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CALIFORNIA ENERGY COMMISSION

Future of the Emerging Renewable Resources “Buydown” Program

PV Solar Forum, San Diego

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Renewable Energy Program

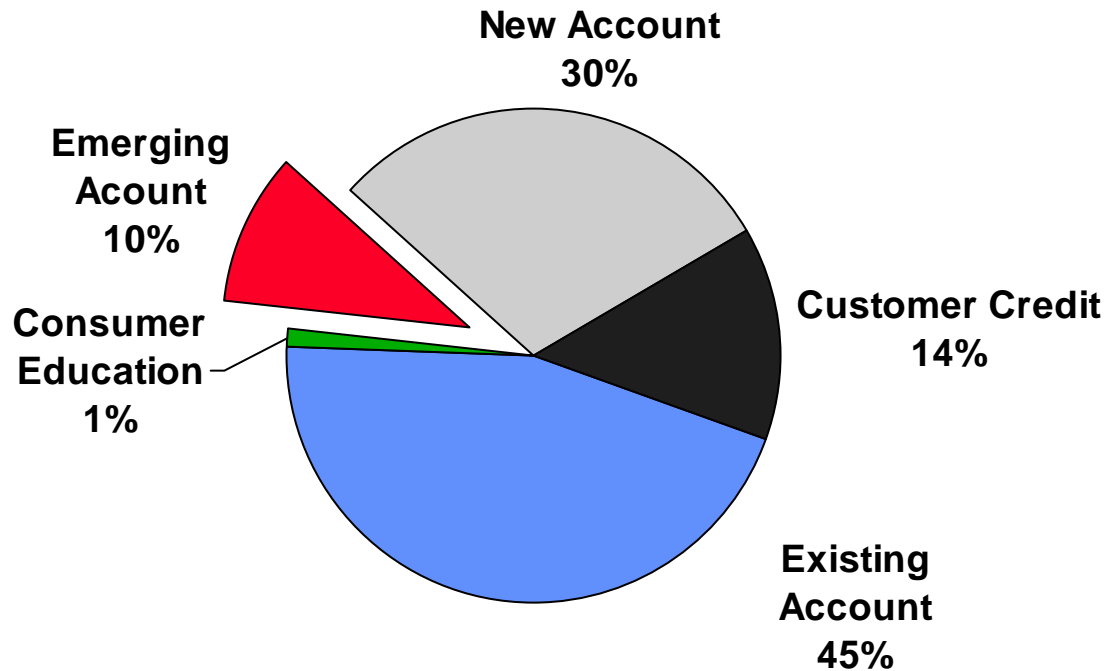
- Provides production incentives for new and existing renewable generation, rebates to install small systems, rebates to customers who purchase renewable energy, and consumer education



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Emerging Account is Small Part of the Renewable Energy Program



Original allocation was \$540 million collected from 1998 to 2001

Emerging Renewables Buydown Program

- Eligible technologies are:
 - solar (photovoltaic and thermal electric)
 - small wind (10 kW or less)
 - fuel cells using renewable fuels
- All system sizes eligible
- Must be grid-connected
- 5-year warranty required for systems
- Rebate is lesser of \$4.50 per Watt or 50% of system installed cost
- Limits rebate to \$2.5 million per project



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Emerging Buydown Program Results



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Renewable Energy Systems Installed Each Year

Year	Number of Systems	Capacity (kW)
1998	41	180
1999	180	620
2000	215	725
2001	1,241	4,100
2002*	1,866	6,890
Total*	3,543	12,515

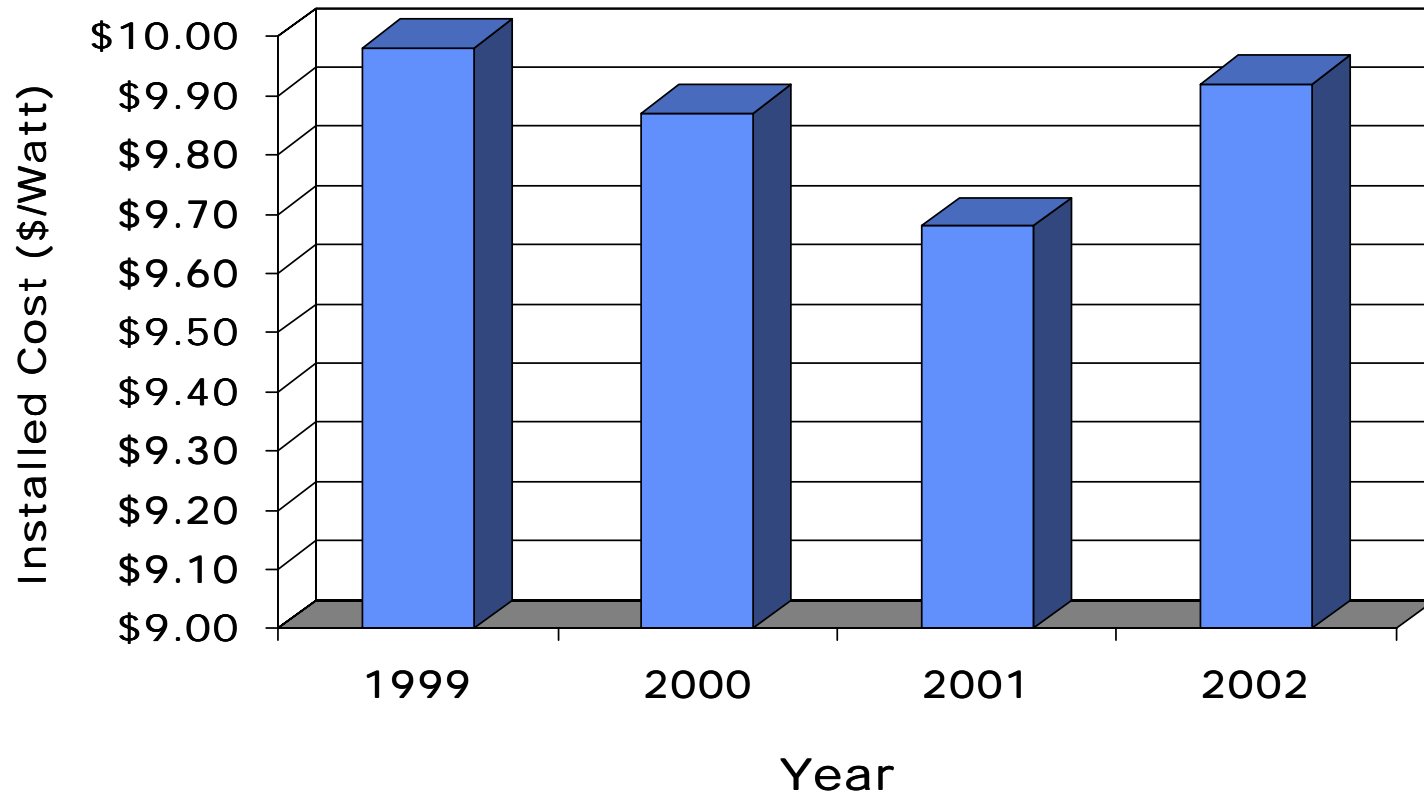
*** Updated October 11, 2002**



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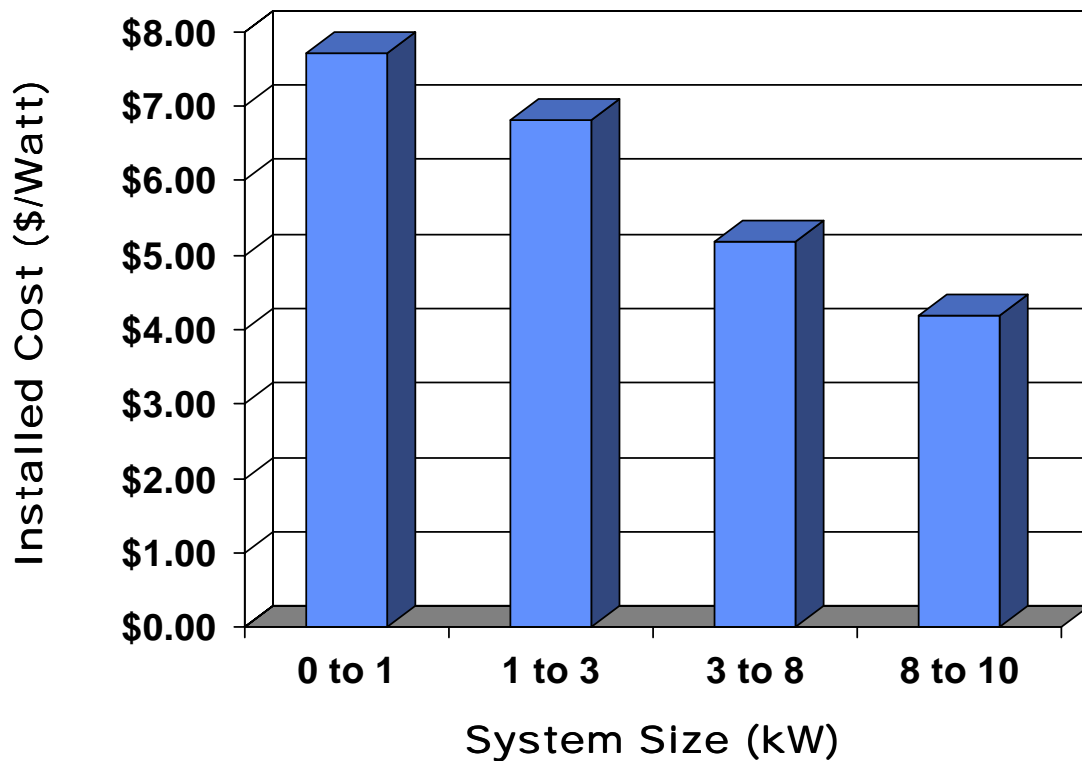
Median Price for Small PV Systems Increased in 2002*



* Systems under 10 kW for January 1998 to September 6, 2002



Cost of Completed Wind Systems (January 1998 through March 2002)





Recent Guidebook Changes

- Reallocated \$13 million for systems < 30 kw
 - \$3 million for 10 kW to 30 kW
 - \$10 million for 0 kW to 10 kW
- Created Solar Schools Program
 - Pays up to 90% of installed system cost
 - 50% from “Buydown” Program and 40% from Attorney General’s Office
- Simplified application process for new home developers
- Allow credit for dual use mounting structures



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Solar Schools Program Eligibility

- Public schools kindergarten to 12th grade
- Electricity served by PG&E, SCE or SDG&E
- Price cannot exceed \$8.50 per watt
- Educational curriculum must meet California Department of Education guidelines
- Minimum energy efficiency measures in place
- Must meet other buydown eligibility requirements



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Emerging Renewables Buydown Program



Application forms and Program Guidebook
are available by calling (800) 555-7794 or
www.consumerenergycenter.org/buydown



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Future of the Renewable Energy Program



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Future of the Renewable Energy Program

- \$1.35 billion over ten years
 - Funds collected 2002-2011
- New funding distribution begins January 2003
 - New guidebooks must be developed
- Same overall goals as original program



Legislative Changes

- Emerging account allocated 17.5% of funds
 - About \$24 million per year (increased from \$13.5 million per year)
- Rebate should consider system performance
- Small wind increased from 10 kW to 50 kW
- Special considerations for affordable housing
 - Rebate up to 75 percent
- Change in system size categories
 - Small Systems 0 - 30 kW
 - Large Systems >30 kW

Program Development Process

- We plan three comment opportunities
 - Will hold workshops October 28 to November 1 to discuss program changes
 - Followed by draft guidebooks for comment
 - Revise guidebooks based on comments and then propose new guideline to Commission
- Workshop notice to be released this week
- Add your email address to Renewable Program listserver for notices (www.energy.ca.gov/renewables)



Things to Consider

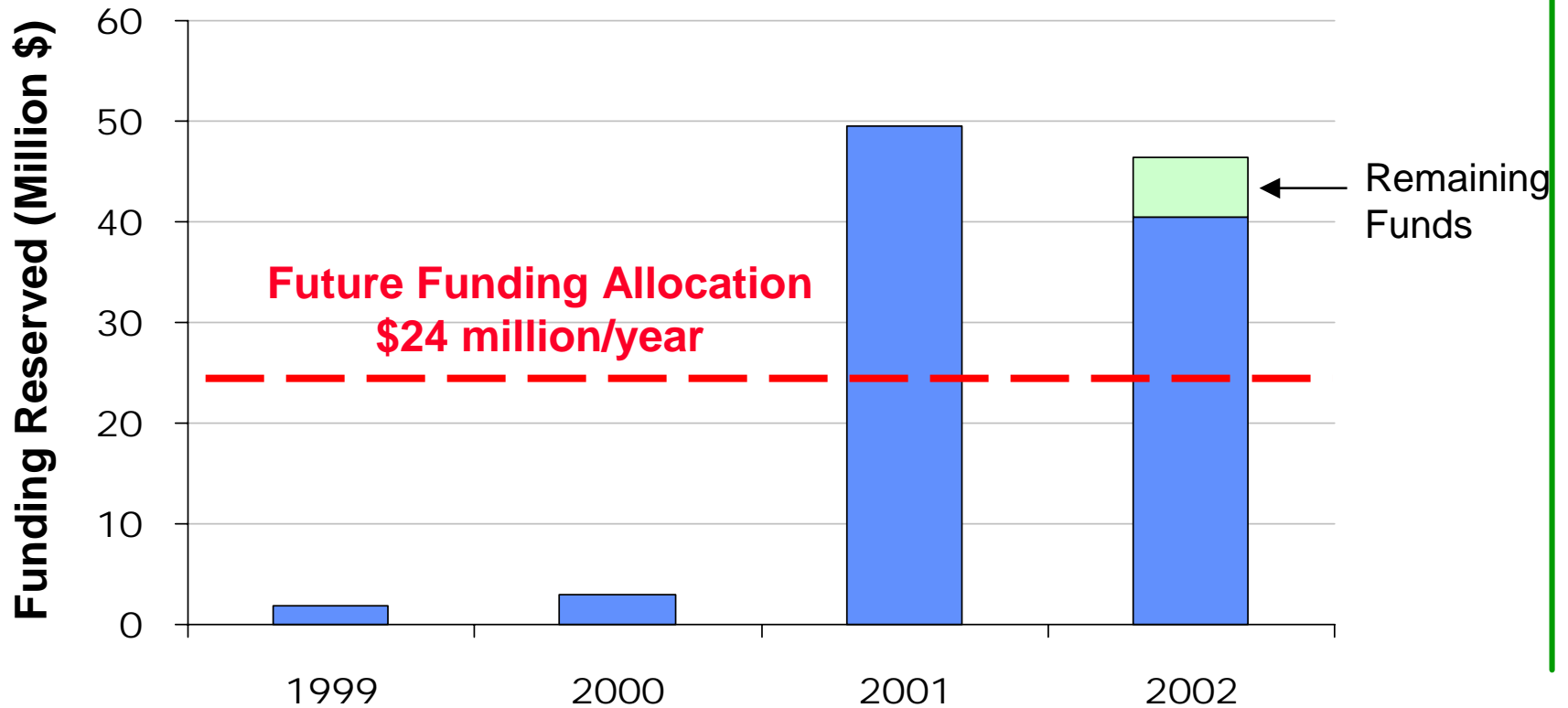
- Continuity of available program funding
- How to simplify application process
- Provide more certainty of rebate expected
- Improve customer awareness of system performance expectations
- Improve assurance of quality installations
- Whether rebates should vary by system size or by technology type



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Continuity of Program



Note: Last \$7 million encumbered in just over 1 month



Continuity of Program (Continued)

- Interest in program is \$40 to \$50 million per year, but funding is \$24 million per year for five years
- Should original idea of declining rebates be resurrected
 - **If so what should be the criteria to lower rebates**
- What are other options?



Should Rebates Vary by System Size or by Technology Type?

- 10 kw wind systems are often installed for less than \$4.00 per watt.
- Large PV systems have economy of scale
- Costs for fuel cells or solar thermal are unclear



Issues Regarding Application Process

- Average 300 new applications per month and about 300 payment requests per month
- Majority of applications need corrections
 - **Often have incomplete information**
 - **Missing signatures**
 - **Conflicting information**
- Some applications simply are not eligible
- A lot of time spent clarifying guidebook requirements with a few sellers and applicants



Issues Regarding Rebate Reservations

- How to reduce chances that funding reserved for systems that are not likely to be installed
- Should encourage quality installations
- Must have eligible major components
- System must be new and unused
- Must be grid connected to eligible electric utility
- System must be sized for site loads



How Should Eligibility be Checked Prior to Reserving Funds?

- Purchase and installation agreement(s)?
- Reservation request form?
- Utility bill showing name of applicant and address of installation?
- STD-204 form for rebate recipient?
- Other?



Current Requirement for Purchase/Installation Agreement(s)

- Identify generating equipment (make, model)
- Identify location of installation
- Identify total price and itemized costs for labor and major components
 - **Must identify or exclude all other ineligible costs**
- Signed by applicant and seller
- Identify payment terms or conditions



Issues Regarding Payment Claim?

- Final building permits provides little assurance of system installation
- Industry has inconsistent documentation
 - **Accounting terms used loosely**
 - **Many contracts ambiguous and confusing**
- Need to provide protection against gaming or abuse of program
- Many warranties vague and unclear



What Needed for Payment Claim?

- Building permit final signoff?
- Utility interconnection agreement?
- Copy of contract or agreement?
 - **What detail should be identified?**
- Should originals or faxes be submitted?
- Should warranty be standardized?
- Should sellers provide copies of business license to be on CEC lists to sell systems?
- Should claim form be changed?



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Issues Regarding System Performance

- For many, it is not clear if a system under performs or does not work correctly
- Many customers and some sellers do not know what output to expect from a system
- Many systems do not have performance indicators



How to Improve Customer Awareness of System Performance

- Should performance meter be required?
 - **What type of meter**
 - **What criteria should it meet**
- Should reservation request form identify expected output (kWh)?



Issues Regarding Customer Awareness/Protection

- We already have educational materials
 - information on the web, buyer's guides, installation manual
- Some installations under perform or do not work correctly
- Many warranties are not adequate
 - Some installers have not honored warranties



How to Improve Assurance of Quality Installations?

- A few installers are not completing jobs nor doing quality work
 - **What should be done?**
- Continue to provide training for installers, and building departments
 - **Is there a need?**
- Should system installers be certified to other standards than a contractor's license



Issues Regarding Performance Based Incentives

- Increases tax benefits primarily for businesses (about 50% of system cost)
 - **Statewide tax credit: (15% of net cost)**
 - **Additional federal credits for businesses: 10% of net cost and accelerated depreciation (5 years)**
- High initial capital outlay
- Costs and methods to collect performance data
- Overlap with Self-Generation Incentive Program



Performance Based Incentives

- Feasible for large systems
- Not yet feasible for small systems
- May be more beneficial than up front buydown for businesses
- How would data be collected?
- What would be the payment mechanism
 - **Direct incentive payments for kWh produced or lump sum payments based on benchmark**
- Low risk because Self-Generation Incentive Program still an option



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Your Participation is Key

- Plan to attend the workshop(s) or
 - Add your email address to Renewable Program listserver for notices
(www.energy.ca.gov/renewables)
- Submit comments in writing
- Comment on draft guidebook(s) when available
 - Propose solutions to key issues