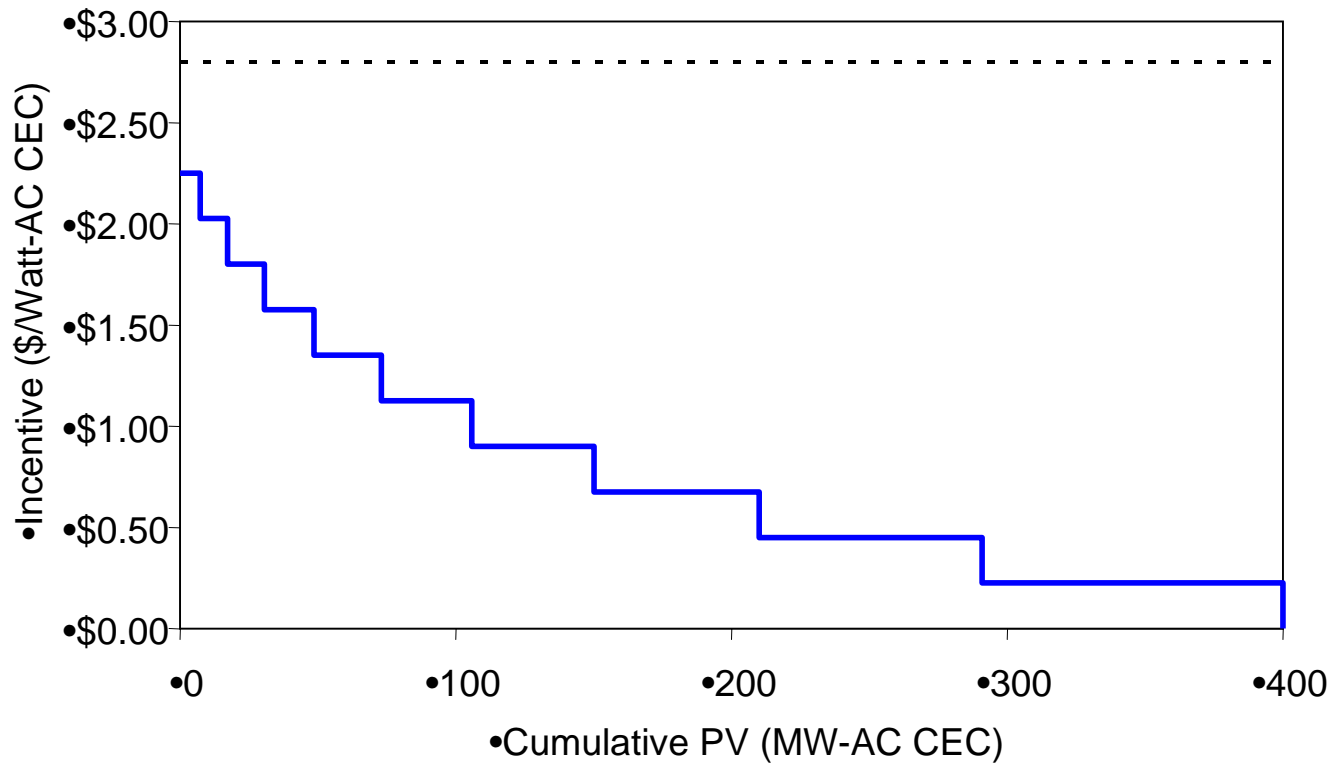


•Possible Incentive Structure (Calendar Trigger)





•Possible Incentive Structure (Volume Trigger)





Extend Building Standards Methods

- Use the **performance-based compliance software** approach of the building energy standards to impact performance and optimize design and installation of PV systems
- Use **third party inspection** for PV systems similar to the quality installation inspection of HERS for energy efficiency features to avoid construction defects, builder liability and customer satisfaction
- Use a **component certification program** approach similar to product certification programs for appliances, windows (NFRC), cool roof products (CRRC)
- Use the Commission adopted approach of **TDV Energy** to place energy efficiency and generation priority on high demand, high growth, high system cost areas



Ancillary Assistance (Market Building)

- Guidelines And Technical Support For Builders
- Training Programs and Videos For Builders, Installers, HERS Raters
- Strong branding campaign, outreach program to help achieve goals
 - Need some basic market research updates to get to what really will work – not just willingness to pay



Procedures, Specifications, Admin

- First Come First Served
- Possibly longer reservation period
- Field Verification Prior To Payment
- Advanced Metering Infrastructure (AMI) being rolled out from 2006-2013
- Administrative Function Contracted Out
- Will include periodic evaluations



Summary of Benefits to California

- Incentives, calculation tool, protocols motivate and enable builders to deliver high performing PV systems.
- Information and process that is direct extension of the current T24 infrastructure.
- "Expected" performance-based system that provides builders with up-front rebates.
- Priority on sunnier, climates where building starts are concentrated, peak demand is greatest and impacts on system reliability are severe.
- Meets Energy Commission objectives for PVs in combination with high energy efficiency.



Recent Events

- **Public Awareness Campaign RFP**
 - RFP # 400-06-401, released August 7, 2006. Funding: \$1.5 mil per year for 3 years. Pre-Bid Conference: 8-18-06. Proposals due: 9-14-06.
 - Questions: Peg Bergmann, Contracts Office 916-654-7093
<http://www.energy.ca.gov/contracts/renewables.html>
- **Draft Guidebook – Internal review**
- **Late September/October Workshop**
- **November Adoption**