



SB 1 Eligibility Criteria and Conditions for Incentives

Status Report

California PV Utility Program Managers Meeting

August 7, 2007





SB 1 Assignments to Energy Commission

- In consultation with the CPUC, Publicly Owned Utilities, Interested Members of the Public
- Establish Eligibility Criteria
 - Design, Installation and Electrical Output Standards or Incentives
- Establish Conditions for Ratepayer Incentives
- Set Rating Standards for Equipment, Components and Systems





SB 1 Specific Expectations

- High Quality Solar Energy Systems with Maximum System Performance to Promote the Highest Energy Production per Ratepayer Dollar
- Optimal System Performance During Periods of Peak Demand
- Appropriate Energy Efficiency Improvements in New and Existing Home or Commercial Structure Where Solar Energy System is Installed





Integrated Energy Policy Report Guidance

- Leveraging Energy Efficiency Improvements Should be Primary Consideration in Deploying PVs
 - EE + PV will lead to proper sizing, contribute to state's efficiency goals, provide maximum benefits to PV purchasers and electricity customers
- Rational Targeting of PV Deployment to Achieve Greatest Cost Benefit
 - Target to Climate Zones with High Peak Demand for Air Conditioning
- Transitioning Away from Capacity-based Incentives to Performance-based Incentives
- Integrating Energy Efficiency and Time-of-Use





California Energy Policy Goals

- Energy Action Plan – Follow the "Loading Order"
- Climate Action Initiative and AB 32
 - Reduce 2020 GHG Emissions to 1990 Levels
 - Energy Efficiency and Renewables Highlighted
- SB 1037 and AB 2021
 - IOUs and POUs first meet unmet resource needs via cost effective energy efficiency
- Green Building Initiative – 20% savings by 2015 for state buildings (encouraged for commercial buildings)





NSHP Policies and Approaches

- Goal: Create a self-sustaining market for solar homes where builders incorporate high levels of energy efficiency and high performing solar systems
- Expected Performance Based Incentive Structure
- Independent Testing and Certification of Performance Characteristics of Modules/Inverters
- PV Calculator – Hourly Time Dependent Determination of Module/Inverter Interaction with Installation/Climate
- Installer and Third-Party Field Verification Protocols





NSHP Energy Efficiency Approaches

- Pursue PV and EE goals in concert
- "Co-Brand" NSHP and Prominent EE Programs
 - Take advantage of EE marketing and incentives
- Tier I – minimum level; = IOU New Construction Level of 15% > Title 24
- Tier II – preferred level; = Building America Level
- Energy Star Appliances when Builder Installed





SB 1 Report Development Schedule and Proposed Effective Date

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|----------|---|
| 8/22/07 | Committee Workshop Eligibility Criteria and Conditions for Incentives |
| 10/04/07 | Workshop on Draft Guidebook |
| 12/19/07 | Energy Commission Adoption of Guidebook |
| 1/1/09 | Proposed Effective Date |





Equipment Rating Standards

- Modules
 - Safety UL listing
 - Detailed performance data (IEC test standards)
- Inverters
 - Safety UL listing
 - Detailed performance data (Current CEC protocol)
- Meters
 - Accuracy (ANSI standard)
 - Display and communication (PMRS) requirements





High Quality Performance Design and Installation Recommendations

- PBI Deployment on CSI Timetable
- Expected Performance Calculation Approach
 - Capture all Important Performance Characteristics and Incent Industry to Improve over Time
 - Encourage Avoidance of Shading And Attention to Performance Consequences of Shading
 - Address Time-of-Use of System Production
- Focus on Quality Installation Through Installer and Third party Field Verification Protocols





Energy Efficiency Recommendations New Construction – Residential

- NSHP Tier I and II Levels
- Utility Incentives for Each Level





Energy Efficiency Recommendations New Construction – Commercial

- "Co-Brand" with Prominent EE Programs
- Use NSHP-style Tiers
- Tier I – minimum level; 15% > Title 24
 - USGBC LEED Energy Efficiency Requirements
 - Savings by Design
- Tier II – preferred level: 30% > Title 24
 - EAct 2005 Tax Credits
 - ASHRAE Standard 189
 - “2030 Challenge”
- Provide Utility EE Incentives for each Tier





Energy Efficiency Recommendations Existing Buildings – Commercial

- "Co-Brand" with the Governor's Green Building Initiative
- Benchmarking for All Buildings Using Energy Star *Portfolio Manager*
- Retro-commissioning for All Buildings > 50,000 sq ft and Buildings with Benchmarking Score < 75
- Implement Cost Effective Recommendations
- Qualify for LEED EB Recognition
- Provide Utility Incentives for Benchmarking and EE Improvements





Energy Efficiency Recommendations Existing Buildings – Residential

- Toughest Sector – Needs Time to Put Together Reasonable Approach
- Build on CSI Online Audit and Alternatives
- Working Concept – Pattern After Green Building Initiative
- Develop Utility Ability to Benchmark Housing Energy Use
- Encourage Homes to Improve to Best Energy Use Quartile
- Do Onsite Audit (or HERS Rater or Building Performance Contractor) to Determine Cost Effective Measures
- Provide Utility Incentives for Onsite Audit and Cost Effective EE Improvements

