Emerging Renewables Program

Solar Conference
North State Renewable Energy
Chico, CA
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BILL BLACKBURN
Lead, Emerging Renewables Program
California Energy Commission
Today’s Talk

To Cover Today:
- Emerging Renewables Program Overview
- Update
- Solar Schools
- Performance-Based Incentive Program (PBI)
- Problem Areas
- Future Directions
Program Overview

Renewable Energy Program

- **New Renewable Facilities Program**
  - Accelerate the addition of new renewable capacity to CA’s electric generation system

- **Existing Renewable Facilities Program**
  - Encourage economic viability of existing renewable projects

- **Emerging Renewables Program**
Emerging Renewables Program

**Goal is to accelerate cost reduction and market acceptance through high volume production of emerging renewable technologies**

- Provides rebates for purchasing & installing distributed generation renewable systems
- Reduces the up-front costs for customers
- Focuses on grid-connected systems designed to meet on-site load
ERP Eligible Technologies

- Small Wind
- Fuel Cell
- Thermal Electric
- Solar PV
Emerging Renewables Program

Solar PV, is by far the most common type of application we receive in the ERP
New Guidebook Highlights

New Guidebook (4th Ed.) was approved January 19, 2005, and can be ordered from our call center or downloaded from web

Highlights:

- Reservation Request Form (R1) changed
- Extensions no longer be available for new applications after 1/19/05
- Simplified extensions for previous applications
- Seller registration form (R4) has changed
New Guidebook Highlights

- Sellers still required to re-register by March 31 each year
- An inverter test protocol has been adopted and the inverter ratings must be provided by 4/1/05 with new data
- Applicants can now cancel and reapply during the reservation period if reapplying for a lower rebate level
- The Pilot Performance-Based Incentive (PBI) Program has been added and related new forms
ERP Rebates Requested

Applications in MW

ERP Update

Applicants allowed to reapply for higher rebate

No funding Nov '02 through Feb 03
ERP Rebate Level & Demand

Applications Received by System Size

<table>
<thead>
<tr>
<th>Applications (MW)</th>
<th>Maximum Rebate Level ($/Watt)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st Half 2001</td>
<td>$3.00</td>
</tr>
<tr>
<td>2nd Half 2001</td>
<td>$4.50</td>
</tr>
<tr>
<td>1st Half 2002</td>
<td>$4.50</td>
</tr>
<tr>
<td>2nd Half 2002</td>
<td>$4.50</td>
</tr>
<tr>
<td>1st Half 2003</td>
<td>$4.00</td>
</tr>
<tr>
<td>2nd Half 2003</td>
<td>$3.80</td>
</tr>
<tr>
<td>1st Half 2004</td>
<td>$4.50</td>
</tr>
<tr>
<td>2nd Half 2004</td>
<td>$4.50</td>
</tr>
</tbody>
</table>

Note: Excludes Solar Schools Program applications.
Prices, PV Installed Retrofits

Includes all applications based on the date the application was received (1 to 10 kW between $3 and $15 per Watt).

Excludes applications for housing developments, affordable housing rebates, and Solar Schools Program.
## Systems Installed - ERP

<table>
<thead>
<tr>
<th>Year (mil.)</th>
<th>Number</th>
<th>MW</th>
<th>Amount (mil.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1998</td>
<td>41</td>
<td>0.2</td>
<td>$0.5</td>
</tr>
<tr>
<td>1999</td>
<td>197</td>
<td>1.1</td>
<td>$2.9</td>
</tr>
<tr>
<td>2000</td>
<td>235</td>
<td>0.8</td>
<td>$2.2</td>
</tr>
<tr>
<td>2001</td>
<td>1,292</td>
<td>4.3</td>
<td>$16.9</td>
</tr>
<tr>
<td>2002</td>
<td>2,331</td>
<td>8.5</td>
<td>$36.3</td>
</tr>
<tr>
<td>2003</td>
<td>3,021</td>
<td>12.9</td>
<td>$52.1</td>
</tr>
<tr>
<td>2004</td>
<td>4,615</td>
<td>19.2</td>
<td>$69.4</td>
</tr>
<tr>
<td><strong>Grand Total</strong></td>
<td><strong>11,732</strong></td>
<td><strong>47.0</strong></td>
<td><strong>$180.3</strong></td>
</tr>
</tbody>
</table>
# Systems Installed - ERP

<table>
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<tr>
<th>Year</th>
<th>Number</th>
<th>MW</th>
<th>Amount (mil.)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>2005</strong> (so far)</td>
<td>648</td>
<td>2.6</td>
<td>$8.9</td>
</tr>
<tr>
<td><strong>New Total</strong></td>
<td>12,381</td>
<td>49.6</td>
<td>$189.3</td>
</tr>
</tbody>
</table>
Solar Schools Program

- 2004 SSP launched May 2004
- $4.5 million in funding, evenly split from AG Alternative Energy Retrofit Account funds and the ERP
- For eligible K-12 public and charter schools within the four utility areas: PG&E, SCE, SDG&E and Bear Valley Electric.
- $6.40/Watt rebate level (twice ERP rebate at the time)
Solar Schools Program

- Less than 30 kW; need to provide school board resolution, proof of energy efficiency measures as established by CEC and agreement to set up a curriculum tie-in about solar energy and energy conservation. 60 districts applied; 30 were awarded totaling 703 KW

- Fully subscribed before June 30, 2004

- Most schools located in PG&E territory, six from SCE, two from SDG&E
Performance-Based Incentive

**PBI Highlights:**

- Began January 19, 2005
- Program included in new Guidebook (4th Edition)
- Solar systems only, any size
- Pilot, three year program
- $10 million budget
- Quarterly payments of $.50/kWh produced
- Can not combine with other programs (e.g., ERP or SGIP)
Problem Areas

- 50% of applications incomplete or with errors
- Service address on utility bill not provided
- Equipment different on R1 form than in supporting documents
- Unclear equipment listed
- Unsigned documents
- No performance meter identified
- Companies without contractor’s license charging for labor
  - Have no proof of customer payments to contractor....results in lower self install rebate
Reservation Process

Turn in:

- Reservation application form (signed R1 form)
- Recent utility bill
- Copy of agreement with installer and purchaser
- Payee data record (STD 204)
  - If not previously paid by CEC
Future of ERP

- Funding, we have $71 mil. may run out around late 2005 (plus $10 mil. for PBI)
- Will return applications that have errors or incomplete
- Moving to “ramp up” whole program
- We would like to hear from you with suggestions on how to best manage a much larger program
For More Information

Call Center 800-555-7794
(toll free in CA)

or e-mail: renewable@energy.state.ca.us

Websites ...
www.energy.ca.gov/renewables
www.consumerenergycenter.org/renewable